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July 16, 2024

VIA E-MAIL

Honorable Marta Guhl
Honorable Darlene D. Heep
Administrative Law Judges
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

RE: Pennsylvania Public Utility Commission v. PECO Energy Company – Electric Division; Docket No. R-2024-3046931

Your Honors:

Please find attached the Rebuttal Testimony of Aliea A. Munger, Ph.D. on behalf of the National Railroad Passenger Corporation ("Amtrak"), in the above-referenced proceeding.

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

Very truly yours,

Robert A. Weishaar, Jr.
MCNEES WALLACE & NURICK LLC

Counsel to the National Railroad Passenger Corporation

c: Rosemary Chiavetta, Secretary (Letter and Certificate of Service only – via Electronic Filing)
Certificate of Service

CERTIFICATE OF SERVICE

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

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Counsel to the National Railroad Passenger Corporation

Dated this 16th day of July, 2024, in Harrisburg, Pennsylvania

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	)	
v.	)	Docket No. R-2024-3046931
PECO Energy Company (Electric)	)	

Rebuttal Testimony
of
Aliea A. Munger, Ph.D.

On behalf of the
National Railroad Passenger Corporation ("Amtrak")

July 16, 2024

I. INTRODUCTION AND OVERVIEW

Q. DR. MUNGER, PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Aliea A. Munger. I work for Daymark Energy Advisors ("Daymark"), headquartered at 370 Main Street, Suite 325, Worcester, Massachusetts 01608.

Q. DR. MUNGER, WHAT IS YOUR PROFESSIONAL AND EDUCATIONAL BACKGROUND?

A. I am a Senior Consultant at Daymark. I work primarily as a power supply planning and management specialist in areas including electric utility cost of service and rates, power supply procurement, and wholesale and retail power transactions. I received a Bachelor of Science degree in Chemistry from the University at Albany in 2011, a Master of Science degree in Chemistry from the University at Albany in 2012, and a Ph.D. in Industrial Engineering from Western New England University in 2016. I also completed the National Association of Regulatory Utility Commissioners ("NARUC") Rate School in 2022.

Q. ON WHOSE BEHALF ARE YOU FILING THIS REBUTTAL TESTIMONY?

A. I am submitting this testimony on behalf of the National Railroad Passenger Corporation ("Amtrak"), one of the two customers served by PECO Energy Company – Electric Division ("PECO" or "Company") under Rate EP Electric Propulsion ("Rate EP").

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. No. However, I served as the project manager for several rate case proceedings involving Amtrak, including PECO's 2021 rate case at the Pennsylvania Public Utility Commission

("PUC" or "Commission"). I filed expert witness testimony in Baltimore Gas and Electric Company's rate case (Case No. 9692) at the Maryland Public Service Commission. I submitted comments and recommendations in Rhode Island Energy's (formerly, National Grid Rhode Island) retail rate reconciliation cases (Docket Nos. 4930, 5005, 5127, 5234, 23-03-EL, and 24-07-EL) at the Rhode Island Public Utilities Commission. I also served as the project manager overseeing revenue requirements modeling, the allocated cost of service study, and proposed rate design for Kauai Island Utility Cooperative's late 2022 comprehensive rate case application at the Hawaii Public Utilities Commission. I served as the Daymark project manager advising the Connecticut Public Utility Regulatory Authority's Technical Staff in its review and development of recommendations regarding United Illuminating Company's 2022 rate case. I served as the lead modeler on the revenue requirements for a rate case filing on behalf of a natural gas utility at the New York Department of Public Service. My resume, with selected allocated cost of service, rate design, and other ratemaking experience, is provided in Amtrak Exhibit__(AAM-1).

Q. PLEASE DESCRIBE YOUR FIRM.

A. Daymark is a consulting firm specializing in planning and market analysis, regulatory and ratemaking economics, and regulatory policy in the electricity, natural gas, and water utility industries. For forty-four years, our firm has served a broad range of organizations involved in energy markets, regulatory agencies, consumer advocates, large end-use industrial consumers (including Amtrak), public and private utilities, energy producers and traders, financial institutions and investors, and public policy and research organizations.

Q. PLEASE DESCRIBE AMTRAK

A. In Fiscal Year 2022, on Amtrak's Northeast Corridor ("NEC") alone there were 9.2 million total trips and 820,000 Amtrak and commuter trips taken on the NEC on the average weekday. These trains and commuter rail agencies that share the NEC consume over 200 MW of electric power at peak intervals and move at high speeds across eight different states, including Washington D.C., and three different control areas, including PJM Interconnection, L.L.C. These moving trains create a dynamic load pattern that requires dispatch of Amtrak frequency converters and other facilities to meet these loads. With twelve different electric utility accounts, each with separate contracts with third party suppliers, Amtrak must manage and maintain a portfolio of utility tariffs, service agreements, and other resources to properly control and manage its energy spend.

Daymark has been working with Amtrak since 1998, when it first electrified its NEC traction power system from New York City north to Boston. I have been a primary project manager serving Amtrak since 2019. During that time, I assisted Amtrak with strategic planning, energy procurement and portfolio management, transactions, hedging and risk management, rate case expert witness testimony, budgeting, auditing, and other power supply matters.

Q. DID AMTRAK PROVIDE TESTIMONY EARLIER IN THIS PROCEEDING?

A. No. This rebuttal testimony is the first filed by Amtrak in this proceeding.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Witness Esyan Sakaya submitted on June 17, 2024, on behalf of the Bureau of Investigation and Enforcement ("I&E"). Specifically, I address Witness Sakaya's recommendations relating to a 2-step revenue reduction allocation process, termed by Witness Sakaya as a "scale-back" of retail rate revenue, should the Commission award PECO less of a revenue and rate increase than what was requested in PECO's application in this docket.

While I have limited my rebuttal testimony to the above subject, I ask that the Commission not construe silence on other matters, by this or any other intervenor witnesses, as agreement with their position.

Q. WHAT IS YOUR UNDERSTANDING OF WITNESS SAKAYA'S SCALE-BACK RECOMMENDATION?

A. Witness Sakaya has recommended a 2-step approach for determining the revenue allocation across customer classes, should the Commission approve a reduced revenue and rate increase compared to the Company's application for an increase in revenues for its Electric Division of $464 million.

Witness Sakaya starts with a hypothetical example in which the PUC awards PECO a lesser amount, in the example it is $95.7 million less. As I understand the proposal based on these exhibits, the first step would be to allocate the first $50 million revenue reduction directly to the Residential class to bring its relative rate of return ("RROR") closer to parity with the system average rate of return (or an RROR of 1.0). This is labeled in the exhibits as "first dollar relief." Under this first step scale-back, the effect would be to increase three

other classes' RROR over 1.0, including General Service, High Tension, and Lighting. In the second step, Witness Sakaya proposes a further reduction to the Residential class of $30 million, labeled as "second dollar relief," as well as $7 million, $8 million, and $0.7 million to the General Service, High Tension, and Lighting classes, respectively, accounting for the total $95.7 million assumed scale-back of the Company's proposed rate increase.

Q. WHAT IS YOUR RESPONSE TO WITNESS SAKAYA'S PROPOSAL?

A. I do not agree with Witness Sakaya's proposed scale-back methodology. While Witness Sakaya is looking to bring most rate classes' RROR closer to parity with this selective two-step scale-back proposal, Rate EP (Amtrak's rate) would not be scaled back, even though the Rate EP class would otherwise be faced with a 39.2% increase, or $2.8 million annually under the Company's proposal. Under any reasonable definition, this constitutes "rate shock" for Rate EP customers. The I&E proposal to retain such a large increase to the Rate EP class, composed of just two customers, selectively ignores for these customers the critical ratemaking principles of *avoidance of rate shock* and *gradualism*, *inter-class equity* and *fairness*, and is therefore discriminatory.

Q. PLEASE EXPLAIN FURTHER. WHAT OBSERVATIONS HAVE YOU MADE REGARDING VARIOUS REVENUE ALLOCATION PROPOSALS OFFERED BY THE COMPANY AND INTERVENORS IN THIS PROCEEDING?

A. The revenue allocation proposals offered by the Company and various intervenor witnesses share a common trait. They all focus primarily on adjusting the RROR of the

rate classes closer to the system average, concentrating particularly on over-earning classes.

As shown in Table 1 below, however, rate and bill impacts to the Rate EP class are well above the Company's overall requested increase as reflected in proposals by the Company, I&E and the Office of Consumer Advocate ("OCA"). These proposals for Rate EP, as compared to the system average increase, violate the rate making principles of *gradualism*, *avoidance of rate shock* and *inter-class equity*.

Table 1: Comparison of proposed rates and revenues of Total Electric Division and Rate EP

COMPARISON OF PROPOSED RATES & REVENUES ($000)

	Total Electric Division			Electric Propulsion (EP)			
	Base Electricity Sales	Proposed Increase	% Increase	Base Electricity Sales	Proposed Increase	% Increase	Excess Rate EP Increase (%)
PECO*	$1,589,176	$463,392	29.2%	$7,059	$2,766	39.2%	10.0%
I&E**	$1,589,176	$369,575	23.3%	$7,059	$2,775	39.3%	16.1%
OCA***	$1,589,176	$463,392	29.2%	$7,059	$3,087	43.7%	14.6%

**PECO Exhibit JAB-1, Page 1*
***I&E Exhibit No. 3, Schedule No. 2, Page 2*
****OCA Exhibit CJ-1, Page 1*

Q. PLEASE DISCUSS THESE RATEMAKING PRINCIPLES FURTHER.

A. In addition to the core ratemaking principle that rates should reflect *cost causation*, among the most important ratemaking principles is *gradualism*, the commonly accepted principle that when utilities adjust rates, they should be in smaller increments over time to avoid rate shock to customers.

This is especially important when the electric cost of service study ("ECOSS") in this case, as undertaken by PECO, shows variance in resulting class RRORs over time.

Q. PLEASE EXPLAIN.

A. The PECO ECOSS has produced different RROR results over time. For instance, in PECO's 2021 rate case, Rate EP's RROR under present rates was reported to be well over the system average at 1.48, and after the proposed revenue allocation, was calculated to be 0.98.[1] Conversely, the Residential class was reported to have, under then-current rates, an RROR below the system average of 0.89, and after the proposed revenue allocation, an RROR of 0.91.[2]

With these results in mind, it is obvious that the trajectory of rates going forward could change yet again in the future. A drastic revenue and rate increase for any class, including for Rate EP now, threatens to add even greater variability in RROR results for this and potentially other classes like the Residential class, and ultimately could lead to these classes significantly over-earning and under-earning, respectively, relative to the system as a whole, by the next PECO rate case.

Q. WHAT IS YOUR RECOMMENDATION?

A. My primary recommendation to the Commission is that *gradualism*, the *avoidance of rate shock*, and *inter-class equity* should receive all due consideration and be the primary

[1] Docket No. R-2021-3024601, PECO Exhibit JAB-1, p. 1.

[2] *Id.*

ratemaking principles employed by the PUC in this case. Under the I&E proposal, these principles are violated for the Rate EP class.

Note that in Table 1, based on PECO's ECOSS in this 2024 rate case, Rate EP customers would already experience a revenue and rate increase of 39.2%. This is ten percentage points greater than the overall system increase of 29.2% requested by PECO. Amtrak specifically requests that, regardless of the overall revenue and rate increase ultimately granted to PECO, no class, including Rate EP, receive an increase greater than ten percentage points higher than that for the overall system.

In recommending a more modest rate adjustment for all customer classes compared to the I&E scale-back proposal, I urge the Commission to take into account the variability and trajectory over time of the PECO ECOSS results and try to minimize the extent to which any one class or set of classes is treated more beneficially relative to others in this case. Adhering to this recommendation has the potential to minimize RROR swings in the future, which would better fulfill the ratemaking principles I recommended above.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. At this time, yes.

DAYMARK ENERGY ADVISORS

Amtrak Exhibit__(AAM-1)

Aliea Afnan Munger, Ph.D.

Senior Consultant

Aliea performs analysis of wholesale and retail electricity and gas markets and supports our team's market modeling and consulting activities. She has experience analyzing contracts and plans for existing and new facilities and services as well as matters regarding power procurement with power supply portfolios totaling approximately 200 MW and over $50 million in annual spend. Aliea also has experience reviewing and analyzing rate and regulatory filings.

AREAS OF EXPERTISE

Rate Design/Calculations

Regulatory Advisory Services

Financial Evaluation of Energy Assets

Clean Energy Strategy and Policy

Procurement and Portfolio Management

BACKGROUND

Daymark Energy Advisors
2017-Present

Western New England University
2013-2016

EDUCATION

Ph.D., Industrial Engineering
Western New England University

M.S., Chemistry
University at Albany,
State University of New York

B.S., Chemistry
University at Albany,
State University of New York

Rate School
National Association of Regulatory Utility Commissioners

SELECTED EXPERIENCE

- Reviewed and sponsored expert testimony before the Maryland Public Service Commission regarding the Baltimore Gas & Electric 2023 multi-year plan (MYP) rate filing, made recommendations for rates parity and rate reform to Schedule T (transmission level service customers distribution rate) and other retail rates.
- Provided expert witness services (2021-2024) and associated analysis and recommendations (2018–2024) to the Rhode Island Division of Public Utilities and Carriers in response to National Grid's annual Renewable Energy Standard (RES) filing.
- Managed the development of a rate application on behalf of Kaua'i Island Utility Cooperative addressing load research, allocated cost of service, rate re-design, and revenue requirements.
- Managed the analysis of a rate application on behalf of the Public Utilities Regulatory Authority (PURA) to review and advise on United Illuminating Company's 2022 rate case filing in Connecticut.
- Advised the New York Utility Intervention Unit in its review of Consolidated Edison's 2019 rate filing, addressing approaches to energy efficiency cost recovery, earnings adjustment mechanisms, and expenditures and investments to address the clean energy policies of New York and the Commission's plan for the Reforming the Energy Vision initiative.
- Conducted analysis of capacity costs that argued ATSI's cost-benefit analysis did not support recovery of the RTO realignment costs requested. Supported the development of testimony submitted by Marc D. Montalvo that included corrections to the counterfactual and key market assumptions. Docket No. ER20-1740-000. May 2020.
- Supported regulatory process engagement activities and analyses on behalf of a depreciation expert witness in a gas utility rate case in Maryland.
- Conducted analysis and review of allocated cost of service models and advanced metering infrastructure revenue requirement models for the Georgia Public Service Commission.

- Analysis and submission of the Service Quality Report for a Natural Gas client pursuant to Service Quality Standards for Local Gas Distribution Companies.
- Analyzed a utility self-build application by a utility for an LNG storage facility, preparing data requests and drafting testimony for expert witnesses based on analysis of the filing issues.
- Ongoing assistance advising on utility interconnection issues, rates, special contracts and other rate designs, and retail electricity and gas purchase power procurement and power supply management for 200+ MW portfolio of traction and non-traction accounts in eight states and three northeastern US control areas.
- Provided analysis and recommendations in the audit of National Grid's 2019 and 2020 annual retail rate filings and Standard Offer Service filings.
- Managing operational analysis using Daymark's proprietary wholesale capacity market model, CapMarker.
- Analyzed workpapers and justifications filed by PacifiCorp to obtain approval for a revised wind PPA contract and a new transmission project to assess the assumptions upon which the determination of need was based and developed data requests to support investigation of the analysis in greater detail.

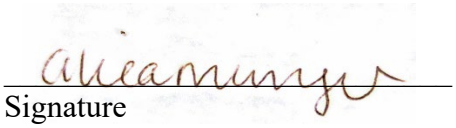
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	)	
v.	)	Docket No. R-2024-3046931
PECO Energy Company (Electric)	)	

VERIFICATION

I, Aliea A. Munger, Ph.D., Senior Consultant, Daymark Energy Advisors, hereby state that the facts set forth in my Rebuttal Testimony 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).

8/6/2024
Date


Signature

I&E Statement No. 1
Witness: Christine Wilson

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY - ELECTRIC DIVISION

Docket No. R-2024-3046931

Direct Testimony

of

Christine Wilson

Bureau of Investigation & Enforcement

Concerning:

OPERATING AND MAINTENANCE EXPENSES

RATE BASE

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INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Christine Wilson, and my business address is Pennsylvania Public Utility Commission, Commonwealth Keystone Building, 400 North Street, Harrisburg, PA 17120.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission (Commission) in the Bureau of Investigation & Enforcement (I&E) as a Fixed Utility Financial Analyst Supervisor.

Q. WHAT IS YOUR EDUCATIONAL AND EMPLOYMENT BACKGROUND?

A. An outline of my education and employment background is set forth in the attached Appendix A.

Q. PLEASE DESCRIBE THE ROLE OF I&E IN RATE PROCEEDINGS.

A. I&E is responsible for protecting the public interest in proceedings before the Commission. I&E's analysis in the proceeding is based on its responsibility to represent the public interest. This responsibility requires the balancing of the interests of ratepayers, the regulated utility, and the regulated community as a whole.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to review the base rate filing of PECO Energy Company - Electric Division (PECO Electric or Company) and make recommended adjustments to the Company's proposed operating and maintenance (O&M) expenses and cash working capital (CWC) claims for the fully projected future test year (FPFTY) ending December 31, 2025. I also present the overall I&E recommended revenue requirement based on my adjustments and the adjustments of the other I&E witnesses.

Q. DOES YOUR DIRECT TESTIMONY INCLUDE AN EXHIBIT?

A. Yes. I&E Exhibit No. 1 contains schedules that support my direct testimony.

Q. WHAT TEST YEARS IS PECO ELECTRIC USING IN THIS PROCEEDING?

A. PECO Electric is using the year ended December 31, 2023 as the historic test year (HTY), the year ending December 31, 2024 as the future test year (FTY), and the year ending December 31, 2025 as the FPFTY in this proceeding.[1]

Q. WHAT IS PECO ELECTRIC'S REQUESTED REVENUE INCREASE?

A. PECO Electric is requesting an annual total revenue increase of $465,038,000 for

[1] PECO Electric Statement No. 3, p. 2.

its distribution operations.[2]

SUMMARY OF RECOMMENDED ADJUSTMENTS

Q. PLEASE SUMMARIZE YOUR RECOMMENDED ADJUSTMENTS.

A. The following table summarizes my recommended adjustments:

	Company Base Rate Claim	I&E Recommended Allowance	I&E Adjustment
O&M Expenses and Taxes:			
COVID-19 Related Uncollectibles Refund	$0	($16,083,000)	($16,083,000)
Refund of Fiber Affiliate Revenue	$0	($5,333,333)	($5,333,333)
Rate Case Expense	$1,200,000	$800,000	($400,000)
Payroll Expense	$173,658,000	$167,521,000	($6,137,000)
Payroll Taxes	$13,051,000	$12,589,498	($461,502)
Employee Benefits, net of pension	$24,864,000	$23,501,000	($1,363,000)
Pension Expense	$3,216,000	$1,324,000	($1,892,000)
EBSC Employee Severance Exp.	$510,298	$0	($510,298)
Storm Expense	$68,921,000	$53,582,868	($15,338,132)
Employee Activity Cost	$1,036,309	$261,209	($775,100)
IIJA Cost Amortization	($448,000)	($653,000)	($205,000)
Amortization of TARC and FTAC	($43,000)	($28,667)	$14,333
Vegetation Management	$56,360,961	$48,517,534	($7,843,427)
Total O&M and Tax Adjustments			**($56,327,459)**
Rate Base Adjustments:			
Cash Working Capital	$214,843,000	$212,449,000	($2,394,000)
Total Rate Base Adjustments			**($2,394,000)**

[2] PECO Electric Exhibit MJT-1, Schedule A-1, p. 1.

OVERALL I&E POSITION

Q. WHAT IS I&E'S TOTAL RECOMMENDED REVENUE REQUIREMENT?

A. I&E's total recommended revenue requirement for PECO Electric is $3,238,762,000. This recommended revenue requirement represents an increase of $326,727,000 to the I&E adjusted present rate revenues of $2,912,035,000. This total recommended allowance incorporates my adjustments made in this testimony to O&M expenses and cash working capital, and those recommended adjustments made in the testimonies of I&E witnesses D.C. Patel (I&E Statement No. 2), and Esyan Sakaya (I&E Statement No. 3). A calculation of the I&E recommended revenue requirement is shown below:

PECO Energy Company - Electric Division		TABLE I			
R-2024-3046931		INCOME SUMMARY			
($ in Thousands)					
	12/31/25	INVESTIGATION & ENFORCEMENT			
	Proforma	[----------			]
	Present Rates	Adjustments	Present Rates	Allowances	Proposed
	$	$	$	$	$
Operating Revenue	2,908,189	3,846	2,912,035	326,727	3,238,762
Deductions:					
O&M Expenses	2,005,564	-55,865	1,949,699	3,172	1,952,871
Depreciation	335,839	0	335,839		335,839
Taxes, Other	192,333	-228	192,105	19,873	211,978
Income Taxes:					
Current State	-8,033	4,794	-3,239	24,264	21,025
Current Federal	-31,421	11,591	-19,830	58,678	38,848
Deferred Taxes / AMT	21,305	0	21,305		21,305
ITC	-15	0	-15		-15
Total Deductions	2,515,572	-39,708	2,475,864	105,987	2,581,851
Income Available	392,617	43,554	436,171	220,740	656,911
Rate Base	8,855,637	-2,394	8,853,243	0	8,853,243
Rate of Return	4.43%		4.93%		7.42%

REFUND OF PRIOR COVID-19 REGULATORY ASSET RECOVERY

Q. WHAT IS THE COMPANY PROPOSING WITH RESPECT TO REFUNDING PREVIOUSLY COLLECTED COVID-19 RELATED UNCOLLECTIBLES?

A. The Company is proposing to refund the total $48.25 million COVID-19 regulatory asset that has been collected from ratepayers since the prior base rate case via a Section 1307 surcharge (credit) mechanism entitled the Incremental COVID-19 Uncollectible Surcharge (ICUS).[3]

Q. OVER WHAT TIME PERIOD WAS THIS AMOUNT COLLECTED FROM RATEPAYERS?

A. This amount was collected from ratepayers via a three-year amortization of the $48.25 million.

Q. WHAT IS THE BASIS FOR THE COMPANY'S PROPOSAL TO REFUND THE TOTAL $48.25 MILLION TO RATEPAYERS?

A. In the prior base rate case proceeding, the Company had proposed that the amount be used as a reduction to the overall claim in the subsequent rate case to avoid any double-charging customers.[4]

[3] PECO Electric Statement No. 3, pp. 75-77.
[4] PECO Electric Statement No. 3, p. 76.

Q. OVER WHAT TIME PERIOD IS THE COMPANY PROPOSING THIS REFUND?

A. The Company proposes to refund the total amount over one year, 2025. Additionally, the Company proposes that the Commission's Bureau of Audits would receive a final reconciliation statement within 30 days after the final over/under balance is eliminated.[5]

Q. DO YOU AGREE WITH THE MANNER IN WHICH THE COMPANY PROPOSES TO REFUND THIS $48.25 MILLION TO RATEPAYERS?

A. No. I disagree with the use of a Section 1307 surcharge mechanism to refund the COVID-19 related uncollectibles.

Q. WHAT DO YOU RECOMMEND?

A. I recommend a three-year amortization of the COVID-19 related uncollectibles, producing a yearly refund of $16.083 million ($48.25 million / 3 years) in base rates.

Q. WHAT IS THE BASIS OF YOUR RECOMMENDATION?

A. I recommend that the Company be required to refund the money over three years precisely as it was collected in the first place since the last rate case[6] but via a regulatory liability. This would avoid the unnecessary use of a surcharge

[5] PECO Electric Statement No. 8, pp. 3-4.

[6] *Pennsylvania Public Utility Commission v. PECO Energy Company – Electric Division* at Docket No. R-2021-3024602, Joint Petition for Settlement of Rate Investigation, p. 5.

mechanism which would require the Commission's Bureau of Audits to evaluate the reconciliation report. In summary, I recommend an amortization of the total regulatory liability balance of $48.25 million over three years in line with my rate case expense filing frequency as calculated in the Rate Case Expense section below. Adoption of my recommendation would keep this uncollectible-related item in base rates where it more appropriately belongs.

REFUND OF FIBER AFFILIATE REVENUE

Q. HOW DID AN ISSUE ARISE RELATED TO REVENUES DUE FOR THE USE OF PECO ELECTRIC'S FIBER NETWORK?

A. There was an audit finding associated with PECO Electric's discovery of unbilled use of its fiber network assets to two affiliates,[7] and the Company and the Commission's Bureau of Audits agreed that, in its next base rate filing, PECO Electric would submit a proposal to credit electric distribution ratepayers for corrected fiber billings.[8]

Q. WHAT IS THE COMPANY PROPOSING WITH RESPECT TO THE REFUND OF FIBER AFFILIATE REVENUES?

A. The Company is proposing to credit fiber network fees received from affiliates for past use of its fiber network of approximately $16 million ($12,014,797 from

[7] Management and Operations Audit of PECO Energy Company by the Pennsylvania Public Utility Commission, Bureau of Audits, Issued July 2022, at Docket No. D-2021-3023906.

[8] 2023 Annual Progress Report of PECO Energy Company to the PA PUC Management and Operations Audit, September 1, 2023, Report at Docket No. D-2021-3023906, p. 2.

Exelon Generation and $1,521,437 from Exelon Business Service Company (EBSC) plus interest) via a Section 1307 surcharge (credit) mechanism entitled the Fiber Affiliate Revenue Surcharge (FAR).[9]

Q. WHAT IS THE BASIS FOR THE COMPANY'S PROPOSAL TO REFUND THIS AMOUNT VIA A SECTION 1307 SURCHARGE MECHANISM?

A. This mechanism would allow the Company to refund the money over a one-year period.

Q. DOES USING A SURCHARGE MECHANISM RESULT IN EXTRA STEPS BY THE COMMISSION?

A. Yes. The Company proposes that the Commission's Bureau of Audits would receive a final reconciliation statement within 30 days after the final over/under balance is eliminated.[10]

Q. DO YOU AGREE WITH THE MANNER IN WHICH THE COMPANY PROPOSES TO REFUND THIS $16 MILLION TO RATEPAYERS?

A. No. I disagree with the use of a Section 1307 surcharge mechanism to refund this money to ratepayers.

[9] PECO Electric Volume II, Statement No. 8, pp. 2-4.
[10] PECO Electric Statement No. 8, pp. 3-4.

Q. WHAT DO YOU RECOMMEND?

A. I recommend amortization of a $16 million regulatory liability via base rates resulting in a yearly reduction to base rate revenues of $5,333,333 ($16 million / 3 years).

Q. WHAT IS THE BASIS OF YOUR RECOMMENDATION?

A. I recommend that the Company be required to refund the money over three years via base rates since this three-year timeframe aligns with the Company's filing frequency (as discussed in my Rate Case Expense section below) and would avoid the unnecessary use of a surcharge mechanism that requires the Commission's Bureau of Audits to evaluate the reconciliation report.

RATE CASE EXPENSE

Q. BRIEFLY DESCRIBE THE NATURE AND TYPES OF EXPENDITURES TYPICALLY ALLOWED AS A PART OF A REGULATED UTILITY'S OVERALL RATE CASE EXPENSE.

A. The nature and types of individual expenditures that comprise a utility's allowable claim for rate case expense are those directly incurred to compile, present, and defend a utility's request for a base rate increase before the Commission. The actual expenditures and estimated costs typically found in an allowable rate case expense claim include legal fees for outside counsel, fees to outside consultants, and the cost of printing, document assembly, and postage.

Q. HOW HAS THE COMMISSION TRADITIONALLY TREATED RATE CASE EXPENSE FOR RATEMAKING PURPOSES?

A. The Commission has historically stated that it considers prudently incurred rate case expense as an ongoing expense, occurring at irregular intervals, related to the rendering of utility service. The Commission has also cited the importance of considering the involved utility's history regarding the frequency of rate case filings as an essential element to determine the normalized level of rate case expense for ratemaking purposes.

Q. HOW IS THE FREQUENCY OF RATE CASE FILINGS DETERMINED?

A. The frequency is determined by calculating the average number of months between the utility's recent base rate case filings.

Q. WHAT IS THE COMPANY'S CLAIM FOR RATE CASE EXPENSE?

A. The Company's FPFTY claim for rate case expense is $1,200,000.[11]

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. The Company has estimated its total rate case expense of $2,400,000 and is requesting an amortization period of two years (24 months).[12] In response to I&E-RE-19, the Company states that rate case expense is a one-time expense associated

[11] PECO Electric Exhibit MJT-1, Schedule D-7, p. 72.
[12] PECO Electric Statement No. 3, pp. 41-42.

with this filing, the Company intends to carefully monitor its performance to determine when it will need to file another electric distribution base rate case, and that it anticipates the need for base rate filings every two to three years. Thus, the Company amortized rate case expense over a two-year (24-month) period.[13] This results in a rate case expense claim of $1,200,000 ($2,400,000 / 2).[14]

Q. IN THE FILING, THE COMPANY REFERENCES ITS CLAIM AS AN AMORTIZED EXPENSE. BRIEFLY DISCUSS THE CONCEPT OF AMORTIZATION.

A. Amortization is an accounting procedure that extinguishes atypical, nonrecurring expense over a predetermined number of years by charging to operations a pro-rata share based on the selected amortization period. An amortized expense could be claimed in succeeding rate cases if there is a remaining unamortized balance. However, when normalizing an expense, a claim for an unrecovered normalized expense would be disallowed if requested in a subsequent rate case.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED AMORTIZATION TREATMENT FOR RATE CASE EXPENSE?

A. No. Rate case expense should be normalized for ratemaking purposes.

[13] I&E Exhibit No. 1, Schedule 1, p. 2.
[14] PECO Exhibit MJT-1, Schedule D-7, p. 72.

Q. WHAT IS NORMALIZATION?

A. Normalization is a ratemaking concept that describes the transformation of an operating expense that recurs at irregular intervals into a "normal" annual test year allowance. Normalization specifically addresses the prospective recovery of an ongoing expense that recurs sporadically. Normalized expenses are no different than any other O&M expense in that the Company is given the opportunity to achieve full recovery.

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT IS YOUR RECOMMENDATION FOR RATE CASE EXPENSE?

A. I recommend that the Company's rate case expense be normalized over a period of 36 months resulting in a FPFTY allowance of $800,000 [($2,400,000 / 36 months) x 12 months), or a reduction of $400,000 ($1,200,000 - $800,000) to the Company's claim.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. First, as discussed above, I recommend normalization of rate case expense in contrast to the Company's claimed amortization of rate case expense.

Second, I disagree with the Company's claimed 24-month amortization period, because it is not supported by PECO Electric's historic filing frequency. The Company's proposed amortization period fails to properly rely upon the

historical data and is speculative in nature. In contrast to the Company's claimed 24-month amortization period, I recommend a 36-month normalization period, which is reasonable and validated by the Company's recent filing history. PECO Electric Volume V, SDR-OM-23 provides information about its last three historic base rate case filings as shown below:

Docket No.	Filing Date	Filing Interval – Months	Average of Three Intervals – Months
R-2024-3046931	3/28/2024	36	36
R-2021-3024601	3/30/2021	36	
R-2018-3000164	3/29/2018	36	
R-2015-2468981	3/27/2015		

That information along with the details for the instant rate filing produce an average historic filing frequency of 36 months [(36 + 36 + 36) ÷ 3], which supports my recommended normalization period of 36 months. PECO Electric's claim for rate case expense amortization over 24 months is speculative and should be disallowed both with respect to the time period and the proposed amortization treatment.

Q. HAVE OTHER UTILITIES BEEN GRANTED A NORMALIZATION PERIOD BASED ON SPECULATION OF FUTURE FILINGS, AND IF SO, WHAT WAS THE RESULT?

A. Yes. In 2012, the Commission granted PPL Electric Utilities Corporation (PPL) permission to normalize its rate case expense over a 24-month period based on the

expected timing of future base rate case filings.[15] That base rate case was filed on March 30, 2012; however, PPL did not file its next rate case until March 31, 2015, which was 36 months after the 2012 rate case filing. I&E's recommended normalization period in the 2012 PPL proceeding was a 32-month interval based on the Company's historic filing frequency.[16] I&E's recommendation in that instance produced a much more accurate result than the Company's stated future intention to file a rate case.

Q. ARE THERE ANY RECENT COMMISSION DECISIONS THAT SUPPORT YOUR RECOMMENDATION FOR A RATE CASE FILING INTERVAL BASED ON HISTORIC FILING FREQUENCY?

A. Yes. The following six cases resulted in the Commission using each company's historic average filing frequency.

First, in a base rate case filed by Emporium Water Company, the Commission adopted I&E's recommended historic filing frequency finding in favor of I&E's recommended five-year normalization period based on a historic average filing frequency that was rounded down from 64 months.[17]

Second, in a base rate case filed by the City of DuBois, the Commission agreed with I&E's recommendation to use an historic filing frequency finding in

[15] *PA PUC v. PPL Electric Utilities Corporation*, Docket No. R-2012-2290597, pp. 47-48 (Order Entered December 28, 2012).
[16] I&E Statement No. 2, pp. 13-14 at Docket No. R-2012-2290597.
[17] *PA PUC v. Emporium Water Company*, Docket No. R-2014-2402324, Opinion and Order, p. 50 (Order Entered January 28, 2015).

favor of I&E's recommended 64-month normalization period which matched the actual historic filing frequency.[18]

Third, in a base rate case filed by Columbia Gas of Pennsylvania, Inc., the Commission held that the normalization period should align with the historic data rather than the company's intent to file its next base rate case.[19]

Fourth, in a base rate case filed by PECO Energy Company - Gas Division (PECO Gas), the Commission granted I&E's recommended five-year normalization period rather than PECO Gas' claimed based on a three-year period because the Commission determined a normalization period based on actual historic filing frequency is more reliable than future speculation.[20]

Fifth, in a base rate case filed by Philadelphia Gas Works (PGW), the Commission agreed with I&E's recommended 53-month normalization period rather than PGW's claim based on a three-year period because the Commission granted a normalization period based on actual historic filing frequency and not based on PGW's future intention to file a rate case.[21]

Finally, in the most recent base rate case filed by the Columbia Water Company, the Commission held that the normalization period should align with the historic filing frequency rather than that company's intent to file its next rate

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[18] *PA PUC v. City of DuBois - Bureau of Water*, Docket No. R-2016-2554150, Opinion and Order, pp. 65-66 (Order Entered March 28, 2017) and PA PUC v. City of DuBois - Bureau of Water, Docket No. R-2016-2554150, Opinion and Order, p. 13 (Order Entered May 18, 2017).

[19] *PA PUC v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2020-3018835, Opinion and Order, pp. 78-79 (Order Entered February 19, 2021).

[20] *PA PUC v. PECO Energy Company (Gas Division)*, Docket No. R-2020-3018929, Opinion and Order, p. 119 (Order Entered June 22, 2021).

[21] *PA PUC v. Philadelphia Gas Works*, Docket No. R-2023-3037933, Opinion and Order, pp. 65-66 (Order Entered November 9, 2023).

case, and that the intent to file a base rate case does not justify deviating from the Commission's practice of relying on historic filing frequency.[22]

Q. GIVEN THESE COMMISSION ORDERS AND THE COMPANY'S FILING HISTORY, IS THE CLAIMED TWO-YEAR RECOVERY PERIOD REASONABLE?

A. No. The Company has not demonstrated that it will file its next base rate case within two years of this rate case.

PAYROLL EXPENSE

Q. WHAT IS INCLUDED IN THE COMPANY'S CLAIM FOR PAYROLL EXPENSE?

A. The Company's payroll expense claim includes regular pay, overtime, paid time off, and payroll premiums and associated pay increases.[23] Payroll expense is distributed to various categories of O&M expense items by FERC account as shown in the filing.[24]

Q. WHAT IS THE COMPANY'S CLAIM FOR PAYROLL EXPENSE?

A. The Company is claiming FPFTY payroll expense of $173,658,000.[25]

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[22] *PA PUC v. Columbia Water Company*, Docket No. R-2023-3040258, Opinion and Order, p. 34 (Order Entered January 18, 2024).
[23] I&E Exhibit No. 1, Schedule 2, pp. 2-3 and PECO Electric Exhibit MJT-1, Schedule D-6, p. 69.
[24] PECO Electric Exhibit MJT-1, Schedule D-6, pp. 70-71.
[25] PECO Electric Exhibit MJT-1, Schedule D-6, p. 69.

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. The Company's claim for the budgeted payroll expense is based on the HTY headcount including an anticipated increase in filled positions at the end of the FPFTY, and annualization of 2.5% and 3.0% pay increases in salaries and wages for union and non-union employees. Additionally, the Company also included pay increases to be effective on January 1, 2026, and March 1, 2026, after the end of the FPFTY in its payroll expense claim and a normalized cash payment to union employees.[26]

Q. DO YOU AGREE WITH THE COMPANY'S PAYROLL EXPENSE CLAIM?

A. No.

Q. WHAT DO YOU RECOMMEND?

A. I recommend an allowance of $167,521,000 for payroll expense or a reduction of $6,137,000 ($173,658,000 - $167,521,000) to the Company's claim.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A I am adjusting the payroll expense claim for: (1) removing $168,000 for normalized one-time union contract payments;[27] (2) removing payroll applicable

[26] PECO Electric Statement No. 3, pp. 39-41 and Exhibit MJT-1, Schedule D-6, pp. 68-69.
[27] PECO Electric Exhibit MJT-1, Schedule D-6, p. 69.

to the period after the end of the FPFTY 2025 (i.e., pay increases effective on January 1, 2026, and March 1, 2026) amounting to $4,655,000 ($1,982,000 + $2,673,000);[28] and (3) unfilled (vacant) positions due to normal vacancies, which occur due to retirements, resignations, transfers, etc. throughout the year, amounting to an adjustment of $1,314,000 as explained below. These three adjustments make up my total recommended reduction of $6,137,000 ($168,000 + $4,655,000 + $1,314,000).

Q. PLEASE EXPLAIN YOUR RECOMMENDED REMOVAL OF ONE-TIME UNION CONTRACT PAYMENTS.

A. I recommend disallowing the entire claim for normalizing the cash payment to union employees made in connection with ratification of the current union contracts in March 2021.[29] The total payment for the union contracts was $1,303,000, and the amount allocated to PECO Electric was $1,010,000. The Company normalized that amount over six years, which is the length of the union contract. The resulting annual expense is $168,000. The one-time bonus was for an action (ratification of the union contract) that occurred in March 2021.[30]

[28] *Id.*
[29] PECO Electric Statement No. 3, p. 40.
[30] *Id.*

Q. BRIEFLY EXPLAIN THE CONCEPT OF RETROACTIVE RATEMAKING.

A. Retroactive ratemaking is the future collection of a prior period cost. Ratemaking, by its nature, is prospective. "The rule against retroactive ratemaking prohibits a public utility commission from setting future rates to allow a utility to recoup past losses".[31] The union contract payment is a prior expense payment for an employee action that occurred in the past. Generally, recovery of this expense constitutes retroactive ratemaking and should be disallowed.

Q. WERE THERE ANY RECENT COMMISSION ORDERS RELATED TO THIS VERY CLAIM?

A. Yes. In the 2020 PECO Gas base rate case, the Commission ruled on an identical matter that the elimination of the past costs for the one-time bonus paid in 2015 was reasonable.[32]

Q. PLEASE EXPLAIN YOUR RECOMMENDED DISALLOWANCE OF THE ANNUALIZATION ADJUSTMENT FOR PAY INCREASES WITH EFFECTIVE DATES AFTER THE END OF THE FPFTY.

A. It is not appropriate for the Company to claim pay increases that occur beyond the end of the FPFTY. The Company's FPFTY ends on December 31, 2025, but the

[31] *Popowsky v. Pub. Util. Comm'n*, 642 A.2d 648, 650-51.

[32] Pennsylvania Public Utility Commission et al. v. PECO Energy Company – Gas Division, **Non-Proprietary Version** Opinion and Order at Docket No. R-2020-3018929 et al., Order Entered June 22, 2021, p. 81.

Company has claimed annualized pay increases for January 1, 2026, and March 1, 2026, that equal $4,655,000 ($1,982,000 + $2,673,000). These 2026 salary and wage increases are outside the FPFTY and should not be allowed for ratemaking purposes. Similarly, it is inappropriate to allow increases in expenditures, plant additions, or projected revenue declines that occur after the end of the FPFTY in a base rate case utilizing an FPFTY. The FPFTY already allows for the projection of a full year of expenses and plant additions beyond the effective date of new rates. Allowing expense adjustments that occur after the FPFTY would misalign data presented for establishing base rates to the benefit of the Company and to the harm of ratepayers.

In summary, the Company is proposing to include post-FPFTY pay increases that occur in 2026 on an annualized basis in its FPFTY 2025 base rate claims, which is inappropriate and would place an unreasonable burden on ratepayers.

Q. PLEASE EXPLAIN YOUR RECOMMENDED VACANCY ADJUSTMENT.

A. My recommended vacancy adjustment is based on an average of annual normal vacancies experienced in the year 2023. To come to this conclusion, I reviewed the average annual vacancy rates for 2021, 2022, and 2023.[33] This data demonstrates that the vacancy percentages for 2021 and 2022 are elevated due to higher numbers of vacancies post-COVID-19. Thus, using the average vacancy

[33] I&E Exhibit No. 1, Schedule 3, p. 4.

percentage for the year 2023 alone produces a more measured and reasonable adjustment per the data below:

Ref. Attachment IE-I-RE-21(c)				
Page 2 of 2				
			Vacancy	
Month	Vacancies	Budget	Percentage	
2021-01	66	2,064	3.20%	
2021-02	64	2,059	3.11%	
2021-03	78	2,062	3.78%	
2021-04	87	2,062	4.22%	
2021-05	91	2,057	4.42%	
2021-06	81	2,103	3.85%	
2021-07	139	2,120	6.56%	
2021-08	130	2,117	6.14%	
2021-09	135	2,158	6.26%	
2021-10	129	2,155	5.99%	
2021-11	120	2,153	5.57%	
2021-12	133	2,162	6.15%	4.94%
2022-01	75	2,117	3.54%	
2022-02	67	2,120	3.16%	
2022-03	82	2,128	3.85%	
2022-04	124	2,140	5.79%	
2022-05	116	2,149	5.40%	
2022-06	139	2,166	6.42%	
2022-07	129	2,166	5.96%	
2022-08	133	2,176	6.11%	
2022-09	112	2,189	5.12%	
2022-10	125	2,195	5.69%	
2022-11	102	2,189	4.66%	
2022-12	101	2,188	4.62%	5.03%
2023-01	80	2,184	3.66%	
2023-02	89	2,197	4.05%	
2023-03	75	2,204	3.40%	
2023-04	75	2,212	3.39%	
2023-05	76	2,213	3.43%	
2023-06	79	2,220	3.56%	
2023-07	84	2,229	3.77%	
2023-08	65	2,230	2.91%	
2023-09	15	2,244	0.67%	
2023-10	28	2,246	1.25%	
2023-11	32	2,247	1.42%	
2023-12	33	2,246	1.47%	2.75%

However, the 2023 average annual employee vacancy rate of 2.75% needs to be adjusted by the Company's already factored-in 2% vacancy assumption.[34] After that is reflected, a vacancy adjustment of 0.75% produces 18 (rounded) vacant

[34] I&E Exhibit No. 1, Schedule 3, p. 5.

FPFTY positions (FPFTY budgeted employee count of 2,373[35] x vacancy rate of 0.0075). Lastly, multiplying 18 unfilled/vacant positions by the average annual payroll cost of $73,000 per employee[36] yields a $1,314,000 ($73,000 x 18 positions) reduction to payroll expense.

Q. EXPLAIN YOUR RATIONALE FOR THE VACANCY ADJUSTMENT.

A. It is unreasonable to assume that the Company will fill and maintain 100% full staffing of all budgeted positions throughout the FPFTY based on its own historic vacancy records for the years 2021, 2022, and 2023. As discussed above, it is reasonable to impute a total average vacancy rate of 2.75% in the FPFTY. These historic vacancy records support my recommended 18 vacant positions based on the 2023 data. Furthermore, the Company's own filing admits that in the FTY, 137 budgeted positions were not filled as of January 31, 2024[37] which also supports my recommendation. However, while January 31, 2024, is simply one moment in time, I believe my method constitutes a more measured approach.

Q. PLEASE CONTINUE.

A. It is important to note that there will always be a certain level of normal vacancies due to retirements, resignations, transfers, layoffs, etc., on a day-to-day operating basis, which are unpredictable, and there will always be search and placement time

[35] PECO Electric Exhibit MJT-1, Schedule D-6, p. 69.
[36] PECO Electric Exhibit MJT-1, Schedule D-6, p. 69.
[37] PECO Electric Volume V, SDR-OM-26.

involved in filling normal vacancies as well as newly added positions. Such vacancies will yield annual savings in payroll costs that should be reflected for ratemaking to eliminate an unreasonable impact on rates.

Q. IS THERE ANY OTHER DATA PROVIDED BY THE COMPANY THAT SUPPORTS THE NEED FOR A VACANCY ADJUSTMENT IN EXCESS OF 2%?

A. Yes. The most recent three years' average actual payroll expense for 2021, 2022, and 2023 show the Company experiencing payroll of 6.83% less than budgeted amounts for total payroll based on the following:[38]

Ref. Attachment OCA-V-21(a)				
Capital Payroll	2021	2022	2023	
Actual	87,912	90,640	100,308	
Budget	95,155	98,851	109,282	
I&E Calculated Variance	(7,243)	(8,211)	(8,974)	
Expense Payroll				
Actual	116,787	120,192	123,516	
Budget	126,632	127,829	128,274	
I&E Calculated Variance	(9,845)	(7,637)	(4,758)	
For Expense Portion only	-7.77%	-5.97%	-3.71%	
				3-Year Average
I&E Calculated Variance for TOTAL Payroll	-7.70%	-6.99%	-5.78%	-6.83%

This data demonstrates that the Company has consistently been spending less than the budgeted payroll in recent years.

[38] I&E Exhibit No. 1, Schedule 3, p. 7.

Additionally, PECO Volume V, Attachment SDR-OM-1(a.2) and (a.3) show that the Company had planned more in base payroll than it spent in 2022 and 2023.

Q. PLEASE SUMMARIZE YOUR PAYROLL EXPENSE RECOMMENDATION.

A. My recommended adjustment to remove the one-time union contract payment, pay increases that go into effect after the end of the FPFTY, and the vacancy adjustment explained above produce my recommended payroll expense allowance as follows:

FPFTY Claimed Salaries & Wages	$ 173,658,000
Less One-Time Union Contract Payment	$ (168,000)
Less Post-FPFTY Pay Increases	$ (4,655,000)
Less Average S&W for 18 Vacancies	$ (1,314,000)
Recommended Allowance	$ 167,521,000

PAYROLL TAXES

Q. WHAT IS INCLUDED IN PAYROLL TAXES?

A. Payroll taxes generally fall into two categories: deductions from employees' salaries and wages, and taxes paid by the employer based on employees' salaries and wages. The Company has made a claim in this filing for its share of those

payroll taxes (social security and Medicare taxes, federal and state unemployment taxes).

Q. WHAT IS THE COMPANY'S CLAIM FOR PAYROLL TAXES?

A. The Company is claiming FPFTY payroll tax expense of $13,051,000.[39]

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT IS YOUR RECOMMENDATION FOR PAYROLL TAXES?

A. I recommend an allowance of $12,589,498 for payroll tax expense or a reduction of $461,502 ($13,051,000 - $12,589,498) to the Company's claim.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. I recommend a payroll tax adjustment in line with my recommended payroll expense reduction of $6,137,000 based on removing the one-time union contract payments, removing post-FPFTY pay increases, and reflecting a vacancy adjustment for 18 positions as explained in the Payroll Expense section above.

[39] PECO Electric Exhibit MJT-1, Schedule D-16, p. 81.

Q. HOW DID YOU CALCULATE YOUR RECOMMENDED ALLOWANCE?

A. I calculated my recommended allowance for payroll taxes by applying the Company's effective payroll tax rate of 7.52%.[40] I multiplied my recommended total payroll expense adjustment of $6,137,000 by this payroll tax rate to determine my recommended payroll tax adjustment of $461,502 ($6,137,000 x 0.0752).

EMPLOYEE BENEFITS EXPENSE (NET OF PENSION EXPENSE)

Q. WHAT IS INCLUDED IN THE COMPANY'S CLAIM FOR EMPLOYEE BENEFITS EXPENSE?

A. The employee benefits expense claim includes pension, post-retirement benefits, health insurance, a 401K plan, disability insurance, workers' compensation, tuition reimbursement, and other benefits.[41]

Q. WHAT IS THE COMPANY'S CLAIM FOR EMPLOYEE BENEFITS EXPENSE?

A. The Company is claiming employee benefits expense (Account No. 926) of $28,080,000.[42]

[40] PECO Electric Exhibit MJT-1, Schedule D-16, p. 82.
[41] I&E Exhibit No. 1, Schedule 4, p. 2.
[42] PECO Electric Exhibit MJT-1, Schedule D-4, p. 59.

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. The Company indicates its claim for employee benefits is based on a budgeted expense per employee of $10,000.[43]

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM FOR EMPLOYEE BENEFITS EXPENSE?

A. No.

Q. HOW ARE YOU ADDRESSING EMPLOYEE BENEFITS EXPENSE?

A. I am addressing the portion of benefits expense claim of $24,864,000 ($28,080,000 - $3,216,000) excluding the pension expense claim of $3,216,000, which is discussed separately in the next section below.

Q. WHAT IS YOUR RECOMMENDATION FOR EMPLOYEE BENEFITS (NET OF PENSION EXPENSE)?

A. I recommend an allowance of $23,501,000 or a reduction of $1,363,000 ($24,864,000 - $23,501,000) to the Company's claim.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation starts with the Company's supported amount for employee

[43] PECO Electric Exhibit MJT-1, Schedule D-8, p. 73.

benefits net of pension expense of $23,681,000,[44] notably less than what the Company says its total benefits expense claim is net of pension expense, which is further adjusted for an additional 0.75% due to my recommended vacancy adjustment (representing 18 vacancies) as explained in the Payroll Expense section above. Based on this recommended vacancy adjustment, I calculate a reduction to benefits expense (net of pension) of $180,000 ($10,000 x 18 positions) to the supported amount of $23,681,000[45] which produces a recommended allowance of $23,501,000 ($23,681,000 - $180,000).

PENSION EXPENSE

Q. WHAT IS PENSION EXPENSE?

A. PECO Electric offers its employees a retirement pension benefit by participating in the multi-employer Exelon Corporation Retirement Program (plan) and contributes its allocated portion of pension expense to this defined benefit plan every year.

Q. WHAT IS THE COMPANY'S CLAIM FOR PENSION EXPENSE?

A. The Company is claiming FPFTY pension expense of $3,216,000.[46]

[44] PECO Electric Volume II, Exhibit MJT-1, Schedule D-8 and I&E Exhibit No. 1, Schedule 4, p. 2.
[45] I&E Exhibit No. 1, Schedule 4, p. 2.
[46] PECO Exhibit MJT-1, Schedule D-9, p. 74.

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. The Company has claimed the FPFTY pension expense based on a cash contribution method, which PECO Electric has used consistently. The Company's FPFTY claim for pension expense is included in employee benefits expense (Acct. 926). The FPFTY claim is based on a five-year average of pension contributions calculated based on 2021 through FPFTY 2025 (including the FTY 2024 and FPFTY 2025 projected pension expenses).[47]

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT IS YOUR RECOMMENDATION FOR PENSION EXPENSE?

A. I recommend an allowance of $1,324,000 for pension expense or a reduction of $1,892,000 ($3,216,000 - $1,324,000) to the Company's claim.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. The combined pension cost of PECO's Electric and Gas Divisions has shown a declining trend as shown below:[48]

[47] PECO Exhibit MJT-1, Schedule D-9, p. 74.
[48] PECO Electric Exhibit MJT-1, Schedule D-9, p. 74.

2021	$17,267,000
2022	$15,222,000
HTY 2023	$1,408,000
FTY 2024	$2,878,000
FPFTY 2025	$3,300,000

However, in determining the FPFTY pension expense claim, the Company utilized 2021 and 2022 expense outliers in calculating the five-year average of $8,015,000, which was used as a base number and before allocating 77.49% to electric distribution, further reducing it for the capitalized portion of pension cost at 48.21%, producing an Electric Division pension expense claim of $3,216,000. Since the Company's combined (Gas and Electric) pension cost is declining in the historic years and continuing in the FTY and FPFTY projections, it is inappropriate and unreasonable to use the five-year average (2021 through 2025) as the base amount for determining the FPFTY claim.

Therefore, I recommend a FPFTY projected pension expense of $3,300,000 (combined for Electric and Gas) as the base amount for calculating the PECO Electric FPFTY expense allowance (in contrast to the claimed five-year average) as calculated below:

1. FPFTY Pension Contribution (Electric and Gas)	$3,300,000
2. Electric Allocation at 77.49%	$2,557,000
3. Capitalized Amount at 48.21%	$1,233,000
4. FPFTY Pension Expense Allowance (2 - 3)	$1,324,000
5. FPFTY Pension Expense Claim	$3,216,000
6. Pension expense adjustment (4 – 5)	**($1,892,000)**

EBSC EMPLOYEE SEVERANCE EXPENSE

Q. WHAT IS EXELON BUSINESS SERVICES COMPANY (EBSC) EMPLOYEE SEVERANCE EXPENSE?

A. The Company has allocated normal retirement expenses of Exelon's executives, which is part of the EBSC's allocated costs. Generally, severance expense includes the nonrecurring expenses for the separation of an employee from employment at a company. These expenses can include continuing salaries or wages, benefits, and placement services to assist a former employee in finding a new position.

Q. WHAT IS THE COMPANY'S CLAIM FOR EBSC EMPLOYEE SEVERANCE EXPENSE?

A. The Company is claiming $510,298 for the EBSC employee severance expense.[49]

[49] PECO Electric Volume V, SDR-OM-12.

Q. WHAT IS THE BASIS OF THE COMPANY'S CLAIM?

A. This expense is based on the historical trend.[50]

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT IS YOUR RECOMMENDATION FOR EBSC EMPLOYEE SEVERANCE EXPENSE?

A. I recommend disallowance of the entire claim of $510,298 for EBSC employee severance expense.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. Primarily, per the Company's Service Level Agreement,[51] EBSC's service costs are either billed direct costs or are allocated to PECO Electric based on ratios such as a revenue related ratio, expenditure related ratio, labor/payroll related ratio, units related ratio, asset related ratio, or a composite ratio. Since severance expense would not be a direct cost tied to the provision of safe and reliable service, it is inappropriate for PECO Electric to claim an allocated portion of EBSC employees' severance expense for ratemaking. EBSC employees' service costs are charged and claimed based on time spent and associated hourly rates, but

[50] PECO Electric Volume V, SDR-OM-12.
[51] PECO Electric Volume V, Attachment SDR-OM-15(a.3).

no time or service is provided for the payment of severance expense. Finally, in the filing the Company states that there is no actuarial study available for the basis of the FPFTY claim.[52]

STORM EXPENSE

Q. WHAT IS STORM EXPENSE?

A. The Company has included a claim for storm damage restoration expenses reflecting an average of five historic years' inflated storm expenses.[53]

Q. WHAT IS THE COMPANY'S CLAIM FOR STORM EXPENSE?

A. The Company's claim for storm expense is $68,921,000.[54]

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. The Company used five years of actual storm expenses from the twelve-month period April 1, 2019-March 31, 2020 through April 1, 2023-March 31,2024 and inflated each year's expense by applying Tri-State CPI factors and then averaged the inflated yearly expenses to develop its claim.[55]

[52] PECO Electric Volume V, SDR-OM-12.
[53] PECO Electric Statement No. 3, p. 45.
[54] PECO Electric Exhibit MJT-1, Schedule D-13, p.78.
[55] PECO Electric Exhibit MJT-1, Schedule D-13, p.78 and I&E Exhibit No. 1, Schedule 5, pp. 1-3.

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT DO YOU RECOMMEND FOR STORM EXPENSE?

A. I recommend an allowance of $53,582,868 or a reduction of $15,338,132 ($68,921,000 - $53,582,868) to the Company's claim.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. I recommend using a five-year historic simple average of the actual expenses for 2019 through 2023[56] without adjusting for inflation as follows:

Source: I&E-RE-32-D	
	Actuals
2014	$ 88,612,740
2015	$ 21,302,418
2016	$ 16,064,779
2017	$ 8,974,263
2018	$ 63,772,541
2019	$ 35,910,797
2020	$ 114,915,918
2021	$ 53,653,927
2022	$ 22,260,241
2023	$ 41,173,459
5-year average	$ 53,582,868
Inflated Claim	$ 68,921,000
I&E Adjustment	$ (15,338,132

The Company's total storm expense significantly fluctuated year to year due to unpredictable weather conditions, and the Company has admitted that these actual expenses include major storms in the totals.[57] Therefore, my recommended

[56] I&E Exhibit No. 1, Schedule 5, p. 7.
[57] I&E Exhibit No. 1, Schedule 5, p. 7.

allowance for the FPFTY based on a five-year historic average of actual expenses normalizes wide fluctuations and produces a reasonable FPFTY allowance for this expense.

STORM RESERVE ACCOUNT

Q. IS THE COMPANY MAKING A NEW PROPOSAL IN TANDEM WITH ITS STORM EXPENSE CLAIM?

A. Yes. The Company is proposing a new storm reserve account, because as PECO Electric witness Michael Trzaska asserts, the storm expense claim is only designed to recover a "normal" level of storm damage expense.[58]

Q. PLEASE SUMMARIZE HOW THIS PROPOSED STORM RESERVE ACCOUNT WOULD WORK.

A. Mr. Trzaska proposes that PECO Electric be allowed to establish a tracker and deferral account for storm damage expenses due to the volatility in weather from year to year, and that the Company be allowed to defer and record amounts above or below the base rate allowance for storm damage to a reserve account, allowing for dollar-for-dollar recovery of storm costs inside of base rates. The net balance of the reserve account would be either a regulatory asset or regulatory liability and would be credited to or recovered from ratepayers in a subsequent base rate case via amortization of the balance over time. He characterizes these costs as

[58] PECO Electric Statement No. 3, pp. 70-71.

extraordinary and nonrecurring to justify this treatment, and he asserts that the expenses are not within control of the utility and are difficult to project for base rate recovery. He further explains how monthly entries would be made to record amounts above or below what was approved in a prior base rate case for storm expense, and he goes so far as to recommend that when the Company files its next base rate case, the balance should be amortized over a two-year period. He asserts that this treatment with the inclusion of interest on any over- or under-recovery will protect customers from timing deviation of recovery and actual storm costs.[59]

Q. DO YOU AGREE THAT THE METHOD USED BY PECO ELECTRIC IN DEVELOPING ITS STORM EXPENSE CLAIMS HAS ONLY ALLOWED RECOVERY FOR "NORMAL" STORM EXPENSE?

A. No. PECO Electric has consistently used a five-year historic average adjusted for inflation when presenting its storm expense claims in rate filings. The Company never indicated in the recent past that it excluded larger or more significant storms from that calculation. Using a consistent method of capturing five years of historic expense amounts by year, PECO Electric has always been able to build into rates a storm expense claim that would capture a reasonable claim level.

[59] PECO Electric Statement No. 3, pp. 70-73.

Q. DOES USING A FIVE-YEAR AVERAGE OF ACTUAL STORM EXPENSE ALLOW PECO ELECTRIC TO CAPTURE YEARLY VOLATILITY WITHOUT THE NEED FOR A STORM RESERVE ACCOUNT?

A. Yes.

Q. IF THERE IS A SEVERE STORM THAT IS EXCEEDINGLY HIGHER THAN ANY AMOUNT CLAIMED OR APPROVED IN BASE RATES, WOULD YOU BE OPPOSED TO THE COMPANY FILING A PETITION WITH THE COMMISSION FOR AN ISOLATED STORM TO REQUEST DEFERRAL TREATMENT?

A. No. That is preferrable treatment over allowing for dollar-for-dollar recovery with interest of all storm expenses incurred.

Q. WHAT IS YOUR CONCERN ABOUT GRANTING DOLLAR-FOR-DOLLAR RECOVERY?

A. PECO Electric has managed recently to file base rate cases every three years. I believe that granting dollar-for-dollar recovery of this expense discourages a company from controlling costs.

Q. ARE THERE ANY OTHER POTENTIAL PROBLEMS WITH THE COMPANY'S PROPOSAL?

A. Yes. In a black box settlement, storm expense amounts may not be itemized, and

it is not acceptable to assume that a claimed amount of storm expense in that situation is an acceptable amount to use in determining any over- or under-spending amount.

Q. DO YOU AGREE THAT STORM EXPENSES ARE EXTRAORDINARY OR NONRECURRING FOR AN ELECTRIC DISTRIBUTION COMPANY?

A. Generally, no; however, if there is a storm of severe magnitude, as stated above, I am not opposed to the Company filing a petition to request deferral treatment of storm costs for a specific storm.

Q. ARE THERE ANY OTHER CONFLICTING CONCERNS ABOUT THE APPROVAL OF A STORM RESERVE ACCOUNT IN THIS PROCEEDING?

A. Yes. The Company is making significant effort to focus on storm hardening and resiliency which reduces the impact of extreme weather in its service territory.[60] All of the money spent in this area conflicts with the proposal for a storm reserve account.

[60] PECO Electric Statement No. 1, p. 21.

Q. DO YOU AGREE WITH A TWO-YEAR AMORTIZATION OF ANY OVER- OR UNDER-RECOVERIES IF THE COMMISSION DECIDES TO ALLOW THE PROPOSED STORM RESERVE ACCOUNT?

A. No. A fixed two-year amortization period for over- or under-recoveries would be entirely unreasonable given that balances in either direction are unknown at this time and at times may be significant. If the Commission decides to allow a storm reserve account, any amortization period should be requested in each subsequent base rate filing allowing the opportunity for parties in each proceeding to review the requested period for reasonableness. Furthermore, if the Commission decides to allow a storm reserve account, the Company should not be allowed to include unamortized balances in rate base in future proceedings.

Q. DO YOU AGREE WITH THE APPLICATION OF INTEREST FOR A STORM RESERVE ACCOUNT IF APPROVED BY THE COMMISSION?

A. No. While Mr. Trzaska indicates the amount should be recovered or refunded with interest,[61] in the rate filing he has not indicated what source for interest rates the Company proposes or how the interest calculation would work. Since the timing of base rate case filings is out of the control of ratepayers, if the Commission decides any interest calculation is acceptable, I recommend that it be one-sided and only apply when refunding "overcollections" of storm expense to ratepayers in subsequent rate filings.

[61] PECO Electric Statement No. 3, p. 73.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATION RELATED TO THE COMPANY'S PROPOSED STORM RESERVE ACCOUNT?

A. I recommend the Commission disallow this request for a storm reserve account in its entirety. My recommendation for storm expense as calculated above accounts for major storm activity and is shown to allow for what the Company needs in base rates, based on the following analysis using data provided in response to I&E-RE-32-D:[62]

Source: I&E-RE-32-D			
	Actuals	Claims	Case / Date Filed / Storm Exp. Clai
2014	$ 88,612,740		
2015	$ 21,302,418		2015 - 3/27/15, $46.1 million
2016	$ 16,064,779	$ 46,100,000	
2017	$ 8,974,263	$ 46,100,000	
2018	$ 63,772,541	$ 46,100,000	2018 - 3/29/18, $43.8 million
2019	$ 35,910,797	$ 43,800,000	
2020	$ 114,915,918	$ 43,800,000	
2021	$ 53,653,927	$ 43,800,000	2021 - 3/30/21, $51.1 million
2022	$ 22,260,241	$ 51,100,000	
2023	$ 41,173,459	$ 51,100,000	
2016-2023 Totals	$ 356,725,925	$ 371,900,000	$ (15,174,075)
5-year average	$ 53,582,868		
Inflated Claim	$ 68,921,000		
I&E Adjustment	$ (15,338,132)		

This data shows that the Company's prior claim amounts for storm expense, which were adjusted for inflation, exceeded the actual amounts incurred from 2016 through 2023, in total. Thus, the five-year average of historic storm expense, not adjusted for inflation, is an accurate, just, and reasonable method for determining

[62] I&E Exhibit No. 1, Schedule 5, p. 7.

an appropriate storm expense allowance, and no storm reserve account is appropriate or necessary.

EMPLOYEE ACTIVITY COSTS

Q. WHAT IS INCLUDED IN EMPLOYEE ACTIVITY COSTS?

A. Employee activity costs are incurred for employee recognition awards, employee service awards, employee picnic and celebrations, and employee network groups.[63]

Q. WHAT IS THE COMPANY'S CLAIM FOR EMPLOYEE ACTIVITY COSTS?

A. The Company is claiming total employee activity costs of $1,036,309.[64]

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. The Company's claim is based on employee-related costs that are included in O&M expenses for conducting its electric operations. A breakdown of the FPFTY claim is shown below:

[63] PECO Electric Volume V, Attachment SDR-OM-14(e).
[64] PECO Electric Volume V, Attachment SDR-OM-14(e).

Employee Recognition Awards	$137,968
Employee Service Awards - Pins, small gifts	$115,490
Employee Picnic, Celebrations, etc.	$775,100
Employee Network Groups	$7,751
Total	**$1,036,309**

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT DO YOU RECOMMEND FOR EMPLOYEE ACTIVITY COSTS?

A. I recommend an allowance of $261,209 or a reduction of $775,100 ($1,036,309 - $261,209) for employee activity costs.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. I recommend disallowance of employee picnic and celebration expenses of $775,100 from the total claim of $1,036,309. Ratepayers should not be required to fund the Company's choice to offer or sponsor special events for its employees and their families. If management is inclined to hold such events at a cost of roughly $327 per employee ($775,100 / 2,372 employees), per a FPFTY claimed headcount of 2,372 employees (2,366 + 6),[65] and assuming every employee attends which is highly unlikely, driving the cost per employee even higher,

[65] PECO Electric Exhibit MJT-1, Schedule D-8, p. 73.

shareholders should fund those picnics and celebrations. My recommended adjustment does include the amount attributable to awards, small gifts, and employee network groups as shown above, which I accept as appropriate for ratemaking. The cost of the picnics and celebrations have climbed significantly since the last rate case. In the prior PECO Electric base rate filing, I&E witness DC Patel noted the claimed cost by the Company for picnics and celebrations was $435,880.[66] That was three years ago, and the claim for just the picnics and celebrations is now $775,100. Thus, I believe that ratepayers should not be required to fund these picnics and celebrations.

INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA) COST AMORTIZATION

Q. WHAT PROMPTED THE CLAIM FOR AN IIJA COST AMORTIZATION?

A. The Commission granted utilities the ability to defer costs associated with pursuing funds via the IIJA provided they file a notice with the Commission at the corresponding docket, and that the request for recovery of any such cost be made at the earliest possible time. The cost recovery was not guaranteed by the Commission and any party can contest recovery of such costs.[67]

[66] I&E Statement No. 1, p. 54 at Docket No. R-2021-3024601.

[67] *Petition of the Office of Consumer Advocate, the Office of Small Business Advocate, and the Pennsylvania Utility Law Project Requesting Initiation of a Proceeding on Federal Funding Opportunities for Utilities Under the Infrastructure Investment and Jobs Act* at Docket No. P-2020-3032929, Order Entered July 13, 2023, pp. 12-13.

Q. DID PECO ELECTRIC FILE THE REQUIRED NOTICE WITH THE COMMISSION?

A. Yes.

Q. DID THE COMPANY MAKE A RELATED CLAIM IN THE INSTANT PROCEEDING?

A. Yes. The Company is claiming an overall reduction in base rates of $448,000.[68]

Q. WHAT IS THE BASIS OF THE COMPANY'S CLAIM?

A. The Company has spent a total of $411,000 in 2022 and 2023, and is requesting a two-year amortization of that amount, and then is deducting a total of $653,000 for the amount included in the 2025 budget due to costs in 2025 and beyond being uncertain. The Company will request monies spent on this cause for 2024 and subsequent years via deferral in a future rate filing.[69]

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

[68] PECO Electric Exhibit MJT-1, Schedule D-11, p. 76.
[69] PECO Electric Statement No. 3, p. 44 and Exhibit MJT-1, Schedule D-11, p. 76.

Q. WHAT DO YOU RECOMMEND?

A. I recommend an allowance of ($653,000) or a reduction of $205,000 ($448,000 - $653,000) to the Company claim.

Q. WHAT IS THE BASIS OF YOUR RECOMMENDATION?

A. First, the Company has admitted that the total FPFTY cost is uncertain, thus, I concur that the overall revenue requirement should be reduced by this amount. Secondly, I disagree with the concept of a deferral for such cost as allowed by the Commission in general, because a regulatory asset should be used for items that are: (1) extraordinary; (2) unanticipated; (3) nonrecurring; and (4) substantial.[70] While I appreciate the pursuit of regulated utilities applying for such grant funding, companies should be required and expected to apply for such funding in all possible scenarios, and this is not limited to the IIJA. These costs are not extraordinary for PECO Electric, were not necessarily unanticipated, are most certainly recurring expenses, because as stated above, utilities should seek out such funding where available and likely do, and because PECO Electric has admitted to ongoing expenses of this nature specifically related to the IIJA, and finally, I do not view these expenses as substantial as far as PECO Electric is concerned ($411,000 spent over a two-year period).

[70] *Petition of Columbia Gas of Pa., Inc. for Authority to Defer for Accounting and Financial Purposes Certain Start Up Expenses Assoc. with the Redesign of Upgrade of Financial Processes and Info. Systems* at Docket No. P-2012-2319920, Order Entered December 5, 2012, p. 5.

Q. IF THE COMMISSION DECIDES TO ALLOW THE COMPANY'S PROPOSED DEFERRAL TREATMENT, WHAT MODIFICATION TO PECO ELECTRIC'S CLAIM DO YOU RECOMMEND?

A. As stated above, I disagree with deferral treatment for this claim; however, if the Commission decides to allow it, I would recommend that the 2022 and 2023 expense total of $411,000 be amortized over three years as opposed to two, in line with the Company's actual historic filing frequency. Then the 2025 estimate of $653,000 should be subtracted from that amortized FPFTY expense, producing an allowance of ($516,000), calculated as follows: [$411,000 / 3 years = $137,000 - $653,000, for an allowance of ($516,000)], as opposed to the claim of ($448,000).

AMORTIZATION OF TARC AND FTAC

Q. WHAT ARE THE FINAL TAX ACCOUNTING REPAIR CREDIT (TARC) AND FINAL FEDERAL TAX ADJUSTMENT CREDIT(FTAC)?

A. The Company is reflecting two adjustments for small over collection balances.[71]

Q. WHAT IS THE COMPANY'S CLAIM FOR THESE REFUNDS?

A. The Company is claiming a reduction in rates of ($43,000).[72]

[71] PECO Electric Statement No. 3, pp. 45-46 and Statement No. 9, pp. 11-13.
[72] PECO Electric Exhibit MJT-1, Schedule D-14, p. 79.

Q. WHAT IS THE BASIS OF THE COMPANY'S CLAIM?

A. The Company is requesting a two-year amortization of the TARC total of ($62,000) and the FTAC total of ($23,000), resulting in an annual refund of ($43,000) [(-$62,000 + -$23,000) / 2 years]. This two-year interval is based on the requested rate case expense amortization period of two years.[73]

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT DO YOU RECOMMEND?

A. I recommend an allowance of ($28,667) or an increase of $14,333 (-$28,667 + $43,000) to the Company claim.

Q. WHAT IS THE BASIS OF YOUR RECOMMENDATION?

A. I recommend a three-year period in line with the Company's historic filing frequency as explained above and calculated as follows: ($86,000) / 3 = ($28,667). The Company's filing frequency clearly supports a three-year interval.

[73] I&E Exhibit No. 1, Schedule 6.

VEGETATION MANAGEMENT

Q. WHAT IS THE COMPANY'S CYCLE FREQUENCY FOR VEGETATION MANAGEMENT?

A. The Company has moved from a five-year cycle to a four-year cycle for vegetation related preventative maintenance work which has helped to manage risk caused by trees, vines, and bamboo.[74] Additionally, between 2021 and 2023, the Company has focused on areas with poor performance attributable to vegetation.[75]

Q. WHAT IS THE COMPANY'S CLAIM FOR VEGETATION MANAGEMENT?

A. The Company is claiming $56,360,961 for vegetation management.[76]

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIM?

A. The Company based its FPFTY claim on its 2025 budget as broken down in response to I&E-RE-28-D.[77]

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM FOR VEGETATION MANAGEMENT?

A. No.

[74] PECO Electric Statement No. 1, p. 19.
[75] PECO Electric Statement No. 1, pp. 19-20.
[76] PECO Electric Volume V, SDR-OM-43.
[77] I&E Exhibit No. 1, Schedule 7, p. 2.

Q. WHAT DO YOU RECOMMEND FOR VEGETATION MANAGEMENT?

A. I recommend an allowance of $48,517,534 or a reduction of $7,843,427 ($56,360,961 - $48,517,534).

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on a three-year historic average of this expense from 2021 to 2023 as follows: ($48,298,602 + $52,103,714 + $45,150,286) / 3 years = $48,517,534.[78] While the Company has indicated new targeted methods toward higher risk areas, it has not provided assurance that it is necessary to spend $56,360,961 in the FPFTY for this expense. That amount is higher than any of the recent five historic years, and the actual expenses have been less than budgeted expenses for three of those five years, all which were significantly less than $56 million.

Q. IS THERE ANY DATA PROVIDED BY THE COMPANY THAT SUPPORTS YOUR RECOMMENDATION?

A. Yes. When asked for a comparison of budgeted miles versus actual miles addressed since 2018, the Company has shown that it has a history of frequently overbudgeting the number of miles as follows:[79]

[78] I&E Exhibit No. 1, Schedule 7, p. 1 and PECO Electric Volume V, SDR-OM-42.
[79] I&E Exhibit No. 1, Schedule 7, pp. 5-6.

Source: OCA-V-56			
	Budgeted Miles	Actual Miles	Over / (Under)
2018	2,543	2,545	2
2019	3,104	2,662	(442)
2020	3,736	3,689	(47)
2021	3,181	2,926	(255)
2022	3,262	3,262	-
2023	3,268	2,968	(300)

CASH WORKING CAPITAL

Q. WHAT IS A CWC ALLOWANCE FOR RATEMAKING PURPOSES?

A. CWC includes the amount of funds necessary to operate a utility during the interim period between the rendition of service, including the payment of related expenses, and the receipt of revenue in payment for services rendered by the utility.

Q. HOW DOES THE COMPANY CALCULATE ITS CWC CLAIM?

A. The Company calculates its CWC claim using a lead/lag study. A lead/lag study measures the differences in time between: (1) the time services are rendered until payment of those services is received; and (2) the time between the point when a utility has incurred an expense and the actual payment of the expense. Stated a different way, the lead/lag study measures how many days exist on an average between the midpoint of the service period and the date the payment is made.

Q. DO YOU AGREE WITH THE COMPANY'S USE OF THE LEAD/LAG METHOD?

A. Yes. I agree with the Company's use of this method.

Q. WHAT IS THE COMPANY'S CLAIM FOR CWC?

A. The Company's claim for CWC is $214,843,000 (PECO Exhibit MJT-1, Schedule C-4, p. 29).

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No.

Q. WHAT DO YOU RECOMMEND?

A. I recommend an allowance of $212,449,000 or reduction of $2,394,000 ($214,843,000 - $212,449,000) to the Company's claim (I&E Exhibit No. 1, Schedule 8).

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation includes modification of the Company's claim based on all recommended adjustments to O&M expenses as discussed previously in this testimony. Each of these components is discussed in more detail below.

Q. HOW DO YOUR PROPOSED ADJUSTMENTS, DISCUSSED ABOVE, IMPACT YOUR RECOMMENDATION FOR CWC?

A. All O&M adjustments that are cash-based expense claims are included when determining the Company's overall CWC requirement. Therefore, CWC was adjusted to reflect these recommended adjustments. In order to reflect the I&E-recommended adjustments, I modified the Company's electronic CWC file as shown on PECO Exhibit MJT-1, Schedule C-4, p. 29 for each recommended O&M adjustment (I&E Exhibit No. 1, Schedule 8).

Q. SUMMARIZE WHERE EACH OF THE I&E RECOMMENDED O&M EXPENSE ADJUSTMENTS ARE REFLECTED IN THE CWC COMPUTATION.

A. **Expense Lag Days - Payroll:**

I recommended a payroll expense adjustment of ($6,137,000) in the Expense Lag - Payroll, which is reflected as reduction to line 6 of the Company's Exhibit MJT-1, Schedule C-4, p. 29 as shown in I&E modified Schedule C-4 (I&E Exhibit No. 1, Schedule 8).

Expense Lag Days - Pension:

I recommended a pension expense adjustment of ($1,892,000) in the Expense Lag -Pension, which is reflected as reduction to line 7 of the Company's Exhibit MJT-1, Schedule C-4, p. 29 as shown in I&E modified Schedule C-4 (I&E Exhibit No. 1, Schedule 8).

Expense Lag Days – Other Expenses:

I recommended the following expense adjustments in the Expense Lag - Other Expenses as downward adjustments to line 12 of the Company's Exhibit MJT-1, Schedule C-4, p. 29 as shown in I&E modified Schedule C-4 (I&E Exhibit No. 1, Schedule 8):

Other Expenses	**Adjustment**
Rate Case Expense	($400,000)
Payroll Taxes	($461,502)
Employee Benefits, net of Pension	($1,363,000)
EBSC Employee Severance Expense	($510,298)
Storm Expense	($15,338,132)
Employee Activity Cost	($775,100)
IIJA Cost Amortization	($205,000)
Amortization of TARC and FTAC	$14,333
Vegetation Management	($7,843,427)
Total	**($26,882,126)**

Q. IS YOUR RECOMMENDED CWC ALLOWANCE A FINAL RECOMMENDATION?

A. No. All adjustments to the Company's claims for revenues, expenses, taxes, and rate base must be continually brought together in the Administrative Law Judge's Recommended Decision and again in the Commission's Final Order. This process, known as iteration, effectively prevents the determination of a precise calculation until all adjustments have been made to the Company's claim.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Christine S. Wilson
Professional and Educational Background

Experience:

Pennsylvania Public Utility Commission, Harrisburg, Pennsylvania
August 2013 to Present:
Fixed Utility Financial Analyst Supervisor, Bureau of Investigation and Enforcement
Responsible for supervising a team of fixed utility financial analysts and engineers in the analysis and preparation of written and oral testimony in base rate case proceedings, purchased gas cost proceedings, and other proceedings as required.

February 2008 to August 2013:
Fixed Utility Financial Analyst, Bureau of Investigation & Enforcement
Review of operating and maintenance expenses for regulated utilities as a part of the evaluation and recommendation process for utility base rate and purchased gas cost filings, preparing written testimony for cases, and testifying as an expert witness.

Prior Accounting Employment: Approximately fifteen years performing public, corporate, and nonprofit accounting, in addition to eight years of full-time administrative work.

Education/Certification:

Certified Public Accountant in Pennsylvania, 2000 to 2023 (inactive status as of January 1, 2024)

Green Mountain College, Poultney, Vermont
Sustainable MBA Program, four credits earned, 2009 to 2010

Pennsylvania State University, Middletown, Pennsylvania
Bachelor of Science, Professional Accountancy, 1995
(Graduated with distinction)

Utility-Related Trainings & Other Courses/Webinars:

PA Public Utility Commission Rate School, Presenter, January 2022 & February 2024

NARUC Staff Subcommittee on Accounting & Finance, Fall 2021 webinar, October 5-7, 2021

Institute of Public Utilities Accounting and Ratemaking Course (Online)
Michigan State University, East Lansing, Michigan, September 14-16, 2021 (not for credit)

NARUC Staff Subcommittee on Accounting & Finance, Spring 2021 webinar, April 6-8, 2021

NARUC Staff Subcommittee on Accounting & Finance, Fall 2020 webinar, October 21-22, 2020

Christine S. Wilson
Professional and Educational Background

Utility-Related Trainings & Other Courses/Webinars (continued):

S&P Global Essentials of Regulatory Finance, Georgetown University, Washington, DC, October 15-16, 2019

Taxation of Business Entities I: Corporations by University of Illinois, coursera.com, completed October 2019 (not for credit)

Federal Taxation II: Property Transactions of Business Owners and Shareholders by University of Illinois, coursera.com, completed August 2019 (not for credit)

Federal Taxation I: Individuals, Employees, and Sole Proprietorships by University of Illinois, coursera.com, completed July 2019 (not for credit)

Positive Psychology Specialization by University of Pennsylvania, coursera.com, completed May 2019 (not for credit)

Institute of Public Utilities Advanced Regulatory Studies Program
Michigan State University, East Lansing, Michigan, October 1-5, 2018 (not for credit)

Financial Markets (with Honors) by Yale University, coursera.com, completed November 2017 (not for credit)

PA Public Utility Commission Rate Case Training, March 5-6, 2010; October 4-5, 2012

Institute of Public Utilities Advanced Regulatory Studies Program
Michigan State University, East Lansing, Michigan, October 7-10, 2008

NARUC Utility Rate School (conducted by NARUC's Committee on Water and the Institute of Public Utilities, Michigan State University), San Diego, May 11-16, 2008

Testimony Submitted:

R-2023-3040153	Greater Hazleton Community Area New Development Organization, Inc. (CAN DO, Inc.)
R-2022-3032764	Leatherstocking Gas Company of PA, LLC
R-2022-3031704	Borough of Ambler – Water Department
R-2021-3027385	Aqua Pennsylvania, Inc. base rate case (Water)
R-2021-3027386	Aqua Pennsylvania Wastewater, Inc. base rate case
R-2021-3024750	Duquesne Light Company

Christine S. Wilson
Professional and Educational Background

Testimony Submitted (continued):

P-2020-3022426	PAWC Response to COVID-19 Emergency and Financial Impacts
R-2020-3019369 / 9371	PAWC base rate case (Water/Wastewater)
R-2018-3000164	PECO Energy Company – Electric Division
R-2017-2640058	UGI Utilities, Inc. – Electric Division
R-2014-2428745	Metropolitan Edison Company (Met-Ed)
R-2014-2428744	Pennsylvania Power Company (Penn Power)
R-2014-2428743	Pennsylvania Electric Company (Penelec)
R-2014-2428742	West Penn Power Company
R-2014-2402324	Emporium Water Company
R-2014-2406274	Columbia Gas of Pennsylvania, Inc.
R-2013-2397353	Pike County Power & Light (Gas)
R-2013-2372129	Duquesne Light Company
R-2013-2360798	Columbia Water Company
R-2012-2336379	York Water Company
R-2012-2321748	Columbia Gas of Pennsylvania, Inc.
R-2012-2292082	Peoples Natural Gas Company, LLC (1307(f))
R-2012-2285985	Peoples Natural Gas Company, LLC
R-2011-2267958	Aqua Pennsylvania, Inc.
R-2010-2214415	UGI Central Penn Gas, Inc.
R-2010-2201702	Peoples Natural Gas Company, LLC
R-2010-2166214	PAWC Northeast Wastewater Operations
R-2010-2166212	PAWC Coatesville Wastewater Operations
R-2010-2166210	PAWC Claysville Wastewater Operations
R-2010-2166208	PAWC Clarion Wastewater Operations
R-2010-2161694	PPL Electric Utilities Corporation
R-2009-2132019	Aqua Pennsylvania, Inc.
R-2009-2117740 / 7532	Penn Estates Utilities Inc. (Sewer) / (Water)

Christine S. Wilson
Professional and Educational Background

Testimony Submitted (continued):

M-2009-2123945	PPL Electric Utility Company (Smart Meter Plan)
M-2009-2123944	PECO Energy Company (Smart Meter Plan)
M-2009-2093216	PPL Electric Utility Corporation (EE&C Plan)
M-2009-2093215	PECO Energy Company (EE&C Plan)
R-2008-2079675	UGI Central Penn Gas, Inc.
R-2008-2046518	Pike County Light & Power Company (Electric)
R-2008-2042293	Newtown Artesian Water Company
R-2008-2032689	PAWC Coatesville Wastewater Operations

I&E Exhibit No. 1
Witness: Christine Wilson

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY - ELECTRIC DIVISION

Docket No. R-2024-3046931

Exhibit to Accompany

the

Direct Testimony

of

Christine Wilson

Bureau of Investigation & Enforcement

Concerning:

OPERATING AND MAINTENANCE EXPENSES

RATE BASE

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set I - RE

Response Date: April 29, 2024

IE-I-RE-19

Reference PECO Electric Volume II, Exhibit MJT-1, Schedule D-7 concerning the FPFTY rate case expense claim of $1,200,000, provide the following:

A. Copies of all current outside/external service contract agreements for rate case-related services.
B. Invoices/receipts for the rate case-related expenses incurred to date for the current filing and continue to provide updates for invoices as they are incurred.
C. Explanation why it is appropriate to amortize the projected rate case expense of $2,400,000 over a two-year period, rather than normalize it.
D. Detailed explanation for using a two-year amortization period.
E. Breakdown of rate case expense by consultant or firm for the external consultants: FTY ($3,000), external legal: FTY ($1,997,000).
F. Breakdown of materials, IT costs, travel, and copies expense of $6,000 and $394,000 incurred in the HTY and the FTY.
G. Estimated dollar amount of rate case expense to be incurred by the Company if the case is not fully litigated.
H. State when PECO Electric intends or expects to file its next base rate case.

RESPONSE:

A. Refer to Confidential Attachment IE-I-RE-19(a) for copies of the contracts.

B. Refer to Confidential Attachment IE-I-RE-19(b) for copies of the invoices.

C. The Rate case expenses are one-time expenses associated with this filing and while the Company intends to carefully monitor its performance to determine when it will need to file another electric distribution base rate case, PECO anticipates that base rate filings for its electric distribution operations will be required every two to three years.

D. Refer to response to subpart C.

E. The external legal and consultant costs of $3,000 for the HTY and $1,997,000 for the FTY are associated with the law firm Morgan, Lewis, & Bockius.

F. The $6,000 for the HTY and the $394,000 for FTY are associated with staff augmentation.

G. PECO is unable to provide an estimate that it would consider accurate as there are myriad variables that may impact the cost of a case that is not fully litigated. Even if the case is not fully litigated, the Company's costs could vary significantly depending on when a settlement is reached and the nature of such settlement. The Company's costs related to negotiating a settlement and for counsel to prepare a Joint Petition for Settlement and Statement in Support would be dependent, to a degree, on the positions of other parties. In addition, the Company would incur costs for its rate design consultants to develop, perhaps several, iterations of revenue allocations and rate designs during the settlement process and to design final settlement rates and prepare the required proof of revenues. This too would be dependent, to a degree, on the positions of other parties. The Company would also incur costs for counsel and Company representatives to participate in a hearing for presentation of the settlement and admission of testimony and exhibits. If the settlement is not unanimous or if inactive parties raise objections or file exceptions that require answers or replies, the Company would incur additional costs for counsel and potentially for outside expert witnesses to address the outstanding issues or objections. Thus, while as a general matter, the Company would anticipate its settlement costs to be less than a fully litigated case, it is difficult to give a precise estimate of such savings given the multiple variables at play.

H. Refer to response to subpart C.

THE CONFIDENTIAL ATTACHMENTS TO THIS RESPONSE ARE BEING PROVIDED ONLY SUBJECT TO THE EXECUTION OF A SUITABLE STIPULATED PROTECTIVE AGREEMENT WITH THE RECIPIENT PENDING THE ISSUANCE OF

A PROTECTIVE ORDER IN THIS CASE. PECO WILL PROVIDE A STIPULATED PROTECTIVE AGREEMENT DEEMED SUITABLE TO THE COMPANY FOR EXECUTION, WHICH IS SIMILAR TO THE STIPULATED PROTECTIVE AGREEMENT EMPLOYED IN PECO'S PRIOR BASE RATE CASE.

Responsible Witness: Michael J. Trzaska

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set I - RE

Response Date: April 26, 2024

IE-I-RE-29

Reference PECO Electric Volume II, Exhibit MJT-1, Schedule D-6 concerning salaries and wages claimed in O&M expenses, provide the following:

A. Explanation for why it is appropriate to claim annualized wage increased for January 1 and March 1, 2026, shown on p. 68, that occur after the end of the FPFTY.

B. Explanation with supporting documentation for normalization of the contract payment to union staff of $168,000, and state whether this is a one-time payment in the response.

C. Explanation with detailed basis for the annualization of salaries and wages for new employees of $470,000 (p. 69).

D. Employee count by union and non-union for the FPFTY 2025, the FTY 2024, and the HTY 2023 relied on to calculate salaries and wages.

E. Breakdown by category (base salary, overtime, and other pay) and the basis for the projected salaries and wages claim of $173,658,000 in the FPFTY 2025 and the corresponding FTY 2024 breakdown.

F. Actual salaries and wages expense with breakdown by category (base salary, overtime, and other pay) for 2021, 2022, and the HTY 2023.

RESPONSE:

A. Refer to Exhibit M of the Collective Bargaining Agreement (CBA) dated April 13, 2021 (provided as Confidential Attachment IE-I-RE-29(a)) for the general base wage increaseto be provided to each eligible bargaining-unit member of IBEW Local 614during the term of the Agreement. Also, the Company is planning to make general base wage increases each year to its non-bargaining unit employees in the future. The annual base wage increases at January 1, 2026 and March 1, 2026 are either immediately (one day) after or shortly after the end of the FPFTY. Based on the current plan, the Company does not expect to file another base rate case that would have new rates effective as early as January 1 or March 1, 2026. Therefore, it is appropriate to include January 1, 2026 and March 1, 2026 wage increases in the FPFTY for ratemaking purposes.

B. Pursuant to Exhibit M of the CBA dated April 13, 2021 (provided as Confidential Attachment IE-I-RE-29(a)), the Company agreed to pay a one-time ratification bonus of $1,000 to each Local 614 employee of PECO who is actively working (including employees on STD) as of the date of ratification in connection with the new CBA.

C. Refer to PECO Statement No. 3, the direct testimony of Michael J. Trzaska, page 41 for an explanation of the annualization of salaries and wages for new employees.

D. Refer to Attachment IE-I-RE-29(d) for the monthly headcount for the HTY, FTY and FPFTY. The union and non-union split for employee count at the end of the HTY was used to distribute the projected salaries and wages expense for the FTY and FPFTY between union and non-union employees.

E. The table below provides a breakdown of the projected salaries and wages for the FTY and FPFTY:

2024-25 S&W Expense
(In Thousands)

	2024	**2025**
Regular Time	105,385	110,504
Overtime	27,009	28,878
Other Pay (Paid Time Off/Payroll Premiums)	27,830	28,540
Subtotal - Distribution of S&W Expense (Schedule D-6, line 1	**160,224**	**167,922**
Pro Forma Increase in S&W (Schedule D-6, line 23)	8,070	5,736
Pro Forma S&W (Schedule D-6, line23)	**168,294**	**173,658**

F. The table below provides a breakdown of actual salaries and wages for 2021 2022, and the HTY 2023:

2021-2023 S&W Expense
(In Thousands)

	2021	2022	2023
Regular Time	90,249	93,803	98,902
Overtime	37,880	38,646	40,379
Other Pay (Paid Time Off/Payroll Premiums)	26,538	26,388	24,614
Total Salaries and Wages	**154,667**	**158,838**	**163,895**

THE CONFIDENTIAL ATTACHMENTS TO THIS RESPONSE ARE BEING PROVIDED ONLY SUBJECT TO THE EXECUTION OF A SUITABLE STIPULATED PROTECTIVE AGREEMENT WITH THE RECIPIENT PENDING THE ISSUANCE OF A PROTECTIVE ORDER IN THIS CASE. PECO WILL PROVIDE A STIPULATED PROTECTIVE AGREEMENT DEEMED SUITABLE TO THE COMPANY FOR EXECUTION, WHICH IS SIMILAR TO THE STIPULATED PROTECTIVE AGREEMENT EMPLOYED IN PECO'S PRIOR BASE RATE CASE.

Responsible Witness: Michael J. Trzaska

Total Number of Electric Distribution Employees (by Month)

Month	Actual	Budget
2023-01	2,103	2,184
2023-02	2,108	2,197
2023-03	2,129	2,204
2023-04	2,137	2,212
2023-05	2,137	2,213
2023-06	2,141	2,220
2023-07	2,145	2,229
2023-08	2,165	2,230
2023-09	2,229	2,244
2023-10	2,218	2,246
2023-11	2,215	2,247
2023-12	2,213	2,246
2024-01		2,246
2024-02		2,250
2024-03		2,245
2024-04		2,277
2024-05		2,283
2024-06		2,285
2024-07		2,305
2024-08		2,312
2024-09		2,340
2024-10		2,340
2024-11		2,347
2024-12		2,340
2025-01		2,359
2025-02		2,363
2025-03		2,358
2025-04		2,358
2025-05		2,360
2025-06		2,363
2025-07		2,364
2025-08		2,366
2025-09		2,377
2025-10		2,377
2025-11		2,379
2025-12		2,373

Employees (Union and Non-union) - as of Dec. 31 2023

	Non-Union	Union
2023-12	1,168	1,044
	52.80%	47.20%

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set I - RE

Response Date: April 26, 2024

IE-I-RE-21

Reference PECO Electric Volume V, SDR-OM-27(a) and (b) concerning employee base payroll and overtime data, provide the following:

A. Monthly payroll and overtime costs by each type broken down by union and non-union (management) employees for 2021, 2022, HTY 2023, and projected for FTY 2024 and FPFTY 2025.

B. Dollar amount of capitalized payroll and overtime costs included in response to Part A above and the capitalization percentage for 2021, 2022, HTY 2023, and projected for FTY 2024 and FPFTY 2025.

C. Monthly employee actual headcount and budgeted headcount broken down by union and management for 2021, 2022, HTY 2023, and projected for FTY 2024 and FPFTY 2025.

D. Total number of additional new hires and retirements, resignations, and transfers (normal vacancies) anticipated by month in the FTY 2024 and FPFTY 2025.

E. Number of normal vacancies by month for unfilled open positions in 2021, 2022, HTY 2023 and in the first quarter of FTY 2024.

F. Detailed explanation with calculations for the increase in O&M payroll expense from the HTY 2023 to the FTY 2024 and from the FTY 2024 to the FPFTY 2025.

RESPONSE:

A. PECO's systems currently do not have the capability to provide the requested payroll data broken into union and non-union components.

B. See response in part A.

C. Refer to Attachment IE-I-RE-21(c), Table 1.

D. PECO intends to hire to budget for FTY and FPFTY. PECO does not budget for retirements, resignations, and transfers (normal vacancies) on a monthly basis.

E. Refer to Attachment IE-I-RE-21(c), Table 2.

F. Refer to Attachment SDR-OM-2(a) for the explanation for the increase in O&M payroll expenses for the requested time periods.

Responsible Witness: Marissa Humphrey

I&E Exhibit No. 1
Schedule 3
Page 3 of 7

TABLE 1

Monthly employee actual headcount and budgeted headcount broken down by union and management for 2021, 2022, HTY 2023, and projected for FTY 2024 and FPFTY 2025.

	Non-Union		Union		Exempt		Non-Exempt	
	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
2021-01	1027	1077	971	987	823	867	1175	1197
2021-02	1029	1075	967	984	825	866	1170	1194
2021-03	1027	1080	958	982	825	871	1160	1192
2021-04	1033	1090	943	973	827	876	1148	1187
2021-05	1032	1091	934	967	829	879	1137	1179
2021-06	1088	1136	935	967	837	876	1186	1227
2021-07	1040	1126	941	994	839	911	1141	1209
2021-08	1041	1118	946	999	839	902	1148	1215
2021-09	1054	1135	969	1023	854	920	1169	1239
2021-10	1051	1120	976	1035	851	906	1176	1249
2021-11	1055	1122	978	1032	856	909	1177	1244
2021-12	1058	1132	972	1031	857	918	1173	1245
2022-01	1066	1111	976	1006	864	903	1178	1214
2022-02	1077	1113	976	1007	867	905	1186	1215
2022-03	1077	1117	969	1011	869	909	1177	1219
2022-04	1060	1121	956	1019	861	912	1155	1228
2022-05	1066	1126	967	1024	867	915	1166	1234
2022-06	1066	1135	961	1031	869	923	1158	1243
2022-07	1069	1135	968	1031	869	923	1168	1243
2022-08	1076	1141	966	1035	877	927	1166	1248
2022-09	1088	1146	988	1043	890	931	1187	1257
2022-10	1083	1147	986	1048	888	932	1182	1263
2022-11	1105	1145	982	1044	903	931	1184	1258
2022-12	1108	1146	978	1042	903	932	1183	1256
2023-01	1124	1132	979	1051	921	918	1182	1266
2023-02	1127	1137	981	1060	926	921	1182	1276
2023-03	1139	1139	990	1065	937	923	1192	1281
2023-04	1144	1143	993	1069	939	925	1198	1287
2023-05	1146	1143	991	1069	941	925	1196	1287
2023-06	1158	1147	984	1074	952	928	1189	1292
2023-07	1162	1153	983	1077	958	933	1187	1296
2023-08	1169	1153	996	1077	965	934	1201	1296
2023-09	1177	1157	1052	1087	971	936	1258	1308
2023-10	1172	1158	1046	1088	967	937	1251	1309
2023-11	1170	1159	1045	1088	964	938	1250	1309
2023-12	1168	1158	1044	1088	963	937	1250	1309
2024-01	1162	1158	1041	1088	959	937	1244	1309
2024-02	1169	1162	1049	1088	966	941	1252	1309
2024-03	1168	1157	1047	1088	967	936	1248	1309
2024-04	-	1157	-	1119	-	936	-	1340
2024-05	-	1163	-	1119	-	942	-	1340
2024-06	-	1165	-	1119	-	944	-	1340
2024-07	-	1188	-	1117	-	962	-	1344
2024-08	-	1193	-	1119	-	966	-	1346
2024-09	-	1201	-	1139	-	971	-	1369
2024-10	-	1201	-	1139	-	971	-	1369
2024-11	-	1205	-	1141	-	975	-	1372
2024-12	-	1202	-	1138	-	972	-	1368
2025-01	-	1226	-	1133	-	996	-	1363
2025-02	-	1228	-	1135	-	997	-	1365
2025-03	-	1226	-	1133	-	996	-	1363
2025-04	-	1226	-	1133	-	996	-	1363
2025-05	-	1227	-	1133	-	996	-	1364
2025-06	-	1228	-	1135	-	997	-	1365
2025-07	-	1229	-	1135	-	999	-	1365
2025-08	-	1230	-	1136	-	999	-	1366
2025-09	-	1233	-	1144	-	1001	-	1376
2025-10	-	1233	-	1144	-	1001	-	1376
2025-11	-	1234	-	1145	-	1002	-	1377
2025-12	-	1231	-	1142	-	999	-	1374

*Temporary employees are not included in the Company's official headcount.

I&E Exhibit No. 1
Schedule 3
Page 4 of 7

TABLE 2

Number of normal vacancies by month for unfilled open positions in 2021, 2022, HTY 2023 and in the first quarter of FTY 2024.

	Actual	Budget	Vacancy
2021-01	1,998	2,064	66
2021-02	1,995	2,059	64
2021-03	1,984	2,062	78
2021-04	1,975	2,062	87
2021-05	1,967	2,057	91
2021-06	2,023	2,103	81
2021-07	1,980	2,120	139
2021-08	1,987	2,117	130
2021-09	2,023	2,158	135
2021-10	2,026	2,155	129
2021-11	2,033	2,153	120
2021-12	2,030	2,162	133
2022-01	2,042	2,117	75
2022-02	2,053	2,120	67
2022-03	2,046	2,128	82
2022-04	2,016	2,140	124
2022-05	2,033	2,149	116
2022-06	2,027	2,166	139
2022-07	2,037	2,166	129
2022-08	2,043	2,176	133
2022-09	2,076	2,189	112
2022-10	2,070	2,195	125
2022-11	2,087	2,189	102
2022-12	2,086	2,188	101
2023-01	2,103	2,184	80
2023-02	2,108	2,197	89
2023-03	2,129	2,204	75
2023-04	2,137	2,212	75
2023-05	2,137	2,213	76
2023-06	2,141	2,220	79
2023-07	2,145	2,229	84
2023-08	2,165	2,230	65
2023-09	2,229	2,244	15
2023-10	2,218	2,246	28
2023-11	2,215	2,247	32
2023-12	2,213	2,246	33
2024-01	2,203	2,246	43
2024-02	2,218	2,250	32
2024-03	2,215	2,245	31

*Temporary employees are not included in the Company's official headcount.

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

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

Response Date: April 29, 2024

OCA-V-17

Payroll. Has the Company used a vacancy factor in its payroll forecast for the FTY and FPFTY? If so, provide the factor used and the supporting calculations. If not, explain why not.

RESPONSE:

The Company uses an assumption of 2% for its vacancy factor in its payroll forecast. This figure is used in payroll budgeting. There are no detailed calculations.

Responsible Witness: Marissa Humphrey

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

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

Response Date: April 29, 2024

OCA-V-21

Payroll. Provide Capital and O&M budgeted and actual payroll expense for each of the years 2018, 2019, 2020, 2021, 2022, 2023, the test year, and included in the FTY and the FPFTY.

RESPONSE:

Refer to Attachment OCA-V-21(a).

Responsible Witness: Marissa Humphrey

I&E Exhibit No. 1
Schedule 3
Page 7 of 7

PECO
Distribution Labor Data
(Thousands of Dollars)

Capital Payroll	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Actuals	$ 58,878	$ 76,677	$ 81,892	$ 87,912	$ 90,640	$ 100,308	$ -	$ -
Budget	66,565	71,888	83,057	95,155	98,851	109,282	127,120	136,167
Expense Payroll								
Actuals	$ 121,443	$ 116,756	$ 116,171	$ 116,787	$ 120,192	$ 123,516	$ -	$ -
Budget	120,044	123,286	120,920	126,632	127,829	128,274	134,965	139,044

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Response of PECO Energy Company
To Interrogatories of the
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IE Set I - RE

Response Date: April 26, 2024

IE-I-RE-30

Reference PECO Electric Volume II, 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 $23,681,000 ($23,617,000 + $64,000 adjustment for six additional employees) in the FPFTY 2025; $22,910,000 ($22,496,000 + $414,000 adjustment for 42 additional employees) in the FTY 2024; and $21,715,000 ($21,215,000 + $500,000 adjustment for 51 additional employees) in the HTY 2023.

B. Employee benefits expense incurred in 2021 and 2022 with similar breakdowns as furnished in response to Part A above.

RESPONSE:

Refer to Attachment IE-RE-30(a).

Responsible Witness: Marissa Humphrey

PECO Electric Distribution
($ in thousands)

Schedule D-8 Employee Benefit O&M Expense	**2021**	**2022**	**HTY 2023**	**FTY 2024**	**FPFTY 2025**
Medical	12,563	13,153	12,885	13,700	14,332
Dental	740	724	729	798	835
Vision	1	0	0	-	-
Other Benefit Plan	334	317	310	529	542
401(k) Plan	4,807	5,178	5,840	5,977	6,370
Disability Plan	281	319	319	414	424
ESPP	522	539	577	653	681
Post Retirement Benefits	-	-	35	-	-
Tuition Reimbursement	-	-	520	-	-
Excess Benefits Saving Plan	-	-	-	22	22
Worker's Comp	353	342	-	404	410
Total Benefits Expensed (D-8 line 19)	19,601	20,574	21,215	22,496	23,617
Adjustment for Additional Employees	-	-	500	414	64
Total Employee Benefit O&M Expense	19,601	20,574	21,715	22,910	23,681

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To Interrogatories of the
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IE Set I - RE

Response Date: April 26, 2024

IE-I-RE-31

Reference PECO Electric Volume II, Exhibit MJT-1, Schedule D-13 concerning storm expense normalization, provide the following:

A. Storm expense incurred by calendar year from 2019 through the HTY 2023.

B. Explanation why the Company developed its claim using twelve-month periods that don't match the test years in this rate filing.

C. Detailed explanation for the significant variances across the twelve-month periods shown on Schedule D-13.

D. Detailed explanation, calculations, and supporting documentation relied on for applying the Tri-state CPI factor and inflation factor (as shown in columns 2 and 3 of Schedule D-13) to the historic actual storm expenses to calculate a five-year average.

RESPONSE:

A. Refer to the Company's response to IE-I-RE-31, subpart F.

B. The Company used a sixty-month rolling average of historic storm damage expense ended March 31 to calculate the five-year average for storm expense normalization in this proceeding to capture the impact of the recent January 2024 major storm event (which cost $22.5M and during which at least 10% of the Company's customers

experienced an outage). The use of a rolling sixty-month average ended March 2024 avoids the possible need for the Company to seek Commission approval to defer for accounting and ratemaking purposes expenses associated with major storm events in the first quarter of 2024 while remaining consistent with the five-year average methodology.

C. The increase in storm expense for 12 months ending 3/31/2020 to 12 months ending 3/31/2021 is due to two major storm events in June 2020 and August 2020 totaling $87.1M, both of which produced outages for at least 10% of the Company's customers. There were no major storm events for 12 months ending 3/31/2020.

The decrease in storm expense for 12 months ending 3/31/2021 to 12 months ending 3/31/2022 is due to the reduction in major storm events from two totaling $87.1M for 12 months ending 3/31/2021 to zero for 12 months ending 3/31/2022.

The decrease in storm expense for 12 months ending 3/31/2022 to 12 months ending 3/31/2023 is due a decrease in the magnitude and frequency of minor storm events. During the 12 months ending 3/31/2022 PECO experienced a large minor storm totaling $21.2M. No significant minor storms occurred in 12 months ending 3/31/2023.

The increase in storm expense from 12 months ending 3/31/2023 to 12 months ending 3/31/2024 is due to a major storm event in January 2024 totaling $22.5M during which at least 10% of the Company's customers experienced an outage. There were no major storm events for 12 months ending 3/31/2023. Additionally, there was higher minor storm activity in the 12 months ending 3/31/2024 compared to the 12 months ending 3/31/2023 where minor storm activity was low.

D. The source for the inflation factors is IHS Markit ("IHS"), a global information provider based in London, United Kingdom. IHS' services include the provision of macroeconomic indicators, and IHS provides the Company monthly updates of factors specifically referred to as the "Tri-State CPI inflation factors", which represent the Consumer Price Index for All Urban Consumers for Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD. The factors utilized in the Company's claim reflect IHS' January 2021 forecast vintage. The factors are appropriate because they are specific to the metro area in which the Company operates.

The Company is proposing to normalize storm-damage expense based on a historic five-year average of its actual storm-damage expense, which includes labor and material costs for the storm restoration activities that have occurred in the past. Given

historical actual and projected future inflation and increases in labor costs, the historic actual storm expense needs to be adjusted by the inflation factor to appropriately reflect the costs that would be incurred in the rate application period to perform the same kinds of storm-damage restoration activities.

Refer to Attachment IE-I- RE-31(d) for the inflation factors that were applied and to the Company's response to IE-I-RS-1 for the calculation shown in PECO Exhibit MJT-1, Schedule D-13.

Responsible Witness: Michael J. Trzaska

CPI-PMD = Consumer Price Index - Philadelphia-Wilmington -Atlantic City, PA-NJ-DE-MD Area

		CPI-PMD
2020	Jan-20	258.8
	Feb-20	259.1
	Mar-20	258.4
	Apr-20	257.3
	May-20	256.8
	Jun-20	257.4
	Jul-20	258.8
	Aug-20	259.9
	Sep-20	260.2
	Oct-20	260.0
	Nov-20	259.8
	Dec-20	260.1
2021	Jan-21	260.9
	Feb-21	262.2
	Mar-21	264.0
	Apr-21	266.0
	May-21	268.0
	Jun-21	269.7
	Jul-21	271.0
	Aug-21	272.2
	Sep-21	273.4
	Oct-21	274.6
	Nov-21	275.9
	Dec-21	277.2
2022	Jan-22	279.1
	Feb-22	281.5
	Mar-22	284.6
	Apr-22	288.2
	May-22	291.3
	Jun-22	293.3
	Jul-22	294.3
	Aug-22	294.6
	Sep-22	294.5
	Oct-22	294.5
	Nov-22	295.1
	Dec-22	296.6
2023	Jan-23	298.6
	Feb-23	300.2
	Mar-23	301.1
	Apr-23	301.7
	May-23	302.2
	Jun-23	303.1
	Jul-23	304.3
	Aug-23	305.5
	Sep-23	306.6
	Oct-23	307.5
	Nov-23	308.4
	Dec-23	309.3
2024	Jan-24	310.0
	Feb-24	310.5
	Mar-24	310.8
	Apr-24	310.9
	May-24	311.0
	Jun-24	311.3
	Jul-24	311.6
	Aug-24	311.8
	Sep-24	311.9
	Oct-24	311.8
	Nov-24	311.8
	Dec-24	312.0
2025	Jan-25	312.2
	Feb-25	312.4
	Mar-25	312.7
	Apr-25	312.9
	May-25	313.3
	Jun-25	313.9
	Jul-25	314.5
	Aug-25	315.1
	Sep-25	315.6
	Oct-25	316.0
	Nov-25	316.5
	Dec-25	317.1

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Response of PECO Energy Company
To Interrogatories of the
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IE Set I - RE

Response Date: April 26, 2024

IE-I-RE-32

Reference PECO Electric Volume II, Statement No. 3, pp. 70-75, concerning the proposed storm reserve account:

A. Explain why a five-year historic average of storm expense normalization is not sufficient for storm damage recovery if combined with the opportunity to file a petition with the Commission when an extraordinary storm hits the service territory that would far exceed any amount reflected in base rates.

B. Confirm or deny that normalization is intended to smooth out any highs or lows from year to year.

C. State whether deferral of amounts in excess of storm expense in base rates to allow for later recovery would represent retroactive ratemaking if later dollar-for-dollar recovery is allowed.

D. State whether storm expense is generally considered a routine type of expense for an electric distribution company.

E. State the storm expense claim amount presented in each of the last rate filings along with the docket number for each filing.

F. State the yearly storm expense actually incurred over the past ten years.

G. Provide docket numbers where the Commission has denied any regulated utility's

request for permission to defer extraordinary storm-related costs.

H. If a base rate case is settled via black box settlement, indicate how the parties in a future rate proceeding would determine any amount of over/under-recovery of historic storm expense by year.

I. Explain why a two-year amortization of any over/under-recoveries would be appropriate in future proceedings as stated on PECO Electric Statement No. 3, p. 73.

RESPONSE:

A. A five-year historic average of storm expense normalization, combined with the opportunity to file a petition with the Commission when an extraordinary storm hits the service territory that would far exceed any amount reflected in base rates, would provide the Company the opportunity – over a long period of time – to recover the storm damage expense similar to the level of actual expense. But given the increased volatility of storms, the amount of storm damage expense embedded in base rates has deviated materially from a historically derived baseline of "normal" storm damage expense. As a result, base rates may reflect more than actual costs in a given year with a lower than "normal" level of storm activity. On the other hand, higher than "normal" levels of storm activities are not reflected in the level of expense recovered in base rates. In addition, the petition with the Commission to defer the costs of an extraordinary storm does not address situations when the actual storm expense is far lower than the amount reflected in base rates.

B. Yes, a 5-year average normalization is intended to smooth out any highs or lows from year to year, but the normalization has not achieved the intended goal. As demonstrated in the Company's response to subparts E. and F. below, the recovery in base rate in some years is much higher than actual storm damage expenses, and much lower in some years.

C. I am not a lawyer, but it is my understanding that the Commission regularly authorizes utilities to defer costs caused by extraordinary and non-recurring events, such as storms, for accounting purposes to provide the opportunity to claim those costs for recovery in a future base rate case.

D. The Company agrees that storm expense is generally considered a routine type of expense for an electric distribution company because storm damage generally occurs every year. However, unlike other routine types of expense, storm damage expenses

(1) are variable and difficult to project for purposes of prospective recovery in base rates; (2) are not within the control of electric utilities; and (3) are recoverable utility expenses that can be readily identified.

E. Docket numbers and storm expense claim amounts for the company's last three rate cases filed with the Commission are as follows:

- R-2021-3024601 – PECO Energy Electric Division filed March 30, 2021. The dollar amount claimed for storm expense was $51.1 million.
- R-2018-3000164 – PECO Energy Electric Division filed March 29, 2018. The dollar amount claimed for rate case expense was $43.8 million.
- R-2015-2468981 – PECO Energy Electric Division filed March 27, 2015. The dollar amount claimed for rate case expense was $46.1 million.

F. Refer to the following table for the yearly storm expense actually incurred over the past ten years. The amounts include major events.

2014	$88,612,740
2015	$21,302,418
2016	$16,064,779
2017	$8,974,263
2018	$63,772,541
2019	$35,910,797
2020	$114,915,918
2021	$53,653,927
2022	$22,260,241
2023	$41,173,459

G. The Company is not aware of any.

H. Among other things, the parties in a base rate case proceeding can stipulate the amounts of storm damage expense recovery in a black-box settlement, which can be used to determine over/under-recovery by year.

I. Please refer to the Company's response to SDR-OM-22.

Responsible Witness: Michael J. Trzaska

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Response of PECO Energy Company
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Bureau of Investigation and Enforcement
IE Set I - RE

Response Date: April 26, 2024

IE-I-RE-36

Reference PECO Electric Volume II, Exhibit MJT-1, Schedule D-14 concerning the final Tax Accounting Repair Credit (TARC) and final Federal Tax Adjustment Credit (FTAC), provide the following:

A. Supporting documentation for the $62,000 remaining refund amount for the TARC.

B. Supporting documentation for the $23,000 final FTAC refund.

C. Basis for applying a two-year amortization period.

RESPONSE:

A. Refer to Attachment IE-I-RE-36(a)

B. Refer to Attachment IE-I-RE-36(b)

C. See response to SDR-OM-22.

Responsible Witness: Michael J. Trzaska

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Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set I - RE

Response Date: April 26, 2024

IE-I-RE-28

Reference PECO Electric Volume V, SDR-OM-42 and SR-OM-43 concerning vegetation control/tree trimming costs, provide the following:

A. Budgeted and actual vegetation control/tree trimming costs for 2019, 2020, and 2021.

B. Detailed basis, calculations, and supporting documentation (contractors' agreements or other support) for the budgeted costs of $50,260,812 in the FTY 2024 and $56,360,961 in the FPFTY 2025.

C. Copy of PECO's vegetation management plan.

RESPONSE:

A.

Year	Budget	Actual	Variance	Variance %
2019	47,504,496	44,167,571	3,336,925	7%
2020	51,475,833	52,150,191	(674,358)	-1%
2021	48,693,552	48,298,602	394,950	1%

B. The table below shows the amounts budgeted in FTY 2024 and FPFTY 2025 by spending category for PECO's Vegetation Management program, which is described in the response to part C.

	Vegetation Management Program	2024	2025
B1	Distribution Preventative Maintenance	29,572,589	29,906,719
B2	Distribution Corrective Maintenance	7,801,317	7,908,102
B3	Strategic/Hazardous Tree Removal	6,713,906	6,984,612
B4	Emerald Ash Borer	3,000,093	3,075,272
B5	Emergent	1,186,295	4,289,497
B6	Distribution Ground Maintenance	580,733	628,076
B7	Strategic Reliability Improvement Initiative	-	2,000,000
B8	Fuel True-Up	235,906	267,582
B9	Back Office Allocation	1,169,973	1,301,100
	Distribution Total	50,260,812	56,360,961

Provided as Confidential Attachments are the following contractor agreements:

1) Confidential Attachment IE-I-RE-28(b.1)
   Asplundh Tree Expert, LLC Agreement.
   Asplundh Tree Expect, LLC performs activities within the scope of Vegetation Management Programs B1, B2, B3, B4, B5, and B8

2) Confidential Attachment IE-I-RE-28(b.2)
   Davey Resources Group Agreement
   Davey Resources Group performs screening, planning, and quality assurance / quality control in support of the scope of work performed by Asplundh Tree Expert, LLC.

3) Confidential Attachment IE-I-RE-28(b.3)
   BrightView Landscape Services, LLC Agreement
   Brightview Landscape Services, LLC performs work within the scope of Vegetation Management Program B6

4) Confidential Attachment IE-I-RE-28(b.4)
   Weeds, Inc. Agreement
   Weeds, Inc. performs work within the scope of Vegetation Management Program B6

5) Confidential Attachment IE-I-RE-28(b.5)

Empower Construction, LLC Agreement
Empower Construction, LLC performs work within the scope of Vegetation Management Program B5

C. PECO does not maintain a single "vegetation management plan" document. PECO's Vegetation Management program is primarily composed of a Distribution Preventive Maintenance Routine Pruning program in which all circuits on the PECO system are trimmed to specification once every four years. This core program is complemented by the following programs that are intended to further improve reliability:

- Priority/Strategic Tree Removal Program – Primarily executed in conjunction with the Distribution Preventive Maintenance Routine Program. Intended to remove dead or declining trees along the conductor path and remove non-compatible fast-growing trees that are below or beside the line.
- Worst Performing Vegetation Segments – Review worst performing vegetation sections for enhanced vegetation work paired with targeted engineering solution and asset rejuvenation to decrease solid portion vegetation SAIFI.
- Distribution Herbicide Program – Distribution circuits are treated to keep brush down and remove new growth below the conductors.
- Emerald Ash Borer Program – Mitigate Emerald Ash Borer infested Ash Tree failures through proactive removal or topping.
- Strategic Reliability Improvement Initiative – Plan to trim trees to a state that creates a greater distance between the vegetation and conductor in an effort to further reduce the likelihood that vegetation would impact the electric system.
- Fuel True-Up – The reconciliation of vehicle fuel costs resulting from fuel price fluctuations for the aforementioned programs. Rates are billed against the difference of average cost per gallon vs contracted rates per gallon.

All of PECO's vegetation management activities are performed in accordance with industry standards and the PECO vegetation management processes provided in Confidential Attachments IE-I-RE-28(c.1) through (c.5).

THE CONFIDENTIAL ATTACHMENTS TO THIS RESPONSE ARE BEING PROVIDED ONLY SUBJECT TO THE EXECUTION OF A SUITABLE STIPULATED PROTECTIVE AGREEMENT WITH THE RECIPIENT PENDING THE ISSUANCE OF A PROTECTIVE ORDER IN THIS CASE. PECO WILL PROVIDE A STIPULATED PROTECTIVE AGREEMENT DEEMED SUITABLE TO THE COMPANY FOR

EXECUTION, WHICH IS SIMILAR TO THE STIPULATED PROTECTIVE AGREEMENT EMPLOYED IN PECO'S PRIOR BASE RATE CASE.

Responsible Witness: Nicole L. LeVine

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

Response Date: April 29, 2024

OCA-V-56

Vegetation management.

a. Please provide the total budgeted miles to be trimmed for each of the following years: 2018, 2019, 2020, 2021, 2022 and 2023 the test year, the FTY and the FPFTY.
b. Provide the actual amount of miles trimmed for each of the following years: 2018, 2019, 2020, 2021, 2022 and 2023.

RESPONSE:

a.

Year	Original Budgeted Miles
2018	2543
2019	3104
2020	3736
2021	3181
2022	3262
2023	3268

b.

Year	Actual Miles Trimmed
2018	2545
2019	2662
2020	3689
2021	2926
2022	3262
2023	2968

Responsible Witness: Nicole L. LeVine

PECO Electric Operations
Before The Pennsylvania Public Utility Commission
FPFTY Ending December 2025
($ in Thousands)
C-4 CWC Summary

I&E Exhibit No. 1
Schedule 8
Page 1 of 1

Line No.	Description	Reference	FPFTY Expenses	(Lead)/Lag Days	Dollar-Days
		(1)	(2)	(3)	(4)
1	**Working Capital Requirement**			I&E MODIFIED	
2					
3	Revenue Lag Days			51.95	
4					
5	Expense Lag Days				
6	Payroll (Dist Only)		$167,521	13.58	$2,275,497
7	Pension Expense		1,324	(167.00)	(221,143)
8	Commodity Purchased - [A]		995,523	35.71	35,548,467
9	Commodity Purchased - [B]		8,190	12.50	102,374
10	PJM Transmission Purchased - By-passable		91,766	12.50	1,147,070
11	PJM Transmission Purchased - Non By-passable		95,142	12.50	1,189,272
12	Other Expenses		571,644	40.07	22,906,942
13	Sub-Total O&M	SUM L6 to L12	$1,931,109		$62,948,479
14					
15	Payment to Suppliers		$1,082,504	37.88	$41,001,678
16					
17	Total O&M and POR Payments	L13 + L15	$3,013,614		$103,950,157
18					
19	O&M Expense / POR Payment Lag Days			34.49	
20					
21	Net Lead/(Lag) Days	L3 - L19		17.46	
22					
23	Days in Current Year			365	
24					
25	Operating Expenses Per Day		$8,256		
26					
27	Working Capital for O&M Expense		$144,125		
28					
29	Average Prepayments		$8,636		
30	Accrued Taxes		$80,039		
31	Interest Payments		($20,351)		
32					Company Claim
33	**Total Working Capital Requirement**	SUM L27 to L31	**$212,449**		$ 214,843
34					
35	Pro Forma O&M Expense		$2,005,564		Adjustment
36	Uncollectible Expense		47,572		(2,394)
37	Pro Forma Cash O&M Expense	L35 - L36	$1,957,991		

I&E Statement No. 1-R
Witness: Christine Wilson

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY - ELECTRIC DIVISION

Docket No. R-2024-3046931

Rebuttal Testimony

of

Christine Wilson

Bureau of Investigation & Enforcement

Concerning:

OPERATING & MAINTENANCE EXPENSES

LOW-INCOME USAGE REDUCTION PROGRAM

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INTRODUCTION OF WITNESS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Christine Wilson, and my business address is Pennsylvania Public Utility Commission, Commonwealth Keystone Building, 400 North Street, Harrisburg, PA 17120.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission (Commission) in the Bureau of Investigation & Enforcement (I&E) as a Fixed Utility Financial Analyst Supervisor.

Q. ARE YOU THE SAME CHRISTINE WILSON WHO IS RESPONSIBLE FOR THE DIRECT TESTIMONY CONTAINED IN I&E STATEMENT NO. 1 AND THE SCHEDULES IN I&E EXHIBIT NO. 1?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to address the direct testimonies of: (1) Local 614 of the International Brotherhood of Electrical Workers, AFL-CIO (Union) witness Lawrence Anastasi concerning operating and maintenance (O&M) expenses proposed by PECO Energy Company – Electric Division (PECO Electric or Company); and (2) Tenant Union Representative Network and

Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania (TURN/CAUSE-PA) witness Elizabeth Marx concerning her recommended increase to PECO's Low Income Usage Reduction Program (LIURP) budget.

Q. DOES YOUR REBUTTAL TESTIMONY INCLUDE AN EXHIBIT?

A. Yes. I&E Exhibit No. 1-R contains a schedule that supports my rebuttal testimony.

RESPONSE TO UNION WITNESS LAWRENCE ANASTASI

Q. SUMMARIZE MR. ANASTASI'S RECOMMENDATION FOR CLAIMED PAY INCREASES WITH EFFECTIVE DATES THAT FALL AFTER THE END OF THE FPFTY.

A. Mr. Anastasi asserts that pay increases that will take effect after the end of the FPFTY should be approved because they are known and measurable costs in line with federal policy to encourage the practice and procedure of collective bargaining.[1]

[1] Direct Testimony of Union witness Lawrence Anastasi, pp. 9-10.

Q. DO YOU AGREE THAT FOR THESE REASONS THE POST-FPFTY PAY INCREASES SHOULD BE APPROVED BY THE COMMISSION FOR RATEMAKING?

A. No. Mr. Anastasi's reasons do not support the Commission granting post-FPFTY pay increases for ratemaking. The Company elected to file a base rate case with an FPFTY ending December 31, 2025. To properly utilize this FPFTY, the Company should adhere to a matching principle wherein the rate base, revenues, and expenses claimed for ratemaking purposes align with this test year period. As stated in my direct testimony, allowing expense adjustments that occur after the FPFTY end would misalign data presented for establishing rates.[2] This methodology does nothing to discourage the practice and procedure of collective bargaining and focuses on the proper matching of rate base, revenues, and expenses allowable for inclusion in the FPFTY period for the proper setting of customer rates.

Q. DO YOU HAVE ANY OTHER AREAS TO ADDRESS ASSOCIATED WITH MR. ANASTASI'S RECOMMENDATIONS RELATED TO PAYROLL?

A. Yes. Mr. Anastasi recommends the Commission require PECO Electric to file annual reports with the Commission entitled Annual Workforce Planning Reports

[2] I&E Statement No. 1, p. 20.

at the beginning of each calendar year discussing staffing actions, issues and challenges addressed, etc., up through the filing of the next base rate case.[3]

Q. DO YOU HAVE ANY OPPOSITION TO THE RECOMMENDED REQUIREMENT FOR ANNUAL WORKFORCE PLANNING REPORTS?

A. No. Since the Union indicates that PECO Electric "has admitted it already tracks these numbers"[4] it does appear that it would produce any additional cost to ratepayers. However, a clear deadline for such reporting would need to be established since the deadline of "at the beginning of each calendar year" is not specific enough. Additionally, the Union has not indicated that the reports should be filed directly with all parties in the instant proceeding, which I believe is necessary, because merely stating the reports be filed "with the Commission" again lacks needed specificity.

RESPONSE TO TURN/CAUSE-PA WITNESS ELIZABETH MARX

Q. SUMMARIZE MS. MARX'S DIRECT TESTIMONY CONCERNING PECO'S LIURP BUDGET.

A. First, Ms. Marx asserts that PECO Electric's LIURP is not adequately funded or appropriately available to reduce unnecessarily high usage and correspondingly unaffordable energy burdens which will be further exasperated by any approved

[3] Direct Testimony on Union witness Lawrence Anastasi, pp. 11-12.
[4] Direct Testimony on Union witness Lawrence Anastasi, p. 12.

rate increase.[5] Second, she states that PECO Electric's LIURP serves significantly less of those in need as compared to pre-COVID-19 numbers and in 2023 serviced approximately 1.6% of eligible households.[6] Third, she asserts that PECO Electric has a disproportionately low LIURP budget compared to other electric distribution companies (EDCs) considering the number of residential customers served[7] and expends a very low cost per job compared to other EDCs.[8]

Therefore, Ms. Marx recommends that PECO Electric should increase its annual LIURP budget by $4,400,000, to about $10,000,000 along with actively recruiting households for participation and collaborating with external entities that provide complementary services.[9]

Q. BRIEFLY DESCRIBE THE STATUS OF PECO ELECTRIC'S 2019-2028 UNIVERSAL SERVICE AND ENERGY CONSERVATION PLAN AS AMENDED.

A. Amendments as of October 30, 2023, to PECO Electric's 2019-2024 Universal Service and Energy Conservation Plan (2019-2028 USECP) were recently approved by the Commission.[10] The Company's 2019-2028 USECP contains detailed provisions for low-income customers' eligibility criteria, assistance, the

[5] TURN/CAUSE-PA Direct Testimony, p. 45.
[6] TURN/CAUSE-PA Direct Testimony, p. 43.
[7] TURN/CAUSE-PA Direct Testimony, p. 46.
[8] TURN/CAUSE-PA Direct Testimony, p. 44.
[9] TURN/CAUSE-PA Direct Testimony, pp. 48-51.
[10] *PECO Energy Company Universal Service and Energy Conservation Plan for 2019*-2028 at Docket No. M-2018-3005795 and *PECO Energy Company Petition to Amend Universal Service and Energy Conservation Plan for 2019-2028* at Docket No. P-2023-3044165 (Order Entered December 7, 2023).

cost recovery mechanism, annual budget, etc. for each of the programs for the electric and gas customers.

Q. WHAT IS PECO ELECTRIC'S ANNUAL LIURP BUDGET IN THE 2019-2028 USECP?

A. Section VI of the 2018-2028 USECP (p. 15) shows an annual LIURP budget of $6,600,000 starting in 2023.[11]

Q. DO YOU AGREE WITH MS. MARX THAT THE COMPANY SHOULD INCREASE ITS LIURP BUDGET BY $4,400,000 IN THIS PROCEEDING?

A. No. While Ms. Marx's recommendation is well-intentioned, it is inappropriate to consider such a significant increase in the LIURP budget in this base rate proceeding.

Q. WHY DO YOU DISAGREE WITH MS. MARX'S RECOMMENDATION?

A. Even though since 2018, PECO Electric has exhausted its annual LIURP budgets in all recent years other than 2020,[12] it is inappropriate to grant an increase in the annual LIURP budget without consideration and evaluation of all other related programs and comments of all stakeholders and interested parties.

[11] Microsoft Word - 2023-10-30 letter to chiavetta from jennedy re PETITION FOR APPROVAL OF A REVISION TO THE CAP.docx (pa.gov), accessed June 20, 2024.

[12] I&E Exhibit No. 1-R, Schedule 1.

Q. ARE THERE ANY RECENT COMMISSION DECISIONS THAT SUPPORT YOUR ARGUMENT?

A. Yes. Most recently the Commission stated the following related to a decision concerning universal service issues in the Aqua, Pennsylvania, Inc. base rate case,[13]

> Our decision on this issue is consistent with prior decisions in which we have determined that it was not appropriate to consider proposals relating to a public utility's energy burdens, CAP, and other universal service program issues within the context of a base rate proceeding, finding that such proposals are more properly considered in a public utility's Universal Service and Energy Conservation Plan (USECP) proceeding.

Additionally, in the PECO Energy Company – Gas Division proceeding the Commission did not consider CAUSE-PA's proposals related to the Customer Assistance Plan (CAP) and other universal service program issues within the context of the base rate proceeding because they would be more properly considered in its USECP proceeding.[14] In that proceeding, the Commission also referenced the 2020 Columbia Gas of Pennsylvania, Inc. (Columbia Gas) proceeding[15] where it concluded, "that energy burdens should not be considered separately from other parts of the Company's CAP and universal service programs

[13] *PA Public Utility Commission et al. v. Aqua Pennsylvania, Inc.*, Docket No. R-2021-3027386, p. 333 (Order Entered May 16, 2022).

[14] *PA Public Utility Commission v. PECO Energy Company – Gas Division*, Docket No. R-2020-3018929, pp. 195-196 (Order Entered June 22, 2021).

[15] *PA Public Utility Commission v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2020-3018835, p. 160 (Order Entered February 19, 2021).

but should be considered as part of the Company's entire universal service plan, including the need for changes and associated costs."[16]

Q. IS THERE ANY ADDITIONAL GUIDANCE THAT SUPPORTS YOUR RECOMMENDATION?

A. Yes. The Notice of Proposed Rulemaking for the *Initiative to Review and Revise the Exhibit Low-Income Usage Reduction Program (LIURP) Regulations at 52 Pa. Code §§ 58.1-58.18*, states,

> [A] LIURP budget can only be revised through a USECP proceeding initiated pursuant to the periodic USECP review process or in response to a petition to amend a USECP earlier than the periodic USECP review process.[17]

Further, it states as follows,

> As LIURP is a ratepayer-funded program, considerations impacting its budget determination should be open to scrutiny and comment. USECP proceedings allow all interested parties to provide comments, raise questions, and review information justifying the proposed change to the LIURP budget in an on-the-record proceeding. [18]

Q. WERE THERE ANY RECENT STATEMENTS MADE THAT SUPPORT YOUR RECOMMENDATION?

A. Yes. In Public Meeting on September 21, 2023, Commissioner John F. Coleman,

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[16] *PA Public Utility Commission v. PECO Energy Company – Gas Division*, Docket No. R-2020-3018929, p. 195 (Order Entered June 22, 2021).

[17] Notice of Proposed Rulemaking for the *Initiative to Review and Revise the Exhibit Low-Income Usage Reduction Program (LIURP) Regulations at 52 Pa. Code §§ 58.1-58.18*, p. 36 (Order Entered May 18, 2023).

[18] Notice of Proposed Rulemaking for the *Initiative to Review and Revise the Exhibit Low-Income Usage Reduction Program (LIURP) Regulations at 52 Pa. Code §§ 58.1-58.18*, p. 37 (Order Entered May 18, 2023).

Jr. (Commissioner Coleman) issued a statement to the 2022 UGI Utilities, Inc. – Electric Division (UGI Electric) base rate case at Docket No. R-2022-3037368, et al.,[19] regarding his concerns related to USECPs expressing,

> I am becoming increasingly uncomfortable with the modification to universal service programs within base rate cases, especially in base rate cases that result in black box settlements…the design, budgeting, and administration of universal service programs is a complex undertaking for our public utilities… [and the] complexity… [is] best addressed in USECP proceedings.[20]

Commissioner Coleman also cited the 2023 Order for LIURP Regulations,[21] adding,

> In that Order, the Commission stated "[t]he appropriateness, effectiveness, and prudence of the cost of universal service is determined in a USECP proceeding. How those universal service costs are recovered is addressed in a rate case." Also in that Order, the Commission stated that requiring LIURP budgets to be set in USECP proceedings is intended "to ensure that modifications conform to regulatory or policy-level considerations." It may be time to expand this reasoning to encompass all universal service programs – their designs and costs.[22]

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS ABOUT MS. MARX'S DIRECT TESTIMONY?

A. Yes. Due to the length, depth, and number of issues addressed in Ms. Marx's

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[19] *PA Public Utility Commission v. UGI, Utilities Inc. – Electric Division*, Docket No. R-2022-3037368, et al., Statement of Commissioner John F. Coleman, Jr., September 21, 2023.

[20] Id., p. 2.

[21] *Initiative to Review and Revise the Existing Low-Income Usage Reduction Program (LIURP) Regulations at 52 Pa. Code §§ 58.1—58.18*, Docket No. L-2016-2557886 (Order entered May 18, 2023).

[22] *PA Public Utility Commission v. UGI, Utilities Inc. – Electric Division*, Docket No. R-2022-3037368, et al., Statement of Commissioner John F. Coleman, Jr., September 21, 2023, pp. 2-3.

direct testimony, lack of response to any topic or recommendation should not be interpreted as agreement with her recommendations.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

I&E Exhibit No. 1-R
Witness: Christine Wilson

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY - ELECTRIC DIVISION

Docket No. R-2024-3046931

Exhibit to Accompany

the

Rebuttal Testimony

of

Christine Wilson

Bureau of Investigation & Enforcement

Concerning:

OPERATING AND MAINTENANCE EXPENSES

LOW-INCOME USAGE REDUCTION PROGRAM

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
The Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania
& The Tenant Union Representative Network
CAUSE-PA Set I

Response Date: May 28, 2024

CAUSE-PA-I-31

Please indicate for each year from 2018 to date in 2024:

a. Whether PECO Electric exhausted its LIURP budget;
b. The total amount of budgeted LIURP dollars for PECO Electric;
c. The total amount of spent LIURP dollars for PECO Electric;
d. If PECO Electric's LIURP budget was exhausted, the number of LIURP applicants that did not receive LIURP services despite having been found LIURP eligible.

RESPONSE:

a. PECO exhausted its annual electric LIURP budget for 2018-2019 and 2021-2023. In 2020, due to pandemic-related restrictions, PECO did not exhaust its annual LIURP electric budget. See the September 2022 MEAF Accounting Final Letter filed with the Commission (available at https://www.puc.pa.gov/pcdocs/1758698.pdf).

b. The annual LIURP electric budget for 2018-2022 was $5.6M per year and for 2023 it was $6.6M.

c. For January through March 2024, the amount of spent LIURP dollars for PECO Electric was $2M. Please refer to the response to subpart a for the additional time

periods requested.

d. Customers who do not receive services in a specific year will be addressed in a subsequent year, providing they continue to remain eligible.

Responsible Witness: Jacqueline F. Golden

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3046931
PECO Energy Company – Electric Division	:	

VERIFICATION OF CHRISTINE WILSON

I, **Christine Wilson**, on behalf of the Bureau of Investigation and Enforcement, hereby verify that **I&E Statement No. 1**, **I&E Exhibit No. 1**, **I&E Statement No. 1-R**, **I&E Exhibit No. 1-R**, and **I&E Statement No. 1-SR**, were prepared by me or under my direct supervision and control.

Furthermore, the facts contained therein are true and correct to the best of my knowledge, information and belief and I expect to be able to prove the same if called to the stand at any evidentiary hearing held in this matter.

This Verification is made subject to the penalties of 18 Pa. C.S. § 4904 relating to unsworn falsification to authorities.

Signed in Harrisburg, Pennsylvania, this _5th_ day of August 2024.

_/s/ Christine Wilson_____

Christine Wilson

I&E Statement No. 2
Witness: D. C. Patel

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY - ELECTRIC DIVISION

Docket No. R-2024-3046931

Direct Testimony

of

D. C. Patel

Bureau of Investigation & Enforcement

Concerning:

Rate of Return

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INTRODUCTION OF WITNESS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is D. C. Patel and my business address is Pennsylvania Public Utility Commission, Commonwealth Keystone Building, 400 North Street, Harrisburg, PA 17120.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission (Commission) in the Bureau of Investigation & Enforcement (I&E) as a Fixed Utility Financial Analyst.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL EXPERIENCE?

A. My educational and professional experience is set forth in the attached Appendix A.

Q. PLEASE DESCRIBE THE ROLE OF I&E IN RATE PROCEEDINGS.

A. I&E is responsible for representing the public interest in rate and other proceedings before the Commission. I&E's analysis in this proceeding is based on its responsibility to represent the public interest. This responsibility requires balancing the interests of ratepayers, the utility company, and the regulated community as a whole.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to review the base rate filing of PECO Energy Company - Electric Division (PECO or Company) and make recommendations regarding the Company's rate of return, including capital structure, cost of long-term debt, the cost of equity, and the overall fair rate of return for the fully projected future test year (FPFTY) ending December 31, 2025.

Q. DOES YOUR DIRECT TESTIMONY INCLUDE AN EXHIBIT?

A. Yes. I&E Exhibit No. 2 contains schedules that support my direct testimony.

BACKGROUND

Q. WHAT IS THE GENERAL DEFINITION OF RATE OF RETURN IN THE CONTEXT OF A RATE CASE?

A. Rate of return is one of the components of the revenue requirement formula. Rate of return is the amount of revenue an investment generates in the form of net income. It is typically expressed as a percentage of the amount of an asset base at a particular point in time, which in base rate proceedings, is the projected rate base balance at the end of the FPFTY.

Q. WHAT IS THE REVENUE REQUIREMENT FORMULA?

A. The revenue requirement formula used in base rate cases is as follows:

$$RR = E + D + T + (RB \times ROR)$$

Where:

RR = Revenue Requirement

E = Operating Expenses

D = Depreciation Expense

T = Taxes

RB = Rate Base

ROR = Overall Rate of Return

In the above formula, the rate of return is expressed as a percentage. The calculation of that percentage is independent of the determination of the appropriate rate base value for ratemaking purposes. As such, the appropriate total dollar return is dependent upon the proper computation of the rate of return and the proper valuation of the Company's rate base.

Q. WHAT CONSTITUTES A FAIR AND REASONABLE OVERALL RATE OF RETURN?

A. A fair and reasonable overall rate of return is one that will allow the utility an *opportunity* to recover those costs prudently incurred by all classes of capital used to finance the rate base during the prospective period in which its rates will be in effect.

The *Bluefield Water Works & Improvements Co. v. Public Service Comm. of West Virginia,* 262 U.S. 679, 692-93 (1923), and the *FPC v. Hope Natural Gas Co.,* 320 U.S. 591, 603 (1944) cases set forth the principles that are generally

accepted by regulators throughout the country as the appropriate criteria for measuring a fair rate of return:

1. A utility is entitled to a return similar to that being earned by other enterprises with corresponding risks and uncertainties, but not as high as those earned by highly profitable or speculative ventures.
2. A utility is entitled to a return level reasonably sufficient to assure financial soundness.
3. A utility is entitled to a return sufficient to maintain and support its credit and raise necessary capital.
4. A fair return can change (increase or decrease) along with economic conditions and capital markets.

Q. EXPLAIN HOW THE OVERALL RATE OF RETURN IS TRADITIONALLY CALCULATED IN BASE RATE PROCEEDINGS.

A. In base rate proceedings, the overall rate of return is traditionally calculated using the weighted average cost of capital method. To calculate the weighted average cost of capital, a company's capital structure must first be determined by comparing the percentage of each capitalization component, which has financed rate base, to the total capital. In PECO's case, the capital components consist of long-term debt and common equity. Next, the effective cost rate of each capital structure component must be determined. The historical component of the cost rate of debt can be computed accurately, and any future debt issuances are based

on estimates. The cost rate of common equity is not fixed and is more difficult to measure. Because of this difficulty, a proxy group is used as discussed later in this testimony. Next, each capital structure component percentage is multiplied by its corresponding effective cost rate to determine the weighted capital component cost rate. The I&E table in the *"I&E Position"* section below demonstrates the interaction of each capital structure component and its corresponding effective cost rate. Finally, the sum of the weighted cost rates produces the overall rate of return. This overall rate of return is multiplied by the rate base to determine the return portion of a company's revenue requirement.

COMPANY'S RATE OF RETURN CLAIM

Q. WHO IS THE COMPANY'S RATE OF RETURN WITNESS?

A. Paul R. Moul is the primary witness addressing the rate of return. Throughout his direct testimony (PECO Statement No. 5), Mr. Moul provides analysis for the claimed capital structure, long-term debt, and cost of common equity and overall rate of return for PECO. Additionally, Nicole L. Levine, Senior Vice President and Chief Operating Officer of PECO provides testimony regarding the Company's exemplary "Management Performance" to support Mr. Moul's claim for 15 basis points reward or adder in the claimed rate of return on common equity (PECO Statement No. 1).

Q. PLEASE SUMMARIZE THE COMPANY'S RATE OF RETURN CLAIM.

A. Mr. Moul recommends the following rate of return based on the FPFTY ending December 31, 2025 (PECO Statement No. 5, p. 2 and PECO Exhibit PRM-1, Schedule 1, p. 1):

PECO ENERGY COMPANY - ELECTRIC DIVISION Summary of Cost of Capital			
Type of Capital	**Ratio**	**Cost Rate**	**Weighted Cost Rate**
Long-Term Debt	46.60%	4.58%	2.13%
Common Equity	53.40%	10.95%	5.85%
Total	**100.00%**		**7.98%**

I&E POSITION

Q. PLEASE SUMMARIZE YOUR RATE OF RETURN RECOMMENDATION.

A. I recommend the following rate of return for the Company I&E Exhibit No. 2, Schedule 1):

I & E Summary of Cost of Capital			
Type of Capital	**Ratio**	**Cost Rate**	**Weighted Cost Rate**
Long-Term Debt	46.60%	4.58%	2.13%
Common Equity	53.40%	9.91%	5.29%
Total	**100.00%**		**7.42%**

PROXY GROUP

Q. WHAT IS A PROXY GROUP AS USED IN BASE RATE CASES?

A. A proxy group is a set of companies that have similar traits as compared to the subject utility. This group of companies acts as a benchmark for determining the subject utility's rate of return in a base rate case.

Q. WHAT ARE THE REASONS FOR USING A PROXY GROUP?

A. A proxy group's cost of equity is used as a benchmark to satisfy the long-established guideline of utility regulation that seeks to provide the subject utility with the opportunity to earn a return similar to that of enterprises with corresponding risks and uncertainties.

A proxy group is typically utilized since the use of data exclusively from one company may be less reliable. The lower reliability occurs because the data for one company may be subject to events that can cause short-term anomalies in the marketplace. The rate of return on common equity for a single company could become distorted in these circumstances and would therefore not be representative of similarly situated companies. Therefore, a proxy group has the effect of smoothing out potential anomalies associated with a single company.

Q. WHAT CRITERIA DID YOU USE IN SELECTING YOUR PROXY GROUP?

A. The criteria for my proxy group was designed to select companies that are

representative of PECO. I applied the following criteria to Value Line's East, Central, and West Electric Utility groups:

1. Fifty percent or more of the company's revenues must be generated from the regulated electric utility industry.
2. The company's stock must be publicly traded.
3. Investment information for the company must be available from more than one source, which includes Value Line.
4. The company must not be currently involved in an announced merger or the target of an acquisition.
5. The company must have four consecutive years of historic earnings data.
6. The company must be operating in a state that has a deregulated electric utility market.

Q. WHAT CRITERIA DID MR. MOUL USE IN SELECTING THE COMPANIES THAT FORMULATE HIS ELECTRIC OR PROXY GROUP?

A. Mr. Moul determined his proxy group of ten electric companies by using the following criteria (PECO Statement No. 5, p. 4, line 16 through p. 5, line 4):

1. Have publicly traded common stock.
2. Are contained in The Value Line Investment Survey and are classified in the Electric Utility East group.
3. Are not currently the target of an announced merger or acquisition.

4. Are not engaged in the construction of a nuclear generating plant.

5. Have not recently reduced its common dividend in 2023.

Q. WHAT PROXY GROUP DID YOU USE IN YOUR ANALYSIS?

A. I included the following sixteen companies in my proxy group:

Company	**Stock Ticker**
Ameren Corporation	AEE
American Electric Power Company Inc.	AEP
AVANGRID Inc.	AGR
CMS Energy Corporation	CMS
Consolidated Edison Inc.	ED
Dominion Energy Inc.	D
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Eversource Energy	ES
Exelon Corporation	EXC
FirstEnergy Corporation	FE
IDACORP Inc.	IDA
Portland General Electric Company	POR
PPL Corporation	PPL
Public Service Enterprise Group Inc.	PEG
Xcel Energy Inc.	XEL

Q. WHAT PROXY GROUP DID MR. MOUL USE IN HIS ANALYSIS?

A. Mr. Moul utilized the following ten companies (PECO Exhibit PRM-1, Schedule 3, p. 2):

Company	Stock Ticker
AVANGRID, Inc.	AGR
Consolidated Edison Inc.	ED
Dominion Energy, Inc.	D
Duke Energy Corporation	DUK
Eversource Energy	ES
Exelon Corporation	EXC
FirstEnergy Corporation	FE
NextEra Energy Inc.	NEE
PPL Corporation	PPL
Public Service Enterprise Group	PEG

Q. DO YOU AGREE WITH MR. MOUL'S ELECTRIC GROUP?

A. Not entirely. Mr. Moul has nine companies that match with my proxy group companies and one company that I do not include. He does not include seven companies that I use in my proxy group.

Q. PLEASE LIST THE COMPANY MR. MOUL INCLUDES THAT YOU DO NOT AND EXPLAIN WHY YOU HAVE EXCLUDED IT FROM YOUR PROXY GROUP.

A. The company in question is NextEra Energy, which does not meet my criterion

that a company must be operating in a state that has a deregulated electric utility market.

Q. PLEASE LIST THE SEVEN COMPANIES YOU INCLUDE THAT MR. MOUL DOES NOT AND EXPLAIN WHY HE HAS EXCLUDED THEM FROM HIS ELECTRIC GROUP.

A. The seven companies in question and the reasons for Mr. Moul's exclusion are as follows: Ameren Corp., American Electric Power Company Inc., CMS Energy Corp., Entergy Corp., IDACORP Inc., Portland General Electric Company, and Xcel Energy Inc. all violate his criterion that a company must be classified in the Electric Utility *East* group in The Value Line Investment Survey. These companies are all part of either the *Central* or *West* Electric Utility groups, which I allow to expand the number of companies in my proxy group.

CAPITAL STRUCTURE

Q. WHAT IS A CAPITAL STRUCTURE?

A. A capital structure represents how a firm has financed its rate base with different sources of funds. The primary sources of funding are long-term debt and common equity. A capital structure may also include short-term debt and preferred stock, which is not the case for PECO.

Q. WHAT IS THE COMPANY'S CLAIMED CAPITAL STRUCTURE?

A. The Company's claimed capital structure is summarized in the table below (PECO Statement No. 5, p. 20, lines 21-22 and PECO Exhibit PRM-1, Schedule 1, p. 1):

PECO ENERGY COMPANY - ELECTRIC DIVISION **Projected Capital Structure as on December 31, 2025**	
Type of Capital	**Capitalization Ratio**
Long-Term Debt	46.60%
Common Equity	53.40%
Total	**100.00%**

Q. WHAT IS THE BASIS FOR THE COMPANY'S CLAIMED CAPITAL STRUCTURE?

A. Mr. Moul explains that if the operating public utility raises its own debt directly in the capital markets, as PECO does, the operating public utility's own capital structure ratios should be used to determine its overall rate of return (PECO Statement No. 5, p. 16, lines 4-6). He then states that the capitalization and capital structure ratios for the future test year (FTY) and FPFTY reflect the Company's plan to issue $575 million of new long-term debt in 2024 and $975 million in 2025 and has a $350 million debt maturity in the FPFTY. Future equity financing includes $580 million in the FTY and $472 million in the FPFTY (PECO Statement No. 5, p. 18, lines 15-19 and PECO Exhibit PRM-1, Schedule 5).

Q. WHAT IS YOUR RECOMMENDATION REGARDING THE COMPANY'S CAPITAL STRUCTURE?

A. I recommend using the Company's claimed capital structure as presented in the table above.

Q. WHAT IS THE BASIS FOR YOUR CAPITAL STRUCTURE RECOMMENDATION?

A. I believe a capital structure of 50% long-term debt and 50% common equity is optimal when trying to balance the financial integrity of a utility as well as trying to control costs to ratepayers in this proceeding. However, I recommend using the Company's claimed capital structure as it falls within the range of my proxy group's 2023 (most recently available) capital structure information published by Compustat. The most recent five-year average ranges of my proxy group companies' capital structure ratios are from 33.39% to 71.69% long-term debt and 28.31% to 66.61% common equity, with an overall five-year average of 55.64% long-term debt and 43.98% common equity (I&E Exhibit No. 2, Schedule 2). Additionally, PECO's 2023 actual capital structure ratio is 47.01% long-term debt and 52.99% common equity (PECO Exhibit PRM-1, Schedule 5), which aligns with PECO's FPFTY capital structure.

COST RATE OF LONG-TERM DEBT

Q. WHAT IS YOUR RECOMMENDATION REGARDING THE COMPANY'S COST RATE OF LONG-TERM DEBT?

A. I recommend using the Company's claimed long-term debt cost rate of 4.58% for the FPFTY (PECO Statement No. 5, p. 22, lines 1-4 and PECO Exhibit PRM-1, Schedule 6, p. 3).

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION TO USE THE COMPANY'S CLAIMED COST RATE OF LONG-TERM DEBT?

A. The Company's claimed 4.58% cost rate of long-term debt is representative of the industry as it falls within my proxy group's 2023 implied long-term debt cost range of 3.74% to 5.41%, with an average implied long-term debt cost of 4.56%. The Mergent Bond Record shows an average yield of 5.65% (May 2023 through April 2024) for A-rated public utility bond (I&E Exhibit No. 2, Schedule 3). Given the upward trend in interest rates, I believe that the Company's claim is representative of the utility industry.

COST OF COMMON EQUITY

COMMON METHODS

Q. WHAT METHODS ARE COMMONLY PRESENTED BY UTILITIES IN DETERMINING THE COST OF COMMON EQUITY?

A. Four methods commonly presented to estimate the cost of common equity are the

Discounted Cash Flow (DCF), the Capital Asset Pricing Model (CAPM), the Risk Premium (RP) Method, and the Comparable Earnings (CE) Method.

Q. WHAT IS THE THEORETICAL BASIS FOR THE DCF METHOD?

A. The DCF method is the "dividend discount model" of financial theory, which maintains that the value (price) of any security or commodity is the discounted present value of all future cash flows. The DCF method assumes that investors evaluate stocks in the classical economic framework, which maintains that the value of a financial asset is determined by its earning power, or its ability to generate future cash flows.

Q. WHAT IS THE THEORETICAL BASIS FOR THE CAPM?

A. The CAPM describes the relationship of a stock's investment risk and its market rate of return. It identifies the rate of return investors expect so that it is comparable with returns of other stocks of similar risk. This method hypothesizes that the investor-required return on a company's stock is equal to the return on a "risk free" asset plus an equity premium reflecting the company's investment risk. In the CAPM, two types of risk are associated with a stock: (1) firm-specific risk (unsystematic risk); and (2) market risk (systematic risk), which is measured by a firm's beta. The CAPM allows for investors to receive a return only for bearing systematic risk. Unsystematic risk is assumed to be diversified away, and therefore, does not earn a return.

Q. WHAT IS THE THEORETICAL BASIS FOR THE RP METHOD?

A. The theoretical basis for the RP method is a simplified version of the CAPM. The RP method's theory is that common stock is riskier than debt, thus, investors require a higher expected return on stocks than bonds. In the RP approach, the cost of equity is made up of the cost of debt and a risk premium. While the CAPM uses the market risk premium, it also directly measures the systematic risk of the company group using beta. The RP method does not measure the specific risk of the company.

Q. WHAT IS THE THEORETICAL BASIS FOR THE CE METHOD?

A. The CE method utilizes the concept of opportunity cost. This means that investors will likely dedicate their capital to the investment offering the highest return with similar risk to alternative investments. Unlike the DCF, CAPM, and the RP methods, the CE method is not market-based and relies upon historic accounting data. Like the RP method, the CE method does not measure the specific risk of a company. The most problematic issue with the CE method is determining what constitutes comparable companies.

<u>I&E RECOMMENDED METHOD TO EMPLOY</u>

Q. WHAT METHOD DO YOU RECOMMEND USING TO DETERMINE AN APPROPRIATE COST OF COMMON EQUITY FOR PECO?

A. I recommend using the DCF method as the primary method to determine the cost

of common equity. Additionally, I provide a CAPM analysis to be used as a comparison, not as a check, to the DCF results. The DCF method has the most wide-spread regulatory acceptance, and the Commission has historically relied mostly upon the DCF results in base rate proceedings, but also as recently as 2017, 2018, 2020, and 2021.[1]

Q. PLEASE EXPLAIN WHY YOU CHOSE TO EMPLOY THE DCF TO DETERMINE YOUR RECOMMENDED RETURN ON EQUITY.

A. I recommend using the DCF for a variety of reasons. The DCF is appealing to investors since it is based upon the concept that the receipt of dividends in addition to expected appreciation is the total return requirement determined by the market.[2] The use of a growth rate and expected dividend yield are also strengths of the DCF, as this recognizes the time value of money and is forward-looking. The use of the utilities' own, or in this case the proxy group's, stock prices and growth rates directly in the calculation also causes the DCF to be industry and company specific. Finally, the current inflationary and economic trends are most certainly

[1] *Pa. PUC v. City of DuBois – Bureau of Water*; Docket No. R-2016-2554150 (Order Entered March 28, 2017). *See generally* Disposition of Cost Rate Models, pp. 96-97; *Pa. PUC v. UGI Utilities, Inc. - Electric Division;* Docket No. R-2017-2640058 (Order Entered October 25, 2018). *See generally* Disposition of Cost of Common Equity, p. 119; *Pa. PUC v. Wellsboro Electric Company;* Docket No. R-2019-3008208 (Order Entered April 29, 2020). *See generally* Disposition of Primary Methodology to Determine ROE, pp. 80-81; *Pa. PUC v. Citizens Electric Company of Lewisburg, PA;* Docket No. R-2019-3008212 (Order Entered April 29, 2020). *See generally* Disposition of Cost of Common Equity, pp. 91-92. *Pa. PUC v. Columbia Gas of Pennsylvania, Inc.;* Docket No. R-2020-3018835 (Order Entered February 19, 2021). *See generally* Disposition of Cost of Common Equity, p. 131; Pa. PUC v. PECO Energy Company – Gas Division; Docket No. R-2020-3018929 (Order Entered June 22, 2021). See generally Disposition of Return of Rate on Common Equity, p. 171.

[2] David C. Parcell, "The Cost of Capital – A Practitioner's Guide," 2020 Edition, p. 153.

reflected in a stock's price, which is used in determining the dividend yield, and considered by independent professional analysts who generate forecasted earnings growth rates. Therefore, the DCF contains the most up-to-date projected information of any model and is the superior method for determining the rate of return for the current economic market because it measures the cost of equity directly.

Q. PLEASE EXPLAIN WHY YOU ALSO CHOSE TO USE THE CAPM IN YOUR ANALYSIS.

A. I have included a CAPM analysis only as a comparison, and not as a basis, for my recommendation because both the CAPM and the DCF include inputs that allow the results to be specific to the utility industry. However, the CAPM is based on the performance of U.S. Treasury bonds and the performance of the market as measured through the S&P 500 and is company-specific only through the use of beta. Beta reflects a stock's volatility relative to the overall market, thereby incorporating an industry-specific aspect to the CAPM, but only as a measure of how reactive the industry is compared to the market as a whole. Although changes in the utility industry are more likely to be accurately reflected in the DCF, which uses the companies' actual stock prices, dividends, and growth rates, I have also included the results of my CAPM analysis because changes in the market, whether as a whole or specific to the utility industry, affect the outcome of each method in different ways. Though I have provided the results of my CAPM

analysis as a comparison, and not as a check, it does have several disadvantages and should not be given comparable weight to the DCF.

Q. EXPLAIN THE DISADVANTAGES OF THE CAPM.

A. The CAPM, and the RP method by virtue of its similarities to the CAPM, give results that indicate to an investor what the equity cost rate should be if current economic and regulatory conditions are the same as those present during the historical period in which the risk premiums were determined. This is because beta, which is the only company-specific variable in the CAPM model, measures the *historical* volatility of a stock compared to the *historical* overall market return. Reliance on historical values is especially problematic now given the recent impact of the COVID-19 pandemic on economic conditions. Although the CAPM and RP results can be useful to investors in making rational buy and sell decisions within their portfolios, the DCF method is the superior method for determining the rate of return for the current economic market and measuring the cost of equity directly. The CAPM and the RP methods are less reliable indicators because they measure the cost of equity indirectly and risk premiums vary depending on the debt and equity being compared. Also, regulators can never be certain that economic and regulatory conditions underlying the historical period during which the risk premiums were calculated are the same today or will be the same in the future.

Q. IS THERE ANY ACADEMIC EVIDENCE THAT QUESTIONS THE CREDIBILITY OF THE CAPM MODEL?

A. Yes. An article, "Market Place; A Study Shakes Confidence in the Volatile-Stock Theory," which appeared in the *New York Times* on February 18, 1992, summarized a CAPM study conducted by professors Eugene F. Fama and Kenneth R. French.[3] Their study examined the importance of beta, CAPM's risk factor, in explaining returns on common stock. In CAPM theory a stock with a higher beta should have a higher expected return. They found that the model did not do well in predicting actual returns and suggested the use of more elaborate multi-factor models.

A more recent article, "The Capital Asset Pricing Model: Theory and Evidence," which appeared in the *Journal of Economic Perspectives,* states that "the attraction of the CAPM is that it offers powerful and intuitively pleasing predictions about how to measure risk and the relation between expected return and risk. Unfortunately, the empirical record of the model is poor, poor enough to invalidate the way it is used in applications."[4] As a result, I conclude that the CAPM's relevance to the investment decision making process does not carry over into the regulatory rate setting process.

[3] Berg, Eric N. "Market Place; A Study Shakes Confidence in the Volatile-Stock Theory" *The New York Times*, 18 Feb 1992: *nytimes.com* Web. 23 Mar 2016.

[4] Fama, Eugene F. and French, Kenneth R., "The Capital Asset Pricing Model: Theory and Evidence." *Journal of Economic Perspectives* (2004): Volume 18, Number 3, pp. 25-46.

Q. PLEASE EXPLAIN WHY YOU HAVE CHOSEN TO EXCLUDE THE RP METHOD FROM YOUR ANALYSIS.

A. The RP method is excluded because it is a simplified version of the CAPM and is subject to the same faults explained above. Most importantly, unlike the CAPM, the RP method does not recognize company-specific risk through beta.

Q. EXPLAIN WHY YOU HAVE CHOSEN TO EXCLUDE THE CE METHOD IN YOUR ANALYSIS.

A. The CE method is excluded because the choice of which companies are comparable is highly subjective, and it is debatable whether historic accounting values are representative of the future. Moreover, its historical usage in this regulatory forum has been minimal for determining the FPFTY return on equity.

Q. ARE THERE ANY RECENT COMMISSION ORDERS THAT DEVIATE FROM THE HISTORICAL USE OF THE DCF AS THE PRIMARY METHOD IN DETERMINING A COMPANY'S RETURN ON EQUITY?

A. Yes. The Commission indicated in the 2021 Aqua Pennsylvania, Inc. (Aqua) base rate case order that its method "for determining Aqua's ROE shall utilize both I&E's DCF and CAPM methodologies"[5] and that "I&E's DCF and CAPM

[5] *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket Nos. R-2021-3027385 & R-2021-3027386, pp. 154 (Order entered May 16, 2022).

produce a range of reasonableness for the ROE…",[6] which deviates from prior Commission practice of primarily relying on the DCF. Most recently, the Commission's Columbia Water Company (Columbia Water) base rate case order relied on the results of I&E's DCF and CAPM analyses for determining Columbia Water's ROE.[7]

Q. SHOULD THE COMMISSION'S USE OF THE CAPM AS A CEILING FOR A "RANGE OF REASONABLENESS" APPLY IN THIS PROCEEDING?

A. No. In a report issued by Regulatory Research Associates, a group within S&P Global Market Intelligence,[8] Aqua's ROE of 10.00% was stated as being above the national average for water utility base rate cases and above the Distribution System Improvement Charge (DSIC) rate authorized by the Commission of 9.80%[9] for water and wastewater utilities for the year ended December 31, 2021. This DSIC rate for water and wastewater utilities has since dropped 5 basis points to 9.75% for the year ended March 31, 2023[10] and further dropped 10 basis points

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6 *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket Nos. R-2021-3027385 & R-2021-3027386, pp. 178 (Order entered May 16, 2022).

7 *Pa. PUC v. Columbia Water Company,* Docket No. R-2023-3040258, p. 105 (Order entered January 18, 2024).

8 Regulatory Research Associates, "Commission authorizes management performance bonus for Aqua Pennsylvania," *S&P Global Market Intelligence*, May 16, 2022. CIQ Pro: RRA Regulatory Focus: Commission authorizes management performance bonus for Aqua Pennsylvania (spglobal.com) (Accessed April 23, 2024).

9 PA Public Utility Commission, Bureau of Technical Utility Services Report on the Quarterly Earnings of Jurisdictional Utilities for the Year Ended December 31, 2021, approved at Public Meeting on June 16, 2022, at Docket No. M-2022-3032405.

10 PA Public Utility Commission, Bureau of Technical Utility Services Report on the Quarterly Earnings of Jurisdictional Utilities for the Year Ended March 31, 2023, approved at Public Meeting on July 13, 2023 at Docket No. M-2023-3041106.

to 9.65% for the year ended June 30, 2023[11] and remained at the same 9.65% level for the year ended December 31, 2023.[12] The above referenced S&P report, which directly reviews Aqua's ROE of 10.00% on the very date the Commission entered its order in Aqua's base rate proceeding demonstrated that the ROE awarded to Aqua was higher than average. Specifically, the S&P report determined that the average ROE for water utility base rate cases that have been completed during the first four months of 2022 was 9.63% and for the twelve months ended April 30, 2022 was 9.53%, each of which were well below the 10.00% ROE authorized by the Commission for Aqua. This demonstrates the unreasonable skewing of results associated with using the CAPM as a ceiling for determining a utility's ROE.

In the Columbia Water order, the Commission noted that I&E's DCF and CAPM produced a range of reasonableness for the ROE from 7.84% to 11.09% and approved an ROE of 9.75% as reasonable and appropriate for that company, which is based upon consideration of a variety of factors such as increasing inflation leading to increases in interest rates and capital costs.[13] I respectfully disagree with the Commission's basis (current inflation and interest rates) for determining Columbia Water's ROE of 9.75%. I have presented and discussed below the forecasted lower-level inflation rates, and the Federal Reserve's

[11] PA Public Utility Commission, Bureau of Technical Utility Services Report on the Quarterly Earnings of Jurisdictional Utilities for the Year Ended June 30, 2023, approved at Public Meeting on October 19, 2023 at Docket No. M-2023-3042679.

[12] PA Public Utility Commission, Bureau of Technical Utility Services Report on the Quarterly Earnings of Jurisdictional Utilities for the Year Ended December 31, 2023, approved at Public Meeting on May 9, 2024 at Docket No. M-2024-3048688.

[13] *Pa. PUC v. Columbia Water Company,* Docket Nos. R-2023-3040258, pp. 108-109 (Order entered January 18, 2024).

intention to cut interest rates in 2024-2025, which would have the effect of reducing potential inflation and interest rate risks in the capital costs in 2025, when PECO's new rates will be in effect.

Additionally, as I explained above, the CAPM should not be used as a primary method, and it should only be used as a comparison (not as a check) of the DCF. Also, as demonstrated below, the use of the CAPM in this proceeding would result in a significant burden to ratepayers. Therefore, I disagree with providing the CAPM comparable weight to the DCF method.

Q. PLEASE COMMENT ON CURRENT INFLATION AND INTEREST RATE CONCERNS.

A. First, I cannot dispute the current economic conditions with respect to increased interest rates and government bond yields, however, it is important to note that all companies, including regulated utilities, are impacted by high interest rates. Per the latest news article,[14] Fed Reserve officials now expected to lower the interest rates more rapidly next year, to make four rate cuts in 2025, up from three previously. Considering Chairman Powell's indication, it is most likely that the Federal Reserve will consider a series of interest rate cuts in 2025, which covers PECO's FPFTY when the new rates will be in effect.

[14] Fed Meeting Live Updates: Powell Speaks on Rates and Inflation Report - The New York Times (nytimes.com) (accessed on June 12, 2024).

Per the most recent monthly Blue Chip Financial Forecasts (May 31, 2024),[15] the 2024-2025 inflation rates by two measures are forecasted to be slightly over 2% as shown in the table below:

	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025
Consumer Price Index	3.5%	2.7%	2.5%	2.4%	2.4%	2.4%
PCE Price Index	2.9%	2.3%	2.2%	2.3%	2.2%	2.2%

The Federal Reserve's commitment to an interest rate cut would have the effect of reducing potential inflation and interest rate risks in the capital costs during 2025, when PECO's new rates will be in effect. Lastly, it is important to note that unlike unregulated companies, public utilities may file rate cases to address unforeseen or increased expenses and/or revenue shortfalls due to changes in market conditions.

As discussed above, I reiterate that the current inflationary and economic trends are most certainly reflected in DCF results because it uses the stock's price and projected dividend rate, which are used in determining the forecasted dividend yield, and the forecasted five-year earnings growth rates of independent professional analysts. Therefore, the DCF with the most up-to-date projected information is the superior forward-looking method for determining the rate of return for the current economic market.

[15] Blue Chip Financial Forecasts, Vol. 43, No. 6, May 31, 2024, p. 2.

SUMMARY OF THE COMPANY'S RESULTS

Q. WHAT ARE THE RESULTS OF THE COMPANY'S COST OF EQUITY ANALYSES?

A. Mr. Moul employed the DCF, CAPM, RP, and CE methods in analyzing the Company's cost of equity. He adjusts his analysis results, which includes consideration of a financial risk leverage adjustment to DCF results and use of an inflated beta in the CAPM analysis (PECO Exhibit PRM-1, Schedule 1, p. 2). Ultimately, Mr. Moul opines that a cost of equity of 10.95% including an increment/adder of 0.15% for exemplary management performance is warranted due to PECO's risk relative to the Electric Group companies (PECO Statement No. 5, p. 51, line 19 through p. 52, line 2).

I&E RECOMMENDATION

Q. WHAT IS YOUR RECOMMENDED COST OF COMMON EQUITY FOR PECO?

A. Based upon my analysis, I recommend a cost of common equity of 9.91% (I&E Exhibit No. 2, Schedule 1).

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on the use of a forward-looking DCF method. As explained above, I used my CAPM result only to present to the Commission a comparison to my DCF results. My DCF analysis uses the proxy group

companies' spot dividend yield, a 52-week dividend yield, and an average of five-year earnings growth forecasts rather than Mr. Moul relying on an adjusted dividend yield of a six-month period and an arbitrarily determined growth rate of 6.00% from the analysts' forecasted range of 5.28% to 7.18% (PECO Statement No. 5, p. 33, lines 8-12 and PECO Exhibit PRM-1, Schedule 9).

DISCOUNTED CASH FLOW

Q. PLEASE EXPLAIN YOUR DCF ANALYSIS.

A. My analysis employs the constant growth DCF model as portrayed in the following formula:

$$K = D_1/P_0 + g$$

Where:

K	=	Cost of equity
D_1	=	Dividend expected during the year
P_0	=	Current price of the stock
g	=	Expected growth rate

When a forecast of D_1 is not available, D_0 (the current dividend) must be adjusted by one half of the expected growth rate to account for changes in the dividend paid in period one. As forecasts for each company in my barometer group were available from Value Line, no dividends were adjusted for the purpose of my analysis.

Q. PLEASE EXPLAIN HOW YOU DEVELOPED THE DIVIDEND YIELDS USED IN YOUR DCF ANALYSIS.

A. A representative dividend yield must be calculated over a time frame that avoids the problems of both short-term anomalies and stale data series. For my DCF analysis, the dividend yield calculation places equal emphasis on the most recent spot and the 52-week average dividend yields. The following table summarizes my dividend yield computations for the proxy group (I&E Exhibit No. 2, Schedule 4):

Proxy Group - Average Dividend Yields	
(a) Spot Dividend Yield	4.14%
(b) 52-week Average Dividend Yield	4.38%
(c) Average ((a +b) ÷ 2)	4.26%

Q. WHAT INFORMATION DID YOU RELY UPON TO DETERMINE YOUR EXPECTED GROWTH RATE?

A. I have used five-year projected growth rate estimates from Value Line, Yahoo! Finance, and Zacks.

Q. WHAT WERE THE RESULTS OF YOUR FORECASTED EARNINGS GROWTH RATES?

A. The expected average growth rates for the sixteen-company proxy group ranged

from 3.30% to 9.25% with an overall average growth rate of 5.65%. To determine the growth estimate, I eliminated an unreasonably high Yahoo! Finance projected growth rate of 19.50% for Dominion Energy, Inc. and calculated a modified average growth rate of 5.65% (I&E Exhibit No. 2, Schedule 5). It is important to note that I have used Zacks and Value Line growth rates of 5.40% and 3.00% respectively for Dominion Energy in my calculation of the average growth rate.

Q. EXPLAIN WHY YOU ELIMINATED YAHOO! FINANCE GROWTH RATE PROJECTION FOR DOMINION ENERGY.

A. While I believe that the use of a proxy group largely smooths out various anomalies, I feel that Yahoo! Finance growth projection of 19.50% for Dominion Energy was largely inconsistent with the Zacks and Value Line growth rates of 5.40% and 3.00% respectively. This would have an unnecessary and unwarranted negative impact on my DCF analysis and would adversely affect my recommendation for the Company's cost of common equity. It is pertinent to note that Mr. Moul used Zack's and Value Line, growth projections of 4.00% and 0.50% respectively, and eliminated the I/B/E/S First Call projected negative growth rate for Dominion Entergy in his growth rate calculation (PECO Exhibit PRM-1, Schedule 9).

Q. WHAT IS THE RESULT OF YOUR DCF ANALYSIS BASED ON YOUR RECOMMENDED DIVIDEND YIELD AND GROWTH RATE?

A. The results of my DCF analysis are calculated as follows (I&E Exhibit No. 2, Schedule 6):

K	$=$	D_1/P_0	$+$	g
9.91%	=	4.26%	+	5.65%

CAPITAL ASSET PRICING MODEL

Q. PLEASE EXPLAIN YOUR CAPM ANALYSIS.

A. My analysis employs the standard CAPM as portrayed in the following formula:

$$K = R_f + \beta (R_m - R_f)$$

Where:

K = Cost of equity

R_f = Risk-free rate of return

R_m = Expected rate of return on the overall stock market

β = Beta measures the systematic risk of an asset

Q. WHAT IS BETA AS EMPLOYED IN YOUR CAPM ANALYSIS?

A. Beta is a measure of the systematic risk of a stock in relation to the rest of the stock market. A stock's beta is estimated by calculating the linear regression of a

stock's return against the return on the overall stock market. The beta of a stock with a price pattern identical to that of the overall stock market will equal one. A stock with a price movement that is greater than the overall stock market will have a beta that is greater than one and would be described as having more investment risk than the market. Conversely, a stock with a price movement that is less than the overall stock market will have a beta of less than one and would be described as having less investment risk than the market.

Q. WHAT BETA DID YOU CHOOSE FOR YOUR CAPM ANALYSIS?

A. In estimating an equity cost rate for my proxy group, I used the average of the betas for the companies as provided in the Value Line Investment Survey. The average beta for my proxy group is 0.91 (I&E Exhibit No. 2, Schedule 7).

Q. WHAT RISK-FREE RATE OF RETURN HAVE YOU CHOSEN FOR YOUR FORECASTED CAPM ANALYSIS?

A. I have chosen to use the risk-free rate of return (R_f) from the projected yield on 10-year Treasury Notes. While the yield on the short-term T-Bill is a more theoretically correct parameter to represent a risk-free rate of return, it can be extremely volatile. The volatility of short-term T-Bills is directly influenced by Federal Reserve policy. At the other extreme, the 30-year Treasury Bond exhibits more stability but is not risk-free. Long-term Treasury Bonds have substantial maturity risk associated with market risk and the risk of unexpected inflation.

Long-term treasuries normally offer higher yields to compensate investors for these risks. As a result, I chose to use the yield on the 10-year Treasury Note because it mitigates the shortcomings of the other two alternatives. Additionally, the Commission has historically agreed with I&E and recognized the 10-year Treasury Note as the superior measure of the risk-free rate of return.[16]

The forecasted yield on the 10-year Treasury Note, as seen in Blue Chip Financial Forecasts, is expected to range between 3.90% and 4.30% from the third quarter of 2024 through the third quarter of 2025, and it is forecasted to be an average of 3.90% for the 5-year period (2025-2029). For my forecasted CAPM analysis, I chose 4.07%, which is the average of all the yield forecasts I observed (I&E Exhibit No. 2, Schedule 8).

Q. HOW DID YOU DETERMINE THE RETURN ON THE OVERALL STOCK MARKET EMPLOYED IN YOUR FORECASTED CAPM ANALYSIS?

A. To arrive at an estimated return on the overall stock market, I observed Value Line's 1700 stocks and the S&P 500 market returns. Value Line expects its universe of approximately 1700 stocks to have an average yearly return of 11.83% over the next three to five years, based on a forecasted dividend yield of 2.10%

[16] *Pa. PUC v. UGI Utilities, Inc. – Electric Division;* Docket No. R-2017-2640058 (Order Entered October 25, 2018). *See generally* Disposition of Capital Asset Pricing Model (CAPM), p. 99; *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket Nos. R-2021-3027385 & R-2021-3027386, p. 154 (Order entered May 16, 2022); *Pa. PUC v. Columbia Water Company*; Docket No. R-2023-3040258 (Order Entered January 18, 2024). See generally Disposition of Cost of Common Equity, pp. 107-108.

and a yearly index appreciation of 45% (I&E Exhibit No. 2, Schedule 10). The S&P 500 Index is expected to have an average yearly return of 12.16% over the past 98 years (1926-2023) and the trendline for the returns over the past 98 years has been relatively flat (I&E Exhibit No. 2, Schedule 9). I have averaged these two figures (11.83% and 12.16%), which results in an estimated market return of 12.00% (I&E Exhibit No. 2, Schedule 10).

Q. WHAT IS THE COST OF EQUITY RESULT FROM YOUR CAPM ANALYSIS?

A. The result of my CAPM analysis is 11.29% as shown in the formula below (I&E Exhibit No. 2, Schedule 11):

K	$=$	R_f	$+$	$\beta(R_m - R_f)$
11.29%	$=$	4.07%	$+$	0.91 (12.00% - 4.07%)

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS REGARDING YOUR CAPM ANALYSIS?

A. Yes. As discussed earlier in my testimony, my recommended cost of equity is based upon my DCF analysis. I only present a CAPM analysis to the Commission as a comparison and not for recommendation purposes as the inputs are highly subjective, and other than beta, not company or industry specific.

Q. IS IT NECESSARY TO APPLY THE CAPM WITH SIMILAR WEIGHT TO THE DCF WHEN DETERMINING A SPECIFIC RETURN ON EQUITY DUE TO RECENT INFLATIONARY TRENDS?

A. No. My use of the DCF as a primary method in determining an appropriate return on equity already sufficiently takes inflationary trends into consideration. As mentioned above, the DCF includes a spot stock price in the dividend yield calculation and analysts who generate forecasted earnings growth almost certainly take inflation into consideration as well, so it contains the most up-to-date projected information of any model. In other words, the inputs of the DCF capture all known economic factors, including inflation.

Q. DID YOU QUANTIFY THE NUMBER OF BASIS POINTS DIFFERENCE BETWEEN YOUR DCF AND CAPM RESULTS TO ILLUSTRATE THE FINANCIAL IMPACT BETWEEN USING EACH MODEL?

A. Yes. The difference between my DCF and CAPM analysis is 138 basis points (CAPM result of 11.29% - DCF result of 9.91% = 1.38% difference). As demonstrated below, relying on the results of the CAPM is unnecessary and creates undue hardship for PECO's ratepayers.

Q. BASED ON THE COMPANY'S FILED RATE BASE AND CLAIMED CAPITAL STRUCTURE, WHAT IS THE VALUE OF AN ADDITIONAL 138 BASIS POINTS TO THE COST OF EQUITY BASED ON THE DIFFERENCE IN RESULTS BETWEEN YOUR CAPM ANALYSIS (11.29%) AND YOUR DCF ANALYSIS (9.91%)?

A. The example below illustrates the impact of 138 additional basis points to the Company's cost of equity if the results of my CAPM analysis, rather than my DCF results were applied to the Company's total filed rate base and claimed capital structure:

PECO's Claimed Equity Percentage of Capital Structure*	53.40%
Difference in Return on Equity between I&E's CAPM and DCF Analysis (11.29% – 9.91% = 1.38%)	1.38%
Claimed Rate Base**	$8,855,637,000
Impact Prior to Gross Up (0.5340 x 0.0138 x $8,855,637,000)	$65,258,960
Gross Revenue Conversion Factor***	1.476236
Total Impact to Ratepayers ($65,258,960 x 1.476236)	**$96,337,626**

*PECO Exhibit PRM-1, Schedule 1, p. 1.
**PECO Exhibit MJT-1, Schedule A-1, and Schedule C-1.
**PECO Exhibit MJT-1, Schedule D-19.

In this example, an addition of 138 basis points to the cost of equity would burden ratepayers to fund an additional amount of $96,337,626 annually to cover the increase of the inflated rate of return along with the associated impact resulting from increases to income taxes, uncollectibles, and assessments.

Q. DOES THE DEMONSTRATED FINANCIAL IMPACT THAT RATEPAYERS WOULD BEAR TO FUND AN ADDITIONAL $96,337,626 ANNUALLY DEMONSTRATE THAT IT IS INAPPROPRIATE TO USE THE CAPM TO ESTABLISH A "ZONE OF REASONABLENESS" IN THIS PROCEEDING?

A. Yes. In my opinion it is inappropriate to use the CAPM as the top end of a range in this proceeding as was done by the Commission in the most recent Aqua and Columbia Water base rate proceedings for determining an ROE. In this instance, the $96,337,626 additional revenue impact is 20.72% of PECO's total revenue increase request of $465,038,000. This would result in an unwarranted and inappropriate additional burden on PECO's ratepayers. In my opinion, and as demonstrated by my analysis, any amount granted above my DCF results (9.91% based on my recommendation) is not justified and places an inappropriate and vast burden on ratepayers.

CRITIQUE OF MR. MOUL'S PROPOSED COST OF EQUITY

Q. DO YOU AGREE WITH MR. MOUL'S CLAIMED COST OF EQUITY?

A. No. I disagree with Mr. Moul's proposed cost of equity for several reasons. First, I disagree with the weights given to the results of Mr. Moul's CAPM, RP, and CE analyses in his claimed cost of equity. Second, I take issue with certain aspects of Mr. Moul's risk analysis of PECO. Third, I disagree with his application of the DCF including the forecasted growth rate and leverage adjustment he uses.

Fourth, I disagree with his use of the 30-year Treasury Bond in place of the 10-year Treasury Note and his use of an inflated/adjusted beta in the CAPM analysis. Finally, I disagree with Mr. Moul's recommendation to include an adjustment to the cost of equity for the recognition of exemplary management performance.

WEIGHTS GIVEN TO THE CAPM, RP, AND CE METHODS

Q. DO YOU AGREE WITH MR. MOUL'S RELIANCE ON THE CAPM AND RP MODELS?

A. No. While I am not opposed to providing the Commission the results of the CAPM methodology for a point of comparison to the results of the DCF calculation, I am opposed to giving the CAPM and RP considerable weight. For the reasons previously discussed in this testimony, including my reference to recent Commission orders, it is inappropriate to give the CAPM, RP, and CE models similar weight to the DCF as Mr. Moul has done in creating his recommended cost of equity. As discussed above, the CAPM measures the cost of equity indirectly and can be manipulated by the time period chosen. Since the RP is a simplified version of the CAPM, it suffers these same flaws.

Q. DO YOU AGREE WITH MR. MOUL'S USE OF THE CE METHOD?

A. No. The companies in Mr. Moul's analysis are not utilities, and therefore, they are too dissimilar to be used in a CE analysis. The companies in Mr. Moul's CE proxy group are comprised of unregulated industries like Chemicals, Retail Stores,

Financial Services, Telecom, Food, IT Services, Industrials, Machinery, Trucking, Diversified Business, Banking, Petroleum, Aerospace/Defense, Railroad, etc. (PECO Exhibit PRM-1, Schedule 14, pp. 1-2). These non-utility companies with unrelated or entirely dissimilar business segments are simply not comparable to electric distribution utilities in terms of the business risk and financial risk profiles. Electric distribution utilities are monopolies, which are subject to very little competition, if any at all. Due to this minimal competition, utilities in general have very low business risk and can maintain higher financial risk profiles by employing more leverage. Conversely, since the companies in Mr. Moul's CE proxy group operate in an unregulated competitive environment with a higher level of business risk, they must maintain lower financial risk profiles by employing a smaller amount of leverage.

Further, in his CE analysis, Mr. Moul states, "I used 20% as the point where those returns could be viewed as highly profitable and should be excluded from the Comparable Earnings approach" (PECO Statement No. 5, p. 51, lines 9-11). I do not believe this arbitrary use of 20% is justified, as I am unaware of any electric utility company that has been awarded or regularly earns a 20% return.

RISK ANALYSIS

Q. PLEASE SUMMARIZE MR. MOUL'S CLAIMS REGARDING RISK FACTORS THE COMPANY FACES.

A. Mr. Moul describes PECO's claimed risk factors in two different sub-sections. In

the first section, labeled "Electric Utility Risk Factors," he describes the *qualitative* risk factors. In this section, Mr. Moul largely discusses the potential for bypass risk with technological advances in micro-turbines, potential commercialization of fuel cells, development of wind and solar power, creation of micro-grids, and the cost of replacing aging infrastructure (PECO Statement No. 5, p. 9 line 3 through p. 11, line 10). In the second section of his risk analysis, labeled "Fundamental Risk Analysis," he describes the *quantitative* risk factors. In this section, Mr. Moul discusses PECO's credit quality, as well as many different financial metrics including size, market ratios, common equity ratios, return on book equity, operating ratios, fixed coverage, quality of earnings, internally generated funds (IGF), and betas relative to the S&P Public Utilities and his Electric Group (PECO Statement No. 5, p. 13, line 12 through p. 17, line 22).

Q. WHAT IS MR. MOUL CLAIMING REGARDING THE POTENTIAL RISK OF BYPASS?

A. Mr. Moul opines that the development of distributed generation and local alternative energy sources has the potential to displace delivery revenue for PECO due to technological advances in micro-turbines, potential commercialization of fuel cells, development of wind and solar power, and the creation of micro-grids (PECO Statement No. 5, p. 9, lines 4-7).

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S CLAIMED BUSINESS RISKS INCLUDING POTENTIAL BYPASS RISK FOR PECO?

A. Most companies in the electric utility sector face similar potential risk of bypass or competition with other suppliers and alternative energy sources and it is reasonable to assume that PECO's risk is no greater than any other company in Mr. Moul's or my proxy group. In response to I&E-RR-5-D, Mr. Moul concedes that all members of his Electric Group are subject to these factors and are susceptible to competition and alternative energy sources or bypass risks to some degree (I&E Exhibit No. 2, Schedule 12). Additionally, there is no support to Mr. Moul's claim for the potential distribution revenue loss associated with a customer count reduction due to bypass or competition with other suppliers and alternative energy sources.

Q. WHAT CLAIM DOES MR. MOUL MAKE REGARDING ADDITIONAL RISK DUE TO THE COMPANY'S CONSTRUCTION PROGRAM COST FOR THE AGING INFRASTRUCTURE?

A. Mr. Moul states that the cost to replace aging infrastructure also adds to the risk of electric delivery utilities, because these expenditures increase costs without any concomitant increase in revenues, except through regulatory approved rate increases, such as the Distribution System Improvement Charge (DSIC) (PECO Statement No. 5, p. 9, lines 13-16).

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S CLAIM REGARDING THE COMPANY'S CONSTRUCTION PROGRAM TO UPGRADE THE EXISTING INFRASTRUCTURE AND TO MEET GROWTH?

A. Every electric utility faces the same issues of upgrading or replacing infrastructure. As costs for replacing infrastructure increase, PECO, as well as all regulated utilities in the proxy group, has the option to file a base rate case at any time to address revenue inadequacy due to increasing costs, infrastructure replacement, or any associated issues. Base rate cases allow a utility to recover its costs and provide it the *opportunity* to earn a reasonable return on capital investments. The Commission also offers risk reducing mechanisms such as the DSIC and the FPFTY to help reduce any lag in recovery of infrastructure investment or other unforeseen expenditures. It is worth mentioning that these mechanisms were not designed to eliminate the need for base rate cases, but only to mitigate regulatory lag and support increasing infrastructure replacement needs.

Q. PLEASE DISCUSS THE CLAIMS MR. MOUL MAKES REGARDING QUANTITATIVE RISK FACTORS DESCRIBED IN THE "FUNDAMENTAL RISK ANALYSIS" SECTION.

A. Mr. Moul states that it is necessary to establish a company's relative risk position within its industry through an analysis of quantitative and qualitative factors. In this section, Mr. Moul uses various financial metrics to compare PECO to the S&P

Public Utilities, an industry-wide proxy consisting of various public utility operations, and his Electric Group (PECO Statement No. 5, p. 12, lines 8-14).

Q. WHAT ARE YOUR COMMENTS REGARDING MR. MOUL'S "FUNDAMENTAL RISK ANALYSIS?"

A. Throughout Mr. Moul's "fundamental risk analysis," he makes several statements to indicate that PECO has no more of a risk than any other company in his Electric Group. First, Mr. Moul acknowledges that the Company's credit ratings for long-term debts are BBB+ from Standard and Poor's and A2 from Moody's Investors Service, both of which signify a low credit risk and a strong capacity to meet financial obligations. Further, he states, "The Company's credit quality is similar to that of the Electric Group, which has an average A2 and BBB+ credit rating from Moody's and S&P, respectively" (PECO Statement No. 5, p. 13, lines 14-21).

Second, he acknowledges that the five-year average price-earnings multiple was similar for the Electric Group and the S&P Public Utilities. The five-year average dividend yield for the Electric Group was somewhat higher than the S&P Public Utilities. The average market-to-book ratios were somewhat lower for the Electric Group than the S&P Public Utilities (PECO Statement No. 5, p. 14, line 20 through p. 15, line 2).

Third, while discussing common equity ratios, Mr. Moul states, "The five-year average common equity ratios, based on permanent capital based on book value, were 53.8% for PECO, 45.1% for the Electric Group, and 40.5% for the

S&P Public Utilities. This shows that the financial risk of PECO historically has been somewhat less than that of the Electric Group" (PECO Statement No. 5, p. 15, lines 10-13).

Fourth, regarding operating ratios, Mr. Moul states, "the five-year average operating ratios were 79.8%, 80.8%, and 81.0% for PECO, the Electric Group, and S&P Public Utilities respectively. The operating ratio for PECO was similar to the Electric Group and the S&P Public Utilities" (PECO Statement No. 5, p. 16, lines 6-8).

Fifth, regarding interest coverage, Mr. Moul states that the five-year average pre-tax interest coverage were 4.35 times for PECO, 3.02 times for the Electric Group, and 2.94 times for the S&P Public Utilities. He admits that "the higher interest coverage for PECO suggests lower credit risk" (PECO Statement No. 5, p. 16, lines 13-16).

Sixth, regarding quality of earnings, Mr. Moul opines, "quality of earnings has not been a significant concern for PECO, the Electric Group, and the S&P Public Utilities" (PECO Statement No. 5, p. 16, lines 20-22).

Seventh, regarding the market risk (systematic risk) for firms measured by beta coefficient, Mr. Moul admits that "the market risk was similar for the Electric Group and the S&P Public Utilities as shown by the Value Line average beta of 0.88 for the Electric Group and the average beta of 0.90 for the S&P Public Utilities" (PECO Statement No. 5, p. 17, lines 10-14).

Finally, in his risk evaluation summary, Mr. Moul states, "On balance, the cost of equity for the Electric Group would fairly represent the Company's cost of equity for this case" (PECO Statement No. 5, p. 17, lines 21-22). I believe that through his own analysis and testimony, Mr. Moul proves that PECO has very similar investment risks to that of his Electric Group, and therefore, any additional consideration for a higher growth rate and risk leverage adjustment to the DCF results and the use of inflated beta in the CAPM analysis for the PECO's risk profile is unjustified and unnecessary.

COST OF EQUITY ADJUSTMENTS

GROWTH RATE USED IN DCF ANALYSIS

Q. WHAT GROWTH RATE HAS MR. MOUL USED IN HIS DCF ANALYSIS?

A. Mr. Moul has chosen a growth rate of 6.00% (PECO Statement No. 5, p. 33, lines 11-12).

Q. WHAT IS THE BASIS FOR MR. MOUL'S GROWTH RATE?

A. Mr. Moul states, "Schedule 9 shows the prospective five-year earnings per share growth rates projected for the Electric Group by IBES/First Call (7.18%), Zacks (5.28%), and Value Line (5.33%) (PECO Statement No. 5, p. 32, lines 10-12). Although the average of his sources for the growth rate is 5.93% (7.18% + 5.28% + 5.33%) ÷ 3), Mr. Moul chooses to use 6.00% claiming that DCF growth rates

should not be established by mathematical formulation and that the reasonableness of his chosen growth rate is supported by the investor-expected growth for the Electric Group and the expected continuation of infrastructure spending (PECO Statement No. 5, p. 33, lines 9-15).

Q. DO YOU AGREE WITH MR. MOUL'S GROWTH RATE ANALYSIS?

A. No. Contrary to Mr. Moul's belief that DCF growth rates *should not* be established by mathematical formulation, I feel that any alternative would be subjective and introduce additional and unnecessary bias and should be avoided when possible. While I do agree with Mr. Moul's removal of negative growth rates as discussed in my own DCF analysis, the use of a higher growth rate than the average of his proxy group ignores the fact that analysts making earnings per share growth forecasts would already be aware of the economic conditions and the state of the electric utility industry. The reasons Mr. Moul has given for choosing a 6.00% rate are factors that are already included in the earnings per share growth forecasts and the future infrastructure spending; thus, choosing a growth rate higher than the average of his proxy group would account for the same factors twice. Mr. Moul confirms in his response to I&E-RR-14-D that the growth rates published by IBES/FirstCall, Zacks, and Value Line are assumed to consider all factors that they believe impact future growth, which for the Electric Group would include growth associated with infrastructure spending (I&E Exhibit No. 2, Schedule 13, pp. 1-2).

Additionally, I disagree with Mr. Moul's inclusion of the I/B/E/S First call growth rate forecast of 17.21% for the PPL Corporation (PPL) when Zacks and Value Line growth forecasts are 7.40% and 8.00% respectively (PECO Exhibit PRM-1, Schedule 9). In fact, most recently PPL reaffirmed its projection of 6% to 8% annual earnings and dividend growth rate through at least 2027 based on the midpoint of its 2024 ongoing earnings forecast range.[17]

Mr. Moul's average growth rate of I/B/E/S First call for the Electric Group after replacing PPL's extraordinary growth rate forecast of 17.21% with the realistic growth rate estimate of 7.00% ((6% + 8%) ÷ 2) would result in 5.90% in contrast to 7.18%, which would be in line with the average growth rates of 5.28% and 5.33% of Zacks and Value Line forecasts respectively. Using the modified I/B/E/S First call (5.90%), Zacks (5.28%), and Value Line (5.33%) average growth rates, Mr. Moul's Electric Group modified growth rate range would be 5.33% - 5.90% and the average growth rate would be 5.50% rather than his claimed growth rate of 6.00%.

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS REGARDING THE RESULTS OF MR. MOUL'S PROJECTED GROWTH RATES?

A. Yes. While the five-year projected growth rates can be used in analyses, one must be aware that analysts' estimates may be biased. This bias has been observed in

[17] PPL Corporation reports first-quarter 2024 earnings - May 1, 2024 (pplweb.com) (accessed on May 2, 2024).

literature. An article authored by Professors Ciciretti, Dwyer, and Hasan in 2009 observed strong support of earnings forecast being higher than actual earnings.[18] In spring of 2010, McKinsey on Finance presented an article reporting that after a decade of stricter regulation analysts' forecasts are still overly optimistic.[19]

Analysts' estimates are an attempt to forecast future cash flows and thus expected earnings growth. However, it should be kept in mind that prudent judgment must be exercised as to the sustainability of forecasted growth rates with respect to the base earnings. If the base year earnings are abnormally high, the growth rates from which they are calculated will be biased downward. Similarly, if the base year earnings are abnormally low, the growth rates from which they are calculated will be biased upward. As a result, it is typically necessary to employ a methodology to smooth out the abnormally high or low base year earnings.

In summary, since analysts' projected growth forecasts are most often overly optimistic, there is no need to arbitrarily and non-formulaically increase the estimates over the average growth value as is done by Mr. Moul in his DCF analysis.

[18] Ciciretti, Rocco; Dwyer, Gerald R; and Iftekhan Hasan. "Investment Analysts' Forecasts of Earnings" Federal Reserve Bank of St. Louis *Review*, September/October 2009, 91 (5, part 2) pp. 545-67.

[19] Goedhart, Marc J; Raj, Rishi; and Abhishek Saxena. "Equity analyst: Still too bullish" McKinsey on Finance Number 35 Spring 2010, pp. 14-17.

LEVERAGE ADJUSTMENT APPLIED TO DCF ANALYSIS

Q. HAS MR. MOUL MADE ANY ADDITIONAL ADJUSTMENTS TO THE RESULT OF HIS DCF ANALYSIS?

A. Yes. Mr. Moul proposes to make a 138-basis point (1.38%) "leverage" adjustment to the results of his DCF analysis to account for applying a market-determined cost of equity to a book value capital structure (PECO Statement No. 5, p. 38, lines 2-4).

Q. WHAT IS FINANCIAL LEVERAGE?

A. Financial leverage is the use of debt capital to supplement equity capital. A firm with significantly more debt than equity is considered to be highly leveraged.

Q. WHAT IS A MARKET-TO-BOOK (M/B) RATIO?

A. A market-to-book ratio is used to evaluate a public firm's equity value by comparing the market value and book value of a company's equity. One way of doing this is to divide the current price per share of stock by the book value per share. A M/B ratio of above one (1) is desired.

Q. HAS MR. MOUL PROPOSED TO ADJUST THE RESULT OF HIS DCF ANALYSIS TO RECOGNIZE HOW THE COMPANY IS LEVERAGED?

A. No. Mr. Moul does not propose to change the capital structure of the utility (a leverage adjustment), nor does he propose to apply the market-to-book ratio to the

DCF model (a market-to-book adjustment). Instead, Mr. Moul proposes to make an adjustment to account for applying the market value cost rate of equity to the book value of the utility's equity. I am not aware of any term in academic journals, textbooks, or other literature that describes this type of adjustment.

Q. WHAT IS THE BASIS FOR MR. MOUL'S PROPOSED LEVERAGE ADJUSTMENT?

A. As stated above, Mr. Moul theorizes that to make the DCF results relevant to the capitalization measured at book value, the market-derived cost rate must be adjusted to account for this difference in financial risk (PECO Statement No. 5, p. 34, lines 17-19). Mr. Moul opines that such financial risk difference arises because a market-valued capitalization contains more equity and less debt than a book-value capitalization, and therefore, has less risk than the book-value capitalization (PECO Statement No. 5, p. 34, lines 11-13).

Q. HOW DOES MR. MOUL CALCULATE THE LEVERAGE ADJUSTMENT USED IN HIS ANALYSIS?

A. Mr. Moul simply states:

> What I label a "leverage adjustment" is merely a convenient way of showing the amount that must be added to (or subtracted from) the result of the simple DCF model (i.e., D/P + g) when the DCF return applies to a capital structure used for ratemaking that is computed with book-value weighting rather than market-value weighting (PECO Statement No. 5, p. 37, lines 6-10).

> I know of no means to mathematically solve for the 1.38% leverage adjustment by expressing it in the terms of any particular relationship of market price to book value. The 1.38% adjustment is merely a convenient way to compare the 11.78% return computed using the Modigliani & Miller formulas to the 10.40% return generated by the DCF model based on a market-value capital structure (PECO Statement No. 5, p. 38, lines 4-10).

Q. DO YOU AGREE WITH MR. MOUL'S "LEVERAGE ADJUSTMENT?"

A. No. Mr. Moul's adjustment is inappropriate for a couple of reasons, including the characterization of financial risk and its inconsistency with Commission precedent.

Q. PLEASE EXPLAIN HOW RATING AGENCIES ASSESS FINANCIAL RISK.

A. Rating agencies assess financial risk based upon a company's booked debt obligations and the ability of its cash flow to cover the interest payments on those obligations. The agencies use a company's financial statements for their analysis, not the market valued capital structure. The income statement reflects the financial risk of a company because it represents the performance of the company over a certain period of time. A change in the market value of the stock is not reflected in the income statement nor is a change in market value capital structure reflected in the book value capital structure unless treasury stock is purchased. It is a company's financial statements that affect the market value of the stock, and therefore, the financial statements and the book value capital structure are relied

upon in an analysis such as that done by rating agencies. Additionally, investors are aware of the difference in the return on book value and market value of a stock while making the investment decision.

Q. WHAT ARE THE MOST RECENT COMMISSION DECISIONS REGARDING A LEVERAGE ADJUSTMENT?

A. The following cases are recent instances where the Commission has addressed the use of a "leverage adjustment." In these cases, the leverage adjustment has been rejected.

First, in *Pennsylvania Public Utility Commission v. Aqua Pennsylvania, Inc.*, at Docket No. R-00072711 (Order Entered July 31, 2008), pp. 38-39, the Commission rejected the ALJ's recommendation for a leverage adjustment stating, "[t]he fact that we have granted leverage adjustments in the past does not mean that such adjustments are indicated in all cases." In this proceeding, the Commission determined that there was no viable support for an upwards adjustment to compensate for any perceived risk.

Second, in *Pennsylvania Public Utility Commission, et al v. City of Lancaster – Bureau of Water*, at Docket No. R-2010-2179103 (Order Entered July 14, 2011), p. 101, the Commission agreed with the I&E position and stated, "any adjustment to the results of the market based DCF are unnecessary and will harm ratepayers. Consistent with our determination in *Aqua 2008,* there is no need to add a leverage adjustment…"

Third, in *Pennsylvania Public Utility Commission, et al v. UGI Utilities, Inc. – Electric Division*, at Docket No. R-2017-2640058 (Order Entered October 25, 2018), pp. 93-94, the Commission agreed with the I&E position and stated, "we conclude that an artificial adjustment in this proceeding is unnecessary and contrary to the public interest. Accordingly, we decline to include a leverage adjustment in our calculation of the DCF cost of equity."

Fourth, in *Pennsylvania Public Utility Commission, et. al v. Columbia Gas of Pennsylvania, Inc*., at Docket No. R-2020-3018835 (Order Entered February 19, 2021), pp. 137-141, the Commission adopted the ALJ's recommendation to use I&E's DCF methodology, which excluded Columbia's application of a leverage adjustment.

Fifth, in *Pennsylvania Public Utility Commission, et. al v. PECO Energy Company – Gas Division*, at Docket No. R-2020-3018929 (Order Entered June 22, 2021, Public Version), pp. 172-173, the Commission adopted the ALJ's recommendation to use I&E's DCF methodology, which excluded PECO's application of a leverage adjustment.

Finally, in the most recent case of *Pennsylvania Public Utility Commission, et. al v. Aqua Pennsylvania, Inc.*, at Docket No. R-2021-3027385 (Order Entered June 22, 2021), pp. 154-155, the Commission adopted the ALJ's recommendation to use I&E's DCF methodology, which excluded Aqua's application of a leverage adjustment.

Q. BASED ON THE COMPANY'S RATE BASE AND CAPITAL STRUCTURE CLAIMS, WHAT IS THE VALUE OF AN ADDITIONAL 138 BASIS POINTS FOR THE LEVERAGE ADJUSTMENT TO THE COST OF EQUITY?

A. The example below illustrates the impact of 138 additional basis points (1.38%) for the leverage adjustment to the Company's cost of equity:

PECO's Claimed Equity Percentage of Capital Structure*	53.40%
Financial Risk Leverage Adjustment to DCF Results	1.38%
Claimed Rate Base**	$8,855,637,000
Impact Prior to Gross Up (0.5340 x 0.0138 x $8,855,637,000)	$65,258,960
Gross Revenue Conversion Factor***	1.476236
Total Impact to Ratepayers ($65,258,960 x 1.476236)	**$96,337,626**

*PECO Exhibit PRM-1, Schedule 1, p. 1.
**PECO Exhibit MJT-1, Schedule A-1, and Schedule C-1.
**PECO Exhibit MJT-1, Schedule D-19.

In this example, an addition of 138 basis points for the leverage adjustment to the cost of equity would force ratepayers to fund an unwarranted additional amount of $96,337,626 to cover the increase of the inflated rate of return along with the associated impact resulting from increases to income taxes, gross receipts tax, uncollectibles, and assessments. This additional revenue recovery of $96,337,626 relating to leverage adjustment is 20.72% of PECO's total revenue increase request of $465,038,000 (PECO Exhibit MJT-1, Schedule A-1, p. 1), which

signifies exorbitant impact on ratepayers, if the Commission approves this adjustment in the cost of equity.

Q. SUMMARIZE YOUR RECOMMENDATION REGARDING THE LEVERAGE ADJUSTMENT.

A. I recommend that Mr. Moul's proposed 138-basis point leverage adjustment be rejected because true financial risk is a function of the amount of interest expense, and capital structure information provided to investors through Value Line is that of book values, not market values. This demonstrates that investors base their decisions on book value debt and equity ratios for the regulated utilities, therefore, no adjustment is needed. Mr. Moul's proposed adjustment serves only to manipulate the DCF's market-based methodology and causes substantial harm to ratepayers as illustrated above.

Q. DO YOU HAVE ANY FURTHER COMMENTS REGARDING MR. MOUL'S DCF CALCULATION?

A. Yes. While I am not directly disputing Mr. Moul's adjusted dividend yields, it is important to recognize that as cited above, the Commission has recently agreed with I&E's DCF methodology which includes the appropriate calculation of dividend yields. Although it is acceptable to adjust historical dividend yields as Mr. Moul has done, it is preferable to use forecasted dividends to calculate the

dividend yields when available, such as the ones offered by Value Line that I have employed.

Q. WHAT WOULD MR. MOUL'S DCF BE WITHOUT ANY ADJUSTMENTS?

A. Without the use of inflated growth rate and a leverage adjustment, Mr. Moul's DCF would consist of a dividend yield of 4.40% and an average modified growth rate of 5.50% as discussed above, his DCF result would be 9.90% as summarized below:

K	**=**	**D_1/P_0**	**+**	**g**	**+**	**Leverage Adj.**
9.90%	=	4.40%	+	5.50%	+	0%

Mr. Moul's modified DCF result of 9.90% is very close and comparable to my DCF result of 9.91% and is much more reasonable than his originally calculated and inappropriately inflated DCF result of 11.78% (Dividend Yield 4.40% + Growth Rate 6.00% + Leverage Adjustment 1.38%).

RISK-FREE RATE OF RETURN

Q. HOW HAS MR. MOUL CALCULATED HIS RISK-FREE RATE FOR USE IN HIS CAPM MODEL?

A. Mr. Moul's calculation of his risk-free rate is similar to mine. He considers Treasury yield estimates published by Blue Chip Financial Forecasts over the next six quarters, from the time of his analysis, as well as long-range, five-year averages. However, he used the 30-year Treasury Bond while I employed the 10-year Treasury Note. Also, where I used a long-range five-year average, future data point accounting for years 2025-29 predictions, Mr. Moul used two future data points accounting for not only years 2025-2029, but also included an estimate for years 2030-2034. He recommends using a 3.75% risk-free rate (PECO Statement No. 5, p. 47, lines 2-4), while I used 4.07% in my CAPM analysis (I&E Exhibit No. 2, Schedule 9).

Q. WHAT COMMENTS DO YOU HAVE REGARDING MR. MOUL'S CALCULATION OF THE RISK-FREE RATE?

A. Although Mr. Moul and I disagree on the method and inputs to determine the risk-free rate, I will not dispute his result since it is comparable to my risk-free rate. However, I must reiterate my earlier statements that long-term Treasury Bonds have substantial maturity risk associated with the market risk and the risk of unexpected inflation and normally offer higher yields to compensate investors for

these risks. Using the 10-year Treasury Note is more appropriate to balance the short-term volatility risk and the long-term inflation risk.

The Commission has recognized the 10-year Treasury Note as the superior measure for the risk-free rate by stating the following,[20]

> We agree with I&E and the ALJs that using the yield on the 10-year Treasury Note provides a better measure of the risk-free rate of return than using the yield on the 30-year Treasury Bond, as recommended by UGI. In our view, using the 10-year Treasury Note balances the shortcomings of the short-term T-Bill and the 30-year Treasury Bond. Although long-term Treasury Bonds have less risk of being influenced by federal policies, they have substantial maturity risk associated with the market risk. In addition, long-term Treasury Bonds bear the risk of unexpected inflation.

Additionally, the further out into the future one projects, the less reliable the information becomes. Using the projection for 2030-2034 is an unreliable measure and this should not be included in the risk-free rate. The Company's FPFTY ends December 31, 2025, and in my opinion using an estimated risk-free rate that is up to nine years beyond the FPFTY is unreasonable and unnecessary.

INFLATED BETAS USED IN CAPM ANALYSIS

Q. HOW HAS MR. MOUL INFLATED THE BETAS EMPLOYED IN HIS CAPM ANALYSIS?

A. Mr. Moul uses the same logic for inflating the Value Line average betas from 0.88 to 1.15 in the CAPM analysis that he uses to enhance his DCF results, through a

[20] *Pa. PUC v. UGI Utilities, Inc. – Electric Division;* Docket No. R-2017-2640058 (Order entered October 25, 2018), p. 99. (Disposition of Capital Asset Pricing Model (CAPM)).

financial risk adjustment or "leverage" adjustment to account for the alleged financial risk associated with the book value capital structure using the Hamada formula (PECO Statement No. 5, p. 47, line 21 through p. 48, line 1 and PECO Exhibit PRM-1, Schedule 10).

Q. DO YOU AGREE WITH MR. MOUL'S USE OF LEVERAGED OR ADJUSTED BETAS?

A. No. Such enhancements are unwarranted for beta in the CAPM analysis for the same reasons that the "leverage" adjustment is unwarranted in the DCF results.

Additionally, if the *Value Line* betas do not reflect an accurate investment risk as Mr. Moul contends, the question naturally arises as to why *Value Line* does not publish betas that are adjusted for leverage.

Finally, as described in my CAPM analysis above, a stock with a price movement that is greater than the overall stock market will have a beta that is greater than one and would be described as having more investment risk than the market. Due to being regulated and the monopolistic nature of utilities, very rarely do they have a beta greater than one. Therefore, in this case, to apply an adjusted or leveraged beta of 1.15 of the electric group in the CAPM analysis to inflate the CAPM results is irrational and unsupported in the traditional ratemaking process. Thus, I recommend rejecting Mr. Moul's application of an adjusted beta of 1.15 in the CAPM analysis.

Q. WHAT WOULD MR. MOUL'S CAPM RESULT BE WITHOUT HIS INFLATED BETAS?

A. By simply employing his non-inflated betas, Mr. Moul's CAPM result would be 11.02%. This is 223 basis points (2.23%) lower than his originally calculated CAPM result of 13.25% and is comparable to my CAPM result of 11.29%. The calculation is repeated below with Mr. Moul's unadjusted betas of 0.88:

K	=	R_f	+	$\beta(R_m - R_f)$
11.02%	=	3.75%	+	0.88 (8.26%)

Q. BASED ON THE COMPANY'S CLAIMED RATE BASE AND CAPITAL STRUCTURE, WHAT IS THE VALUE OF AN ADDITIONAL 223 BASIS POINTS TO THE COST OF EQUITY RESULTING FROM MR. MOUL'S ADJUSTED BETA?

A. The example below illustrates the impact of 223 additional basis points (2.23% = CAPM Results with adjusted beta 13.25% - CAPM Result with unadjusted beta 11.02%) to the Company's cost of equity capital:

PECO's Claimed Equity Percentage of Capital Structure*	53.40%
Difference in CAPM Results (13.25% - 11.02%)	2.23%
Claimed Rate Base**	$8,855,637,000
Impact Prior to Gross Up (0.5340 x 0.0223 x $8,855,637,000)	$105,454,696
Gross Revenue Conversion Factor***	1.476236
Total Impact to Ratepayers ($105,454,696 x 1.476236)	**$155,676,019**

*PECO Exhibit PRM-1, Schedule 1, p. 1.
**PECO Exhibit MJT-1, Schedule A-1, and Schedule C-1.
**PECO Exhibit MJT-1, Schedule D-19.

In this example, an addition of 223 basis points for the leverage adjustment to the cost of equity would force ratepayers to fund an unwarranted additional amount of $155,676,019 to cover the increase of the inflated rate of return along with the associated impact resulting from increases to income taxes, gross receipts tax, uncollectibles, and assessments. This additional revenue recovery of $155,676,019 relating to CAPM results with an adjusted/inflated bata is 33.48% of PECO's total revenue increase request of $465,038,000 (PECO Exhibit MJT-1, Schedule A-1, p. 1), which signifies an exorbitant impact on ratepayers if the Commission allows Mr. Moul's CAPM results with the adjusted beta in the cost of equity.

MANAGEMENT PERFORMANCE

Q. DISCUSS THE COMPANY'S CLAIMS SPECIFIC TO EXEMPLARY MANAGEMENT PERFORMANCE.

A. Mr. Moul opines that his recommendation for the Company's cost of equity of 10.95%, including 15 basis points for recognition of the Company's strong management performance, is reasonable (PECO Statement No. 5, p. 51, lines 19-22). Mr. Moul states that the additional 15 basis points is well within the range of management performance provisions that the Commission has recognized between 5 basis points and 25 basis points (PECO Statement No. 5, p. 52, lines 2-4). He defers to PECO witness Nicole L. Levine, Senior Vice President and Chief Operating Officer (PECO Statement No. 1) for discussion regarding the Company's management performance. Ms. Levine concludes that PECO has demonstrated excellence or superior management performance regarding the quality and reliability of its service, continuing substantial investment and careful management of expenses, commitment to energy efficiency, use of cost-effective new technologies, vigilance in protecting the safety of its workers, and strong promotion of community and economic development (PECO Statement No. 1, p. 47, lines 6-11). For further support, Ms. Levine refers to witness Marissa Humphrey, Senior Vice President, Chief Financial Officer and Treasurer (PECO Statement No. 2) where she discusses PECO's efforts to manage and control its operating expenses (PECO Statement No. 1, p. 47, lines 11-13).

Q. DO YOU AGREE WITH THE COMPANY'S CLAIMS REGARDING MANAGEMENT EFFECTIVENESS?

A. No. First, items presented such as the Energy Efficiency & Conservation (EE&C) Program and advanced metering technology are required under Act 129, as Ms. Levine notes, and are funded by ratepayers. Second, topics such as quality and reliability of service, customer satisfaction and safety of its workers are required of every public utility under 66 Pa C.S.A. §1501. Third, if the Company is as effective at controlling operating and maintenance costs as Ms. Humphrey summarizes (PECO Statement No. 2, p. 9, line 14 through p. 14, line 19), those savings should flow through to ratepayers and/or investors. These claimed savings would likely be offset by the addition of basis points for management effectiveness as ratepayers would have to fund the additional costs. This defeats the purpose of cutting expenses to benefit ratepayers. Fourth, the Company passes capital expenditure program costs to its ratepayers via base rates, or it can utilize a DSIC mechanism for capital expenditure recovery. Lastly, there is no basis for quantification of 15 basis points adder to the cost equity for the exemplary management performance.

Q. DO YOU HAVE ANY OTHER POINTS TO SUPPORT YOUR RECOMMENDED DISALLOWANCE OF THE PROPOSED ROE ADJUSTMENT FOR A MANAGEMENT PERFORMANCE AWARD?

A. Yes. Further to my discussion above, I refer to the Company's most recent

Management and Operations Audit Report, prepared by the Commission's Bureau of Audits, issued in July 2022, which illustrates the following summary of findings and recommendations (Exhibit I-3, page 1 of the report):[21]

Rec. No.	Recommendation	Page No.	Initiation Time Frame	Benefits (including $ estimates)
Chapter III – Executive Management and Organizational Structure				
	None			
Chapter IV – Corporate Governance				
	None			
Chapter V – Affiliated Interests and Cost Allocations				
V-1	Submit a detailed proposal to the Commission for the appropriate crediting of ratepayers due to PECO's corrected billings for the use of PECO's fiber network.	30	0-12 Months	High $13,581,327 one-time savings
V-2	Document PECO's annual process and continue to perform detailed reviews of all allocation factors, including utility-owned project allocation rates, to ensure costs are distributed in accordance with approved agreements.	30	12+ Months	Medium
V-3	File PECO's money pool agreement for approval with the PUC.	30	0-6 Months	Low
Chapter VI – Financial Management				
	None			
Chapter VII – Electric Operations				
VII-1	Reduce Electric Operations staff overtime to 15% overtime hours per normal hours worked or less.	55	0-6 Months	High Up to $15 million annual savings (see VIII-3)
VII-2	Improve SAIDI and CAIDI to at or below the PUC Benchmarks.	55	0-12 Months	High
VII-3	Reduce the number of customers experiencing multiple interruptions and strive to have zero CEMI 10+.	55	12+ Months	High
VII-4	Reduce outages caused by broken/uprooted vegetation to the 2015-2018 average levels	55	0-12 Months	Medium
VII-5	Reduce interruptions caused by equipment failures.	55	0-12 Months	Medium

[21] Management and Operations Audit of PECO Energy Company, prepared by The Pennsylvania Public Utility Commission, Bureau of Audits at Docket No. D-2021-3023906, July 2022.

Per PECO Energy's implementation plan,[22] of the twenty-two recommendations from the Audit Report, PECO Energy has accepted nineteen and partially accepted three as part of the Implementation Plan that was submitted to the Commission.

With the level of operational efficiency and improvement that PECO requires, and other topics discussed above, I do not believe that PECO's claim for an exemplary management performance award of 15 basis points in ROE is justified or warranted in the interest of ratepayers.

Q. ARE YOU AWARE OF ANY COMPANIES THAT HAVE RECENTLY RECEIVED ADDITIONAL BASIS POINTS IN RECOGNITION OF MANAGEMENT PERFORMANCE?

A. Yes. Most recently, the Commission awarded Aqua an addition of 25 basis points for its management performance efforts.[23] However, it is important to recognize that this addition was based specifically on Aqua rescuing troubled water and wastewater systems at the Commission's request. The Commission stated: [24]

> We specifically recognize Aqua's efforts and willingness to quickly provide emergency aid to various water and wastewater systems that needed substantial improvement. Aqua has often provided this emergency aid on short notice and at the request of the Commission or other parties to protect the public from egregious health and safety threats and to

[22] PECO Energy's 2023 Annual Progress Report dated September 1, 2023 in response to PA PUC Management and Operations Audit Report filed with the Commission at Docket No. D-2021-3023906.

[23] *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket Nos. R-2021-3027385 & R-2021-3027386, pp. 168-173 (Order entered May 16, 2022).

[24] *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket Nos. R-2021-3027385 & R-2021-3027386, p. 169 (Order entered May 16, 2022).

protect the Commonwealth's drinking water resources from catastrophic damage.

Q. DOES THE COMMISSION'S PAST ISSUANCE OF ADDITIONAL EQUITY POINTS TO RECOGNIZE MANAGEMENT PERFORMANCE MEAN THAT PECO SHOULD ALSO RECEIVE AN ADJUSTED RETURN ON EQUITY?

A. No. The issuance of equity points to recognize management performance should be done on a case-by-case basis. The situation in the Aqua proceeding as discussed above was very specific to Aqua rescuing troubled water and wastewater systems and preventing health and safety concerns regarding drinking water. This scenario does not apply to PECO.

Q. BASED ON THE COMPANY'S CLAIMED RATE BASE AND CAPITAL STRUCTURE, WHAT IS THE VALUE OF AN ADDITIONAL 15 BASIS POINTS FOR THE CONSIDERATION OF MANAGEMENT PERFORMANCE TO THE COST OF EQUITY?

A. The example below illustrates the impact of 15 additional basis points (0.15%) for the consideration of management performance to the Company's claimed cost of equity:

PECO's Claimed Equity Percentage of Capital Structure*	53.40%
Additional Basis Points to Calculated Cost of Equity	0.15%
Claimed Rate Base**	$8,855,637,000
Impact Prior to Gross Up (0.5340 x 0.0015 x $8,855,637,000)	$7,093,365
Gross Revenue Conversion Factor***	1.476236
Total Impact to Ratepayers ($7,093,365 x 1.476236)	**$10,471,481**

*PECO Exhibit PRM-1, Schedule 1, p. 1.
**PECO Exhibit MJT-1, Schedule A-1, and Schedule C-1.
**PECO Exhibit MJT-1, Schedule D-19

In this example, an addition of 15 basis points to the cost of equity in consideration of management performance would force ratepayers to fund an unwarranted additional amount of $10,471,481 annually to cover the increase of the inflated rate of return along with the associated impact resulting from increases to income taxes, uncollectibles, and assessments.

Q. WHAT IS YOUR RECOMMENDATION REGARDING THE CONSIDERATION OF ADDITIONAL BASIS POINTS FOR THE COMPANY'S MANAGEMENT PERFORMANCE?

A. Ultimately, as alluded to above, true strong management performance is earning a higher return through its efficient use of resources and cost cutting measures. The greater net income resulting from cost savings and true efficiency in management and operations is available to be passed on to shareholders. I do not believe that

PECO, or any utility should be gifted additional basis points for doing what they are required to do to provide adequate, efficient, safe, and reasonable service under 66 Pa C.S.A. §1501. For these reasons, I recommend that the addition of any basis points to the cost of equity for management performance be disallowed.

OVERALL RATE OF RETURN RECOMMENDATION

Q. WHAT IS THE COMPANY'S PROPOSED COST OF EQUITY AND OVERALL RATE OF RETURN?

A. The Company recommends a cost of equity of 10.95% and an overall rate of return of 7.98% (PECO Exhibit PRM-1, Schedule 1, p. 1).

Q. WHAT IS I&E'S RECOMMENDED COST OF EQUITY AND OVERALL RATE OF RETURN?

A. I&E Exhibit No. 2, Schedule 1, shows the calculation of an appropriate cost of equity to be 9.91% with an overall rate of return for the Company to be 7.42%.

Q. DO YOU HAVE ANY FINAL COMMENTS REGARDING THE COMPANY'S PROPOSED COST OF EQUITY AND OVERALL RATE OF RETURN?

A. Yes. First, a report issued by Regulatory Research Associates, a group within

S&P Global Market Intelligence,[25] illustrates that PECO's 10.95% requested return on equity is a significant 129 basis points (1.29%) higher than the average return on equity of 9.66% of all electric utility rate cases decided/approved by the state regulatory authorities in the first quarter of 2024. It is also important to note here that Pennsylvania is a deregulated state, which would indicate less risk.

Second, when asked, Mr. Moul indicates that he has not researched (was unaware) if any electric distribution utilities throughout the United States were granted a Commission authorized return of 10.95% or higher cost of common equity in the past three years despite the high interest rate environment since March 2022 (I&E Exhibit No. 2, Schedule 14).

Finally, while I am aware of the rising costs of capital due to the after-effects of the pandemic and the inflation, I believe it is equally important not to over burden ratepayers. Despite the current economic condition, PECO is requesting a record return on equity to apply to its equity heavy capital structure and consistently expanding rate base. As detailed in various charts above, the effect of Mr. Moul's adjustments to the market-determined cost of common equity are an enormous burden to ratepayers and are completely unwarranted and unnecessary. Although they are not cumulative, the impact to ratepayers of each of the disputed adjustments is summarized as follows:

[25] S&P Global, RRA Regulatory Focus, "Major energy rate case decisions in US – January-March 2024, Quarterly update on decided rate cases," April 19, 2024.

Leverage adjustment of 1.38% to DCF results	$96,337,626
CAPM results difference of 2.23% with and without adjusted beta	$155,676,019
Management Performance adder of 0.15%	$10,471,481

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

D. C. PATEL

PROFESSIONAL EXPERIENCE AND EDUCATION

EXPERIENCE:

- Pennsylvania Public Utility Commission, Harrisburg, Pennsylvania
  June 2015 to present
  Fixed Utility Financial Analyst, Bureau of Investigation and Enforcement
- Pennsylvania Insurance Department, Harrisburg, Pennsylvania
  March 2013 - June 2015
  Insurance Company Financial Analyst, Bureau of Company Licensing & Financial Analysis
- Pennsylvania Department of Revenue, Harrisburg, Pennsylvania
  November 2010 - March 2013
  Accounting Assistant, Bureau of Corporation Taxes (Accounting)
- Hersha Hospitality Management, Harrisburg, Pennsylvania
  June 2007 - November 2010
  Staff Accountant (Taxes), Accounting Department
- Corporate Experience-India
  February 1987 - April 2007
  Worked as Company Secretary for three different companies during this period, which were listed on the Stock Exchanges.

EDUCATION/CERTIFICATION:

- Gujarat State University, Ahmedabad, India:
  - Bachelor of Commerce (Major concentration: Accounting)
    June 1980 - April 1983
  - Bachelor of Law
    June 1983 - December 1988

- The Institute of Company Secretaries of India, New Delhi, India:
  Post Graduate Professional Degree: Company Secretary
  June 1983 - December 1985

RATE CASE TRAINING:

- Attended SURFA – 54th Financial Forum (ROR) in April 2023
- Attended 37th Western NARUC Utility Rate School in May 2016

D. C. PATEL

PROFESSIONAL EXPERIENCE AND EDUCATION

WORKED ON THE FOLLOWING CASES (Testimony not required):

- R-2022-3032167 - Columbia Gas of Pennsylvania, Inc. (Green Path Rider)
- R-2022-3031172 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2021-3024349 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2021-3023541 - National Fuel Gas Distribution Corporation (§ 1307(f))
- A-2020-3021460 - PA American Water Co.-Upper Pottsgrove-Wastewater (1329)
- A-2020-3020178 - PA American Water Co.-Valley Township-Wastewater (1329)
- A-2020-3019859 - PA American Water Co.-Valley Township-Water (1329)
- R-2020-3019661 - PECO Energy Co. - Gas Operations (1307(f))
- U-2020-3015258 - Pittsburgh Water and Sewer Authority
- R-2019-3008255 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2018-3001568 - PECO Energy Co. - Gas Operations (1307(f))
- R-2018-3000253 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2017-2631441 - Reynolds Water Co.
- A-2017-2629534 - PPL Electric Utilities (Restructuring Plan)
- R-2017-2602611 - PECO Energy Co. - Gas Operations (1307(f))
- R-2016-2567893 - Andreassi Gas Co.
- R-2016-2525128 - Columbia Water Co. - Marietta Division
- R-2015-2493905 - Sands, Inc.
- R-2015-2479962 - Corner Water Supply and Service Corporation
- R-2015-2479955 - Allied Utility Services, Inc.

SUBMITTED TESTIMONY IN THE FOLLOWING CASES:

- R-2023-3042804 et al. Community Utilities of Pennsylvania, Inc.
- R-2023-3043189 et al. PA American Water Co.
- R-2023-3038630 Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2023-3037933 Philadelphia Gas Works
- R-2022-3037368 UGI Electric, Inc. - Electric Division
- A-2022-3034143 Aqua Pennsylvania, Inc. - Borough of Shenandoah (Water System) (1329)
- R-2022-3031672 and R-2022-3031673 - PA American Water Co.
- R-2022-3031211 - Columbia Gas of Pennsylvania, Inc.
- R-2021-3024773 et al. - Pittsburgh Water and Sewer Authority
- A-2021-3024058- PA American Water Co. - Borough of Brentwood (Wastewater System) - 1329

D. C. PATEL

PROFESSIONAL EXPERIENCE AND EDUCATION

- A-2021-3024681 - PA American Water Co. - York City Sewer Authority/City of York (Wastewater System) (1329)
- R-2021-3024601 - PECO Energy Co. - Electric Operations
- A-2021-3024267 - Aqua Pennsylvania Wastewater, Inc. - Lower Makefield (WW) (1329)
- A-2020-3019634 - PA American Water Co. - Royersford Wastewater (1329)
- R-2020-3018993 - Columbia Gas Pennsylvania, Inc. (1307(f))
- R-2020-3018929 - PECO Energy Co. - Gas Operations
- R-2020-3017951 et al. - Pittsburgh Water and Sewer Authority
- A-2019-3008491 - Aqua Pennsylvania Wastewater, Inc.
- R-2019-3008212 - Citizens Electric Company of Lewisburg, PA
- R-2019-3008208 - Wellsboro Electric Company
- R-2018-3006814 - UGI Utilities, Inc. (Gas Division)
- R-2018-3002645 and 3002647 - Pittsburgh Water and Sewer Authority
- R-2018-3000834 - Suez Water Pennsylvania, Inc.
- R-2018-2647577 - Columbia Gas of Pennsylvania, Inc.
- M-2018-2640802 and M-2018-2640803 - Pittsburgh Water and Sewer Authority (Compliance Plan Stage 2)
- R-2017-2595853 - Pennsylvania American Water Co.
- R-2016-2580030 - UGI Penn Natural Gas, Inc.
- R-2016-2554150 - City of DuBois - Bureau of Water
- R-2016-2529660 - Columbia Gas of Pennsylvania, Inc.
- P-2016-2526627 - PPL Electric Utilities Corp. (DSP IV)

I&E Exhibit No. 2
Witness: D. C. Patel

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY - ELECTRIC DIVISION

Docket No. R-2024-3046931

Exhibit to Accompany

the

Direct Testimony

of

D. C. Patel

Bureau of Investigation & Enforcement

Concerning:

Rate of Return

I&E
Summary of Cost of Capital

Type of Capital	Ratio	Cost Rate	Weighted Cost
PECO Energy Company - Electric Division			
Long-Term Debt	46.60%	4.58%	2.13%
Common Equity	53.40%	9.91%	5.29%
Total	100.00%		7.42%

Proxy Group Capital Structure

	2023		2022		2021		2020		2019		Average
Ameren Corporation											
Long-term Debt	$ 15,121.000	57.13%	$ 13,685.000	56.57%	$ 12,562.000	56.43%	$ 11,078.000	55.35%	$ 8,944.000	52.60%	55.61%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	11,349.000	42.87%	10,508.000	43.43%	9,700.000	43.57%	8,938.000	44.65%	8,059.000	47.40%	44.39%
	26,470.000	100.00%	24,193.000	100.00%	22,262.000	100.00%	20,016.000	100.00%	17,003.000	100.00%	100.00%
American Electric Power Company Inc.											
Long-term Debt	$ 38,312.000	60.24%	34,346.500	58.93%	31,989.600	58.73%	29,855.800	59.18%	26,110.600	57.03%	58.82%
Preferred Stock	42.500	0.07%	45.900	0.08%	43.300	0.08%	45.200	0.09%	42.900	0.09%	0.08%
Common Equity	25,246.700	39.70%	23,893.400	40.99%	22,433.200	41.19%	20,550.900	40.73%	19,632.200	42.88%	41.10%
	63,601.200	100.00%	58,285.800	100.00%	54,466.100	100.00%	50,451.900	100.00%	45,785.700	100.00%	100.00%
AVANGRID Inc.											
Long-term Debt	$ 10,236.000	34.25%	8,464.000	30.40%	8,162.000	29.97%	10,723.000	41.35%	6,835.000	30.97%	33.39%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	19,648.000	65.75%	19,380.000	69.60%	19,076.000	70.03%	15,209.000	58.65%	15,237.000	69.03%	66.61%
	29,884.000	100.00%	27,844.000	100.00%	27,238.000	100.00%	25,932.000	100.00%	22,072.000	100.00%	100.00%
CMS Energy Corp											
Long-term Debt	$ 14,592.000	65.92%	13,217.000	65.33%	12,115.000	64.63%	13,715.000	71.39%	12,064.000	70.62%	67.58%
Preferred Stock	224.000	1.01%	224.000	1.11%	224.000	1.19%	-	0.00%	-	0.00%	0.66%
Common Equity	7,320.000	33.07%	6,791.000	33.57%	6,407.000	34.18%	5,496.000	28.61%	5,018.000	29.38%	31.76%
	22,136.000	100.00%	20,232.000	100.00%	18,746.000	100.00%	19,211.000	100.00%	17,082.000	100.00%	100.00%
Consolidated Edison Inc.											
Long-term Debt	22,537.000	51.58%	20,625.000	49.92%	23,323.000	53.79%	21,148.000	52.88%	19,337.000	51.76%	51.99%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	21,158.000	48.42%	20,687.000	50.08%	20,037.000	46.21%	18,847.000	47.12%	18,022.000	48.24%	48.01%
	43,695.000	100.00%	41,312.000	100.00%	43,360.000	100.00%	39,995.000	100.00%	37,359.000	100.00%	100.00%
Dominion Energy Inc.											
Long-term Debt	33,858.000	55.16%	39,428.000	58.58%	37,890.000	56.71%	34,473.000	56.90%	34,266.000	51.71%	55.81%
Preferred Stock	1,783.000	2.90%	1,783.000	2.65%	3,393.000	5.08%	2,387.000	3.94%	2,387.000	3.60%	3.63%
Common Equity	25,746.000	41.94%	26,098.000	38.77%	25,525.000	38.21%	23,730.000	39.16%	29,607.000	44.68%	40.55%
	61,387.000	100.00%	67,309.000	100.00%	66,808.000	100.00%	60,590.000	100.00%	66,260.000	100.00%	100.00%
Duke Energy Corporation											
Long-term Debt	73,369.000	59.90%	67,937.000	57.94%	61,522.000	55.52%	56,965.000	54.29%	56,417.000	54.65%	56.46%
Preferred Stock	1,962.000	1.60%	1,962.000	1.67%	1,962.000	1.77%	1,962.000	1.87%	1,962.000	1.90%	1.76%
Common Equity	47,150.000	38.50%	47,360.000	40.39%	47,334.000	42.71%	46,002.000	43.84%	44,860.000	43.45%	41.78%
	122,481.000	100.00%	117,259.000	100.00%	110,818.000	100.00%	104,929.000	100.00%	103,239.000	100.00%	100.00%
Entergy Corporation											
Long-term Debt	23,227.681	61.37%	23,813.273	64.74%	25,053.255	68.28%	21,429.544	66.23%	17,313.378	62.87%	64.70%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	14,622.647	38.63%	12,966.985	35.26%	11,637.284	31.72%	10,926.142	33.77%	10,223.675	37.13%	35.30%
	37,850.328	100.00%	36,780.258	100.00%	36,690.539	100.00%	32,355.686	100.00%	27,537.053	100.00%	100.00%
Eversource Energy											
Long-term Debt	24,067.198	62.94%	20,236.586	56.67%	17,569.879	54.62%	15,726.088	52.79%	14,360.350	53.21%	56.04%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	14,173.892	37.06%	15,473.158	43.33%	14,599.844	45.38%	14,063.566	47.21%	12,629.994	46.79%	43.96%
	38,241.090	100.00%	35,709.744	100.00%	32,169.723	100.00%	29,789.654	100.00%	26,990.344	100.00%	100.00%
Exelon Corporation											

Long-term Debt	40,330.000	61.03%	35,928.000	59.22%	36,682.000	51.61%	36,572.000	52.88%	33,026.000	50.61%	55.07%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	25,755.000	38.97%	24,744.000	40.78%	34,393.000	48.39%	32,585.000	47.12%	32,224.000	49.39%	44.93%
	66,085.000	100.00%	60,672.000	100.00%	71,075.000	100.00%	69,157.000	100.00%	65,250.000	100.00%	100.00%
FirstEnergy Corp											
Long-term Debt	23,064.000	68.85%	21,450.000	67.85%	22,519.000	72.19%	22,394.000	75.58%	19,859.000	74.01%	71.69%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	10,437.000	31.15%	10,166.000	32.15%	8,675.000	27.81%	7,237.000	24.42%	6,975.000	25.99%	28.31%
	33,501.000	100.00%	31,616.000	100.00%	31,194.000	100.00%	29,631.000	100.00%	26,834.000	100.00%	100.00%
IDACORP Inc.											
Long-term Debt	2,775.790	48.84%	2,194.145	43.87%	2,000.640	42.85%	2,000.414	43.86%	1,736.659	41.34%	44.15%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	2,907.569	51.16%	2,807.239	56.13%	2,668.436	57.15%	2,559.980	56.14%	2,464.628	58.66%	55.85%
	5,683.359	100.00%	5,001.384	100.00%	4,669.076	100.00%	4,560.394	100.00%	4,201.287	100.00%	100.00%
Portland General Electric Company											
Long-term Debt	4,210.000	55.92%	3,698.000	57.09%	3,580.000	56.94%	3,051.000	53.87%	2,775.000	51.71%	55.11%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	3,319.000	44.08%	2,779.000	42.91%	2,707.000	43.06%	2,613.000	46.13%	2,591.000	48.29%	44.89%
	7,529.000	100.00%	6,477.000	100.00%	6,287.000	100.00%	5,664.000	100.00%	5,366.000	100.00%	100.00%
PPL Corporation											
Long-term Debt	14,680.000	51.31%	12,931.000	48.17%	10,713.000	43.84%	21,623.000	61.79%	20,799.000	61.55%	53.33%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	13,933.000	48.69%	13,915.000	51.83%	13,723.000	56.16%	13,373.000	38.21%	12,991.000	38.45%	46.67%
	28,613.000	100.00%	26,846.000	100.00%	24,436.000	100.00%	34,996.000	100.00%	33,790.000	100.00%	100.00%
Public Service Enterprise Group Inc.											
Long-term Debt	17,957.000	53.71%	16,664.000	54.83%	15,410.000	51.63%	14,748.000	47.99%	14,016.000	48.16%	51.26%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	15,477.000	46.29%	13,729.000	45.17%	14,438.000	48.37%	15,984.000	52.01%	15,089.000	51.84%	48.74%
	33,434.000	100.00%	30,393.000	100.00%	29,848.000	100.00%	30,732.000	100.00%	29,105.000	100.00%	100.00%
Xcel Energy Inc.											
Long-term Debt	26,013.000	59.62%	23,915.000	58.92%	22,994.000	59.56%	21,062.000	59.10%	19,033.000	58.98%	59.24%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	17,616.000	40.38%	16,675.000	41.08%	15,612.000	40.44%	14,575.000	40.90%	13,239.000	41.02%	40.76%
	43,629.000	100.00%	40,590.000	100.00%	38,606.000	100.00%	35,637.000	100.00%	32,272.000	100.00%	100.00%

Five-Year Average Capital Structure					
Long-term Debt	55.64%	Maximum	71.69%	Minimum	33.39%
Preferred Stock	0.38%				
Common Equity	43.98%	Minimum	28.31%	Maximum	66.61%
	100.00%				

Source: Compustat ($ in millions) May 2024

I&E Exhibit No. 2
Schedule 2, Page 2 of 2

Long-Term Debt Cost

	2023		
	Interest Charges	Long-Term Debt	Debt Cost
Ameren Corporation	$ 614.00	$ 15,121.00	4.06%
American Electric Power Company Inc.	$ 1,924.20	$ 38,312.00	5.02%
AVANGRID Inc.	$ 524.00	$ 10,236.00	5.12%
CMS Energy Corp	$ 646.00	$ 14,592.00	4.43%
Consolidated Edison Inc.	$ 1,075.00	$ 22,357.00	4.81%
Dominion Energy Inc.	$ 1,833.00	$ 33,858.00	5.41%
Duke Energy Corporation	$ 3,215.00	$ 73,369.00	4.38%
Entergy Corporation	$ 1,046.16	$ 23,227.68	4.50%
Eversource Energy	$ 900.04	$ 24,067.20	3.74%
Exelon Corporation	$ 1,834.00	$ 40,330.00	4.55%
FirstEnergy Corp	$ 1,124.00	$ 23,064.00	4.87%
IDACORP Inc.	$ 134.47	$ 2,775.79	4.84%
Portland General Electric Company	$ 186.00	$ 4,210.00	4.42%
PPL Corporation	$ 678.00	$ 14,680.00	4.62%
Public Service Enterprise Group Inc.	$ 748.00	$ 17,957.00	4.17%
Xcel Energy Inc.	$ 1,055.00	$ 26,013.00	4.06%
Implied Interest Cost Rate	**Range:**	**Low**	**3.74%**
		High	**5.41%**
		Average	**4.56%**

Source: Compustat ($ in millions) May 2024

Mergent Bond Record
A-Rated Public Utility Bond Yields

Month	Yield
May-23	5.36%
Jun-23	5.38%
Jul-23	5.41%
Aug-23	5.71%
Sep-23	5.86%
Oct-23	6.34%
Nov-23	5.96%
Dec-23	5.42%
Jan-24	5.48%
Feb-24	5.56%
Mar-24	5.55%
Apr-24	5.79%
Average	**5.65%**

Source: Mergent Bond Record
May-24

Dividend Yields of the Proxy Group

Company Symbol	Ameren Corporation AEE	American Electric Power Company Inc. AEP	AVANGRID Inc. AGR	CMS Energy Corp CMS	Consolidated Edison Inc. ED
Div	2.86	3.81	1.76	2.16	3.40
52-wk low	67.03	69.38	27.46	49.87	80.46
52-wk high	88.72	92.35	41.17	63.76	100.00
Spot Price	74.40	91.61	36.85	62.93	97.70
Spot Div Yield	3.84%	4.16%	4.78%	3.43%	3.48%
52-wk Div Yield	3.67%	4.71%	5.13%	3.80%	3.77%
Average	3.76%	4.44%	4.95%	3.62%	3.62%

Company Symbol	Dominion Energy Inc. D	Duke Energy Corporation DUK	Entergy Corporation ETR	Eversource Energy ES	Exelon Corporation EXC
Div	2.67	4.22	4.70	3.03	1.62
52-wk low	39.18	83.06	87.10	52.03	33.35
52-wk high	55.41	103.83	112.71	77.53	43.53
Spot Price	53.07	102.67	111.99	61.92	37.67
Spot Div Yield	5.03%	4.11%	4.20%	4.89%	4.30%
52-wk Div Yield	5.65%	4.52%	4.70%	4.68%	4.21%
Average	5.34%	4.31%	4.45%	4.79%	4.26%

Company Symbol	FirstEnergy Corp FE	IDACORP Inc. IDA	Portland General Electric Company POR	PPL Corporation PPL	Public Service Enterprise Group Inc. PEG
Div	1.80	3.46	2.08	1.10	2.52
52-wk low	32.18	86.43	38.01	22.20	53.71
52-wk high	40.42	109.76	51.19	29.38	74.49
Spot Price	39.94	97.81	44.55	29.14	74.01
Spot Div Yield	4.51%	3.54%	4.67%	3.77%	3.40%
52-wk Div Yield	4.96%	3.53%	4.66%	4.27%	3.93%
Average	4.73%	3.53%	4.67%	4.02%	3.67%

Company Symbol	Xcel Energy Inc. XEL
Div	2.30
52-wk low	46.79
52-wk high	69.14
Spot Price	55.46
Spot Div Yield	4.15%
52-wk Div Yield	3.97%
Average	4.06%

	Average
Spot Div Yield	**4.14%**
52-wk Div Yield	**4.38%**
Average	**4.26%**

Source: Barron's May 10, 2024
Value Line March 8, 2024, April 19, 2024, and May 10, 2024

I & E Modified
Five-Year Growth Estimate Forecast for the Proxy Group

Company	Symbol	Source			
		Yahoo	Zacks	Value Line	Average
Ameren Corporation	AEE	4.80%	6.50%	6.50%	5.93%
American Electric Power Company Inc.	AEP	6.19%	5.80%	6.50%	6.16%
AVANGRID Inc.	AGR	0.40%	6.00%	3.50%	3.30%
CMS Energy Corp	CMS	7.40%	7.40%	5.00%	6.60%
Consolidated Edison Inc.	ED	6.09%	2.00%	6.00%	4.70%
Dominion Energy Inc.	D	-	5.40%	3.00%	4.20%
Duke Energy Corporation	DUK	6.86%	6.30%	5.00%	6.05%
Entergy Corporation	ETR	6.80%	7.50%	0.50%	4.93%
Eversource Energy	ES	3.25%	4.20%	6.00%	4.48%
Exelon Corporation	EXC	4.20%	5.90%	NMF	5.05%
FirstEnergy Corp	FE	6.30%	NA	5.50%	5.90%
IDACORP Inc.	IDA	4.40%	NA	5.00%	4.70%
Portland General Electric Company	POR	12.50%	NA	6.00%	9.25%
PPL Corporation	PPL	6.80%	6.50%	7.50%	6.93%
Public Service Enterprise Group Inc.	PEG	5.25%	6.20%	5.00%	5.48%
Xcel Energy Inc.	XEL	6.73%	6.40%	7.00%	6.71%
Average:					**5.65%**

Source:
Internet
May 13, 2024, March 8, 2024, April 19, 2024, and May 10, 2024

Expected Market Cost Rate of Equity

Using Data for the Proxy Group of Electric Companies

5-Year Forecasted Growth Rates

	Time Period	Adjusted Dividend Yield (1)	Growth Rate (2)	Expected Return on Equity (3=1+2)
(1)	52-Week Average Ending: May 10, 2024	4.38%	5.65%	10.03%
(2)	Spot Price Ending: May 10, 2024	4.14%	5.65%	9.79%
(3)	**Average:**	**4.26%**	**5.65%**	**9.91%**

Sources: Value Line March 8, 2024, April 19, 2024, and May 10, 2024
Barron's May 10, 2024

Proxy Group Company	Beta
Ameren Corporation	0.90
American Electric Power Company Inc.	0.80
AVANGRID Inc.	0.95
CMS Energy Corp	0.85
Consolidated Edison Inc.	0.80
Dominion Energy Inc.	0.90
Duke Energy Corporation	0.90
Entergy Corporation	0.95
Eversource Energy	0.95
Exelon Corporation	NMF
FirstEnergy Corp	0.90
IDACORP Inc.	0.85
Portland General Electric Company	0.90
PPL Corporation	1.15
Public Service Enterprise Group Inc.	0.95
Xcel Energy Inc.	0.85
Average beta for CAPM	**0.91**

Source:
Value Line
March 8, 2024, April 19, 2024, and May 10, 2024

Risk-Free Rate

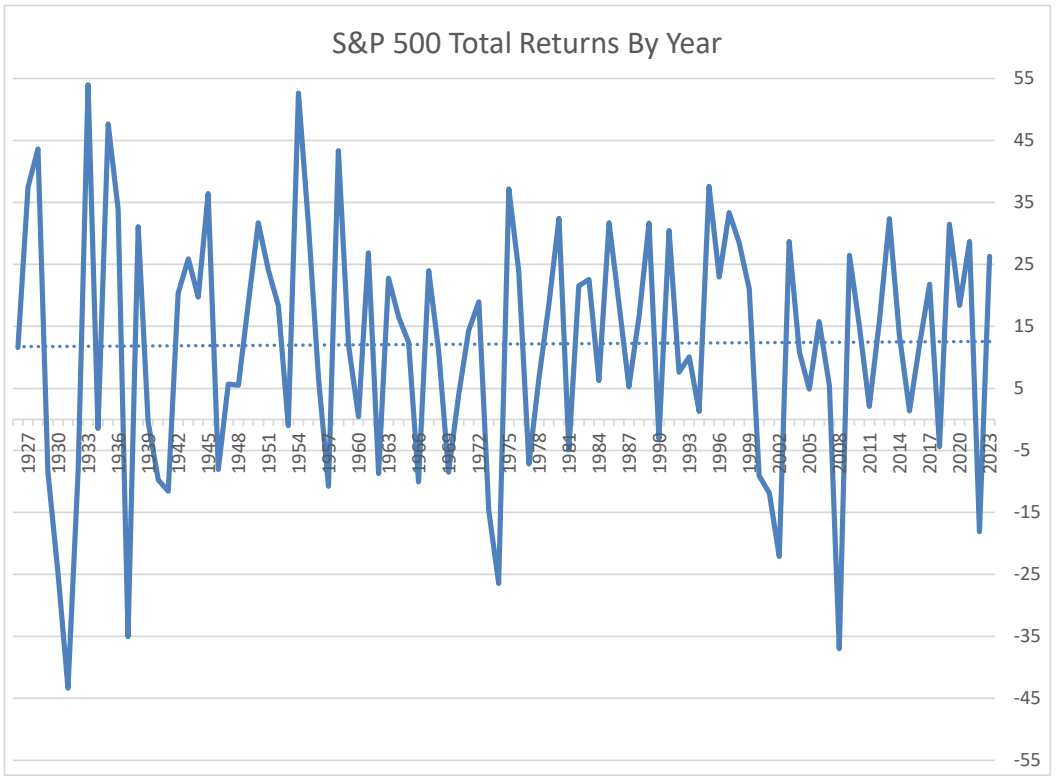
10-Year Treasury Note	Yield
3Q 2024	4.30
4Q 2024	4.20
1Q 2025	4.10
2Q 2025	4.00
3Q 2025	3.90
5-Yr (2025-2029) Average	3.90
Average	**4.07**

Source:
Blue Chip
May 1, 2024 and December 1, 2023

S&P 500 Total Return

Year	Return
2023	26.29
2022	-18.11
2021	28.71
2020	18.4
2019	31.49
2018	-4.38
2017	21.83
2016	11.96
2015	1.38
2014	13.69
2013	32.39
2012	16.00
2011	2.11
2010	15.06
2009	26.46
2008	-37
2007	5.49
2006	15.79
2005	4.91
2004	10.88
2003	28.68
2002	-22.1
2001	-11.89
2000	-9.1
1999	21.04
1998	28.58
1997	33.36
1996	22.96
1995	37.58
1994	1.32
1993	10.08
1992	7.62
1991	30.47
1990	-3.1
1989	31.69
1988	16.61
1987	5.25
1986	18.67
1985	31.73
1984	6.27
1983	22.56
1982	21.55
1981	-4.91
1980	32.42
1979	18.44
1978	6.56
1977	-7.18
1976	23.84
1975	37.2

1974	-26.47
1973	-14.66
1972	18.98
1971	14.31
1970	4.01
1969	-8.5
1968	11.06
1967	23.98
1966	-10.06
1965	12.45
1964	16.48
1963	22.8
1962	-8.73
1961	26.89
1960	0.47
1959	11.96
1958	43.36
1957	-10.78
1956	6.56
1955	31.56
1954	52.62
1953	-0.99
1952	18.37
1951	24.02
1950	31.71
1949	18.79
1948	5.5
1947	5.71
1946	-8.07
1945	36.44
1944	19.75
1943	25.9
1942	20.34
1941	-11.59
1940	-9.78
1939	-0.41
1938	31.12
1937	-35.03
1936	33.92
1935	47.67
1934	-1.44
1933	53.99
1932	-8.19
1931	-43.34
1930	-24.9
1929	-8.42
1928	43.61
1927	37.49
1926	11.62
Average	**12.16**



Source:
https://www.slickcharts.com/sp500/returns
(accessed on 5/14/2024)

Required Rate of Return on Market as a Whole Forecasted

	Dividend Yield	+	Growth Rate	=	Expected Market Return
Value Line Estimate	2.10%		9.73%	(a)	11.83%
S&P 500 Historical Return					12.16%
Average Expected Market Return					**12.00%**

(a) Value Line forecast for the 3 to 5 year index appreciation is 45% ((1+45%)^.25)-1)

Sources:

Value Line Dividend Yield	5/17/2024	2.10%
Valueline Appreciation Potential	5/17/2024	45%
S&P 500 Historical Return Tab	5/14/2024	12.16%

CAPM with forecasted return

Re		Required return on individual equity security
Rf		Risk-free rate
Rm		Required return on the market as a whole
Be		Beta on individual equity security
Re	=	Rf + Be(Rm - Rf)
Rf	=	4.07
Rm	=	12.00
Be	=	0.91
Re	=	**11.29%**

Sources: Value Line March 8, 2024, April 19, 2024, and May 10, 2024
Blue Chip May 1, 2024 and December 1, 2023

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set I - RR

Response Date: April 24, 2024

IE-I-RR-5

Reference PECO Statement No. 5, p. 9, lines 4-7, where Mr. Moul states that with advances in micro-turbines, fuel cells, wind and solar power, and creation of micro-grids, utilities face the potential for bypass and the resulting declines in transmission and distribution revenues:

A. State whether Mr. Moul believes a potential for bypass risk is specific to the PECO Electric and is greater than the other electric distribution utilities' bypass risk.
B. List the companies in Mr. Moul's Electric Group that are not susceptible to competition and alternative energy sources or bypass risks.

RESPONSE:

A. All members of the Electric Group are subject to these factors, but to varying degrees.

B. All members of the Electric Group are susceptible to competition and alternative energy sources or bypass risks to some degree.

Responsible Witness: Paul R. Moul

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set I - RR

Response Date: April 24, 2024

IE-I-RR-14

Reference PECO Statement No. 5, p. 33, lines 11-15 where Mr. Moul opines that his recommended 6.00% five-year projected growth rate is a reasonable investor expected growth rate for the Electric Group because it is within the range of 5.28% to 7.18% and the expected continuation of electric utility infrastructure spending:

A. Explain whether Mr. Moul believes that the analysts at IBES/First Call, Zacks, and Value Line consider the expected infrastructure spending when formulating their five-year growth projections.
B. Explain whether Mr. Moul believes that all companies in his Electric Group would benefit from the same expectations.
C. Provide the basis for determining a discretionary 6.00% growth rate as appropriate for the DCF analysis.

RESPONSE:

A. The growth rates published by IBES/FirstCall, Zacks and Value Line are assumed to consider all factors that they believe impact future growth, which for the Electric Group would include growth associated with infrastructure spending. IBES/First Call and Zacks are consensus growth rates that are obtained from a survey of analysts, and as such, the assumptions reflected in the consensus are not revealed by the published growth rates. Hence, there is no ability to determine the weight that an individual analyst assigns to infrastructure spending for each company in the Electric Group. Value Line does reveal the underlying data that supports its growth rates.

B. It cannot be established that "all companies" are affected equally by infrastructure spending, as infrastructure spending varies across the companies that comprise the Electric Group. Regardless, there is widespread knowledge for the proposition that infrastructure spending has been ramping up in recent years for the electric utility industry.

C. The 6.00% growth rate represents a reasonable growth rate because it falls well within the range of 5.28% to 7.18% (see page 33 of PECO Statement No. 5).

Responsible Witness: Paul R. Moul

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set I - RR

Response Date: April 24, 2024

IE-I-RR-22

Reference PECO Statement No. 5, p. 51, lines 19-22 concerning Mr. Moul's opinion that his recommended 10.95% cost of common equity is reasonable:

A. State whether Mr. Moul is aware of any electric distribution utilities throughout the United States that have been granted a Commission authorized 10.95% or higher cost of common equity in the past three years.
B. If the answer to I&E-RR-22-D, Part A is yes, identify which company/companies have been authorized such cost of common equity, in what jurisdiction, and docket numbers associated with each instance.

RESPONSE:

A. Mr. Moul has not researched this issue.

B. See the response to (A) above.

Responsible Witness: Paul R. Moul

I&E Statement No. 2-SR
Witness: D. C. Patel

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY - ELECTRIC DIVISION

Docket No. R-2024-3046931

Surrebuttal Testimony

of

D. C. Patel

Bureau of Investigation & Enforcement

Concerning:

Rate of Return

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INTRODUCTION OF WITNESS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is D. C. Patel and my business address is Pennsylvania Public Utility Commission, Commonwealth Keystone Building, 400 North Street, Harrisburg, PA 17120.

Q. ARE YOU THE SAME D. C. PATEL WHO IS RESPONSIBLE FOR THE DIRECT TESTIMONY CONTAINED IN I&E STATEMENT NO. 2 AND THE SCHEDULES IN I&E EXHIBIT NO. 2?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony of PECO Energy Company - Electric Division (PECO or Company) witness Paul R. Moul regarding rate of return topics including the cost of common equity and the overall fair rate of return, which will be applied to the Company's rate base, and management performance reward points (PECO Statement No. 5-R). In addition, I will address the exemplary "Management Performance" claim for a 15 basis points reward or adder in the claimed rate of return on common equity discussed by Company witness Nicole L. LeVine (PECO Statement No. 1-R). Finally, I will address the International Brotherhood of Electrical Workers, AFL-CIO (IBEW)

witness Lawrence Anastasi supporting PECO's claimed return on equity (ROE) (IBEW Rebuttal Statement).

The absence of any comments or responses to particular statements or topics addressed in PECO's rebuttal testimony and that of other parties' witnesses concerning the return on equity does not imply my acceptance or support of the Company's or other parties' positions in this proceeding.

Q. DOES YOUR SURREBUTTAL TESTIMONY INCLUDE AN EXHIBIT?

A. No. I refer to my direct testimony (I&E Statement No. 2) and schedules contained in my exhibit (I&E Exhibit No. 2) where necessary.

Q. WHAT WAS YOUR ORIGINAL OVERALL RECOMMENDATION IN DIRECT TESTIMONY?

A. I recommended the following rate of return for the Company (I&E Statement No. 2, p. 6 and I&E Exhibit No. 2, Schedule 1):

I&E Recommendation
PECO Energy Company - Electric Division
Summary of Cost of Capital

Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	46.60%	4.58%	2.13%
Common Equity	53.40%	9.91%	5.29%
Total	**100.00%**		**7.42%**

SUMMARY OF MR. MOUL'S REBUTTAL TESTIMONY

Q. SUMMARIZE MR. MOUL'S RESPONSE IN REBUTTAL TESTIMONY TO YOUR RECOMMENDATIONS MADE IN DIRECT TESTIMONY.

A. Mr. Moul disputes my recommendations regarding an appropriate proxy group, my reliance on and application of the Discounted Cash Flow (DCF) method and exclusion of Capital Asset Pricing Model (CAPM) results in determination of an appropriate ROE, the DCF growth rate, and disallowance of his leverage adjustment to the DCF results. Further, Mr. Moul disagrees with my risk-free rate applied in the CAPM analysis, my disagreement with his use of the Risk Premium (RP) and Comparable Earnings (CE) methods, and lastly, my recommended disallowance of additional basis points for exemplary management performance. Finally, Mr. Moul opines that my recommended equity allowance understates the cost of equity, and therefore, he suggests that the Commission should take into consideration a rate of return that will reflect and be supportive of the Company's financial and risk profile in the current environment of high interest rates and company-specific risk factors in this proceeding (PECO Statement No. 5-R).

UPDATED ANALYSIS

Q. DID THE COMPANY UPDATE ITS RATE OF RETURN CLAIM?

A. No. Mr. Moul does not provide any additional information or updated cost of equity model results and continues to support his original cost of equity

recommendation and the overall rate of return (PECO Statement No. 5-R) as shown below (PECO Exhibit PRM-1, Schedule 1, p. 1):

PECO ENERGY COMPANY - ELECTRIC DIVISION Summary of Cost of Capital			
Type of Capital	**Ratio**	**Cost Rate**	**Weighted Cost Rate**
Long-Term Debt	46.60%	4.58%	2.13%
Common Equity	53.40%	10.95%	5.85%
Total	**100.00%**		**7.98%**

PROXY GROUP

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING YOUR PROXY GROUP.

A. Although Mr. Moul and I have a few disagreements regarding our proxy group criteria, the most significant is that he believes my selection criterion that requires the proxy group companies must operate in a deregulated electric market is no longer a valid screening criterion. He notes that some of the companies of my proxy group have significant operations in a fully regulated integrated market, and therefore, he asserts that NextEra Energy, which operates a utility in Florida (Florida Power & Light), should qualify for inclusion in my proxy group that I excluded. However, Mr. Moul agrees with my proxy group companies that are screened on the basis of 50% or more of a company's revenues must be generated from the regulated electric utility industry criterion, citing the Commission's

recent order in the 2021 PECO Energy - Gas Division base rate case. While Mr. Moul has no objection to the additional seven companies that I included in my proxy group, he believes that my proxy group is less comparable to PECO because they are geographically remote (PECO Statement No. 5-R, pp. 12 and 14).

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S OPINION ABOUT YOUR CRITERION THAT A COMPANY MUST BE OPERATING IN A STATE THAT HAS A DEREGULATED ELECTRIC UTILITY MARKET IS NO LONGER A VALID SCREENING CRITERION?

A. The main objective of applying a proxy group screening criterion that a company must be operating in a state that has a deregulated electric utility is to try and compare deregulated companies with the subject utility (PECO) for evaluating risk profiles in the context of similarly situated companies in the proxy group rather than comparing deregulated vs. vertically integrated utilities.

Q. EXPLAIN WHY YOU EXCLUDED NEXTERA ENERGY FROM YOUR PROXY GROUP THAT MR. MOUL INCLUDES IN HIS BAROMETER GROUP.

A. NextEra Energy was eliminated because it does not operate in a state that has a deregulated utility market, which violates my proxy group screening criterion that a company must be operating in a state that has a deregulated electric utility market.

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S REBUTTAL TESTIMONY CONCERNING YOUR INCLUSION OF SEVEN MORE COMPANIES FROM OTHER GEOGRAPHICAL AREAS (CENTRAL AND WEST GROUP OF VALUE LINE) IN YOUR PROXY GROUP?

A. Mr. Moul simply states, "While I do not object to additional companies, his barometer group is less comparable to PECO because they are geographically remote." However, he provides no support or examples on how these companies are dissimilar to PECO, nor does he directly recommend excluding them from my proxy group. Furthermore, he wishes to include NextEra Energy due to their ownership of Florida Power & Light, which is a company with substantially greater risks due to its geographic location due to hurricane impact, regardless of its geographic proximity.

Q. HAVE YOU CHANGED YOUR PROXY GROUP AS A RESULT OF MR. MOUL'S REBUTTAL TESTIMONY?

A. No. For the reasons discussed above and in my direct testimony (I&E Statement No. 2. pp. 7-11), I continue to believe that my criteria are appropriate for determining a proxy group of companies that are similar to PECO.

DISCOUNTED CASH FLOW

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING YOUR DCF ANALYSIS.

A. Mr. Moul agrees that results of a DCF analysis should be given weight, but he asserts that use of more than one method provides a superior foundation to determine the cost of equity. He further disagrees with my results based on the outcomes of certain individual companies' DCF results and disputes my growth rate analysis. Mr. Moul disagrees with my recommendation to reject his leverage adjustment. Additionally, he compares the Commission's authorized ROEs in the historic 2017 through 2023 base rate cases and states that my recommended ROE will not provide PECO an opportunity to earn its investor required cost of capital for the fully projected future test year (FPFTY) ending December 31, 2025 (PECO Statement No. 5-R, pp. 14-23).

EXCLUSIVE USE OF THE DCF

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING YOUR USE OF THE DCF METHOD.

A. Mr. Moul asserts that the use of more than one method provides a superior foundation for the cost of equity determination. He claims that the use of more than one method will capture the multiplicity of factors that motivate investors to commit their capital to a particular enterprise. He cites the Commission orders in the 2012 PPL Electric, the 2021 Aqua Pennsylvania, and the 2023 Columbia

Water base rate cases where the Commission acknowledged use of the DCF and CAPM in determination of an appropriate cost of common equity (PECO Statement No. 5-R, pp. 14-16).

Q. WERE ANY METHODS OTHER THAN THE DCF EMPLOYED IN YOUR ANALYSIS?

A. Yes. Although my recommendation was based on the results of my DCF analysis, I also employed the CAPM as a comparison. For the reasons discussed in my direct testimony, the DCF method is the most reliable and forward-looking model reflecting the economic market conditions (I&E Statement No. 2, pp. 16-20). Although no one method can capture every factor that influences an investor, including the results of methods less reliable than the DCF does not make the end result more reliable or more accurate. In direct testimony, I cited several cases that illustrate the methodology I employed is consistent with the methodology historically used by the Commission in base rate proceedings as recently as 2017, 2018, 2020, and 2021 (I&E Statement No. 2. p. 17).

However, as indicated in my direct testimony (I&E Statement No. 2, pp. 21-22), the Commission recently deviated from prior Commission practice when it indicated in the 2022 Aqua Pennsylvania rate case order that its method "for determining Aqua's ROE shall utilize both I&E's DCF and CAPM

methodologies"[1] and that "I&E's DCF and CAPM produce a range of reasonableness for the ROE … ."[2] Similarly, recently, the Commission's 2024 Columbia Water rate case order relied on the results of I&E's DCF and CAPM analyses for determining Columbia Water's ROE.[3] In my direct testimony, I fully explain why the CAPM should not be used as a primary method and continue to express those concerns in this proceeding as to why it should only be used as a comparison to, not a check of, the DCF. Thus, I disagree with a method that provides the CAPM comparable weight to the DCF method (I&E Statement No. 2, p. 19 and pp. 22-24). In fact, my illustration in this surrebuttal testimony of the extreme variation in results achieved by the CAPM analyses between Mr. Moul (13.25%) and OCA witness Robert Garrett (8.90% and 9.60%), and my CAPM analysis results of 11.29% only highlights the unreliability and subjectivity of the CAPM method, further invalidating its use for establishing an appropriate ROE for ratemaking.

Q. PLEASE CONTINUE.

A. In the most recent Pennsylvania-American Water Company (PAWC) case, the Commission agreed with the ALJs' recommended ROE based on I&E's results of DCF and CAPM analyses that produces an ROE of 9.45% and denied PAWC's

[1] *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket Nos. R-2021-3027385 & R-2021-3027386, pp. 154 (Order Entered May 16, 2022).

[2] *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket Nos. R-2021-3027385 & R-2021-3027386, pp. 178 (Order Entered May 16, 2022).

[3] *Pa. PUC v. Columbia Water Company,* Docket Nos. R-2023-3040258, p. 105 (Order Entered January 18, 2024).

request for an upward adjustment to its ROE for exemplary management performance. Though the Commission determined PAWC's ROE based on the average results of DCF and CAPM analyses, the Commission most importantly notes in the order,[4]

> Before concluding this section, we stress that based upon the specific record developed in this proceeding, we have determined that taking the average of the DCF and CAPM results produces a reasonable ROE. However, we do not strictly endorse averaging the DCF and CAPM in other proceedings where it is determined that methodologies other than the DCF are necessary to determine the utility's ROE. Consistent with these determinations, we shall deny PAWC's Exception No. 1, I&E's Exception No. 1, and the OCA's Exception No. 11.

DSIC RATES

Q. SHOULD THE COMMISSION CONSIDER THE AUTHORIZED DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) RETURN RATE ESTABLISHED IN THE QUARTERLY EARNINGS SUMMARY REPORTS AS AN APPROPRIATE MEASURE TO DETERMINE THE COST OF EQUITY IN THIS PROCEEDING?

A. No. Mr. Moul's comparison between the I&E recommended ROE of 9.91% in this proceeding and the Commission's latest DSIC return rate of 9.75% (correct rate is 9.80%[5]) is misguided and irrelevant. My understanding is that the DSIC

[4] *Pa. PUC v. Pennsylvania-American Water Company*, Docket Nos. R-2023-3043189 and R-203-3043190, pp. 194 195 (Order Entered July 22, 2024).

[5] PA Public Utility Commission, Bureau of Technical Utility Services Report on the Quarterly Earnings of Jurisdictional Utilities for the Year Ended December 31, 2023, approved at Public Meeting on May 9, 2024 at Docket No. M-2024-3048688, p. 18.

rate is designed to encourage its use and to incentivize accelerated infrastructure upgrades to bring aging infrastructure closer to meeting safety and reliability requirements in between base rate filings. The DSIC rate should not serve as a proper measurement of a subject utility's cost of equity in a base rate proceeding. In fact, 66 Pa. C.S. § 1358(b)(3) states the following,

> The distribution system improvement charge shall be reset at zero if, in any quarter, data filed with the commission in the utility's most recent annual or quarterly earnings report show that the utility will earn a rate of return that would exceed the allowable rate of return used to calculate its fixed costs under the distribution system improvement charge.

Additionally, the DSIC mechanism serves to lower a utility's risk because it reduces the lag time in the recovery of a company's capital outlays.

Finally, Mr. Moul's assertion that the equity return set in a base rate case is an opportunity to earn an allowed equity return, and therefore, should be higher than the DSIC equity return allowance is not relevant in this proceeding (PECO Statement No. 5-R, p. 6). In this base rate case, my recommended ROE is higher than the DSIC equity return rate for electric utilities.

EVALUATING THE DCF BASED ON INDIVIDUAL RESULTS

Q. SUMMARIZE MR. MOUL'S RESPONSE REGARDING THE RESULTS OF YOUR DCF METHOD.

A. Mr. Moul explains that the principal purpose of assembling a barometer group is to avoid relying on data for a single company that may not be representative and

thereby smooth out any abnormalities. He then states that when some results are unreasonable on their face, the reliability of, or the witness' application of, that method must be questioned. He points to my low end DCF results of 8.25%, 8.32%, and 8.23% of AVANGRID, Inc., Consolidated Edison Inc., and IDACORP, Inc. from my proxy group and claims that these results fail to provide a sufficient spread over the yield on A-rated public utility bonds, which stand at 5.74% in May 2024 (PECO Statement No. 5-R, pp. 21-22). Mr. Moul then states, excluding the above low-end DCF results of three companies, the modified DCF mean result would be 10.28% in contrast to my mean DCF result of 9.91% that includes the DCF results of these three companies (PECO Statement No. 5-R. p. 21).

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S ATTEMPT TO DISAGGREGATE YOUR DCF RESULTS?

A. First, I disagree with Mr. Moul's modified DCF mean results of 10.28% after excluding the DCF results of AVANGRID, Inc. (8.25%), Consolidated Edison Inc. (8.32%), and IDACORP, Inc. (8.23%) from my proxy group. It appears that Mr. Moul presents these results with variations to my proxy group data just to prove his DCF analysis is correct and undermine my DCF analysis results with the ultimate objective to justify his DCF result of 10.40% without his leverage adjustment of 1.38% (and a claimed DCF result of 11.78% = 10.40% + 1.38%) (PECO Exhibit PRM - 1, Schedule 1, p. 2). Mr. Moul has applied an upward bias

by modifying my DCF calculations. It is important to note that each company has a different jurisdictional operating, financial, and management set up, and financial results are variable year to year. Therefore, I believe DCF results of these companies are not outliers or abnormal and should not be ignored in the calculation of the proxy group mean result unless the projections would result in a negative DCF result for these companies. Applying Mr. Moul's logic, if I remove Portland General Electric Company's high-end DCF result of 13.92%, my mean DCF result would be 9.64%, which is lower than my recommended DCF result of 9.91%. Additionally, as acknowledged by Mr. Moul, the principal purpose of assembling a proxy group of companies is to avoid relying on data for a single company that is not representative and thereby to smooth out any abnormalities. I present below my DCF results for individual companies of my proxy group for reference:

Expected Market Cost Rate of Equity
Using Data for the Proxy Group of Electric Companies

	Adjusted Dividend Yield	Growth Rate	Expected Return on Equity
	(1)	(2)	(3=1+2)
Ameren Corporation	3.76%	5.93%	9.69%
American Electric Power Company Inc.	4.44%	6.16%	10.60%
AVANGRID Inc.	4.95%	3.30%	8.25%
CMS Energy Corp	3.62%	6.60%	10.22%
Consolidated Edison Inc.	3.62%	4.70%	8.32%
Dominion Energy Inc.	5.34%	4.20%	9.54%
Duke Energy Corporation	4.31%	6.05%	10.37%
Entergy Corporation	4.45%	4.93%	9.38%
Eversource Energy	4.79%	4.48%	9.27%
Exelon Corporation	4.26%	5.05%	9.31%
FirstEnergy Corp	4.73%	5.90%	10.63%
IDACORP Inc.	3.53%	4.70%	8.23%
Portland General Electric Company	4.67%	9.25%	13.92%
PPL Corporation	4.02%	6.93%	10.95%
Public Service Enterprise Group Inc.	3.67%	5.48%	9.15%
Xcel Energy Inc.	3.97%	6.71%	10.68%
Average	**4.26%**	**5.65%**	**9.91%**

It is inappropriate to remove only low-end DCF results in calculating the mean DCF result while continuing to include high-end DCF results in calculating the mean DCF result because it defeats the purpose of assembling a proxy group and the use of its data.

Second, I disagree with Mr. Moul's averment that my DCF return fails to provide a sufficient spread over the May 2024 yield of 5.74% on A-rated public utility bonds. In fact, my DCF result offers a 5.33% (9.91% - 4.58%) spread or margin over the Company's claimed long-term debt cost of 4.58% (I&E Exhibit No. 2, Schedule 1), which is higher than the Company's long-term debt cost. I certainly believe that my DCF result offers a reasonable and sufficient spread over the Company's claimed long-term debt cost and my DCF analysis result is not unbalanced.

GROWTH RATE

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING YOUR GROWTH RATES.

A. Mr. Moul states that my mean growth rate of 5.65% is developed after first eliminating the Yahoo! Finance growth rate for Dominion Energy. He then opines that I should have also removed the growth rate of 0.40% for AVANGRID, Inc. if my Dominion Energy exclusion is valid. Lastly, he states that my proxy group modified growth rate would have resulted in a 5.74% rate, and the modified DCF results of 10.00% (4.26% + 5.74%) (PECO Statement No. 5-R, p. 23).

Q. DO YOU AGREE WITH MR. MOUL'S CRITICISM ABOUT THE GROWTH RATE IN YOUR DCF ANALYSIS?

A. No. I eliminated only the Yahoo! Finance projected extraordinarily high growth rate of 19.50% for Dominion Energy, however, I used Zacks' growth rate of 5.40% and the Value Line growth rate of 3.00% that results in an average growth rate of 4.20% for Dominion Energy. This growth rate of 4.20% is not an outlier because the next lowest average growth rate is 4.48% for Eversource Energy, which is higher by just 6.67%. Regarding Mr. Moul's suggestion to remove the Yahoo! Finance projected growth rate of 0.40% for AVANGRID, Inc., I do include Zacks' growth rate of 6.00% and the Value Line growth rate of 3.50% that results in an average growth rate of 3.30% for AVANGRID, Inc. It is important to note that the Yahoo! Finance growth rate is low compared to the growth rate estimates of Zacks and Value Line, however, it is not a negative estimate, so I believe it is appropriate to use the Yahoo! Finance estimate in calculating the average growth rate of AVANGRID, Inc. Mr. Moul himself removed I/B/E/S First Call estimates of negative growth rates for AVANGRID, Inc. and Dominion Energy, Inc. and continued using Zacks and Value Line growth estimates in his calculation for an average growth rate of both these companies (PECO Exhibit PRM-1, Schedule 9).

Ironically, and worth noting, Mr. Moul is concerned with my inclusion of Yahoo! Finance projected low growth rate of 0.40% for AVANGRID, Inc., but he has no issues with employing I/B/E/S First Call's significantly high growth

estimates of 17.21% for PPL Corp. in his growth rate calculation. If I remove the growth estimate of 17.21% and use Zacks (7.40%) and Value Line (8.00%) growth estimates, Mr. Moul's average growth rate estimates for PPL Corp. would be 7.70% rather than 10.87% used in his calculation of the proxy group average growth rate (PECO Exhibit PRM-1, Schedule 9). In fact, most recently PPL Corp. reaffirmed its projection of 6% to 8% annual earnings and dividend growth rate through at least 2027 based on the midpoint of its 2024 ongoing earnings forecast range (I&E Statement No. 2, p. 46). As discussed in my direct testimony, using the modified I/B/E/S First call (5.90%), Zacks (5.28%), and Value Line (5.33%) average growth rates, Mr. Moul's Electric Group modified growth rate range would be 5.33% - 5.90% and the average of analysts' growth rates would be 5.50% rather than his claimed growth rate of 6.00% (I&E Statement No. 2, p. 46). This would result in his DCF result of 9.90% (4.40% + 5.50%) without a leverage adjustment of 1.38% in contrast to his DCF analysis result of 10.40% without a leverage adjustment. Mr. Moul's modified DCF result of 9.90% closely aligns with my recommended DCF ROE of 9.91%.

LEVERAGE ADJUSTMENT

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING HIS LEVERAGE ADJUSTMENT.

A. First, Mr. Moul states that credit rating agencies do not measure the market-required cost of equity for a company, nor are they concerned with how it is

applied in the rate-setting context. Rather, the credit rating agencies are only concerned with the interests of lenders and the timely payment of principal and interest by companies (PECO Statement No. 5-R, p. 27). Second, Mr. Moul questions my references to prior Commission orders rejecting claimed leverage adjustments to the cost of equity and interprets a couple orders in his favor as indirectly or remotely supporting a leverage adjustment in determining the cost of equity (PECO Statement No. 5-R, pp. 27-28). Finally, Mr. Moul disagrees with my claim that investors base their decisions on the book value of a company's debt and equity (PECO Statement No. 5-R, p. 29).

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S REBUTTAL TESTIMONY CONCERNING HIS LEVERAGE ADJUSTMENT?

A. Mr. Moul has actually supported my argument that his proposed leverage adjustment is not needed by stating that the credit rating agencies are only concerned with the timely payment of principal and interest by utilities. Mr. Moul states that his leverage adjustment is based on his assertion that there is a difference in financial risk associated with book value capitalization and market value capitalization, which must be considered in determining a return on equity (PECO Statement No. 5-R, p. 29).

Financial risk does relate to the capital structure of a company, but it is created by the financing decisions (the use of debt or equity) and the amount of leverage or debt chosen to finance a company's assets. Financial risk and the

book value capital structure of a company are represented in the financial statements, which are part of what is evaluated by rating agencies. Mr. Moul agrees with me that credit rating agencies use a company's financial statements in their analysis to assess financial risk and determine its creditworthiness (PECO Statement No. 5-R, p. 27).

Q. SUMMARIZE MR. MOUL'S RESPONSE TO YOUR REFERENCE OF PRIOR COMMISSION ORDERS IN DIRECT TESTIMONY.

A. Mr. Moul refers to the discussion in my direct testimony about six recent cases where the Commission has rejected a "leverage adjustment" (I&E Statement No. 2, pp. 51-52). He explains that the Commission's decision to disallow a "leverage adjustment" in the 2008 Aqua Pennsylvania proceeding does not invalidate its use. Further, he states, "Notably, the Commission did not repudiate the leverage adjustment in the Aqua case, but instead arrived at an 11.00% return on equity for Aqua by including a separate return increment for management performance" (PECO Statement No. 5-R, pp. 27-28). Next, Mr. Moul claims that the adjustment proposed in the 2010 City of Lancaster case was much different than what he proposes in this case. Then, regarding the 2017 UGI Electric Utilities, Inc. - Electric Division case, Mr. Moul acknowledges the Commission granted a "management performance increment," not a "leverage adjustment" when arriving at the allowed equity return of 9.85%. As for the 2020 Columbia Gas case, Mr. Moul concedes that the Company accepted I&E's return on equity

recommendation of 9.86%, which did not include a "leverage adjustment" or additional points for management performance. Additionally, in the 2020 PECO Gas case, he argues that the Commission arrived at an equity return on the higher side without a "leverage adjustment," therefore, no adjustment was warranted. Finally, in the 2021 Aqua case, Mr. Moul acknowledges that the Commission set the cost of equity without a "leverage adjustment" (PECO Statement No. 5-R, p. 28).

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S COMMENTS REGARDING THE REFERENCED PRIOR COMMISSION ORDERS IN YOUR DIRECT TESTIMONY?

A. In this proceeding, Mr. Moul is recommending a 131-basis point (1.31%) "leverage adjustment" to the DCF results. To be clear, the Commission did in fact refuse to accept the leverage adjustment in the 2008 Aqua case by stating "…we reject the ALJ's recommendation to allow a 65 basis point risk adjustment."[6] The management performance points awarded to Aqua were case-specific and in no way related to the proposed leverage adjustment. Regarding the 2010 City of Lancaster case, the Commission did not reject the leverage adjustment based on the manner in which it was calculated, but rather, the Commission stated, "…the ALJ's recommendation is in error as any adjustment to the results of the market

[6] *Pa. PUC v. Aqua Pennsylvania, Inc.,* Docket No. R-00072711, pp. 38-39 (Order Entered July 31, 2008).

based DCF as we have previously adopted are unnecessary and will harm ratepayers."[7] Regarding the 2017 UGI Electric case, the Commission concluded that, "…an artificial adjustment in this proceeding is unnecessary and contrary to the public interest. Accordingly, we decline to include a leverage adjustment in our calculation of the DCF cost of equity."[8] Regarding the 2020 Columbia Gas case, the Commission stated,

> … we have adopted the ALJ's recommendation to use I&E's DCF methodology utilizing I&E's dividend yield of 3.34% and growth rate of 6.52%. As noted above, the ALJ did not specify a recommended cost of equity for Columbia in their Recommended Decision. However, we note that I&E's methodology results in an ROE of 9.86%.[9]

The ALJ's Recommended Decision stated the following,

> The ALJ agrees with BIE's reasoning that Columbia Gas' calculated return on equity was flawed for five reasons: (1) the weights given to the results of the Company's CAPM, RP, and CE analyses; (2) certain aspects of Columbia's discussion of risk; (3) Columbia Gas' application of the DCF including the forecasted growth rate and leverage adjustment used; (4) Columbia's inclusion of a size adjustment, reliance on the 30-year Treasury Bond for the risk-free rate, and the use of a double-adjusted *beta* in the CAPM analysis; and (5) the Company's request for an additional 20 basis points for "strong management performance" is unjustified.[10]

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[7] *Pa. PUC v. City of Lancaster – Bureau of Water*, Docket No. R-2010-2179103, p. 101 (Order Entered July 14, 2011).

[8] *Pa. PUC v. UGI Utilities, Inc. – Electric Division,* Docket No. R-2017-2640058, pp. 93-94 (Order Entered October 25, 2018).

[9] *Pa. PUC v. Columbia Gas of Pennsylvania*, Inc., Docket No. R-2020-3018835, p. 141 (Order Entered February 19, 2021).

[10] *Pa. PUC v. Columbia Gas of Pennsylvania*, Inc., Docket No. R-2020-3018835, Recommended Decision, pp. 184-185 (Order Entered February 19, 2021).

While the Company accepted I&E's DCF return without regard to the leverage adjustment or management performance in the last base rate case, in the Recommended Decision, the ALJ clearly rejected the Company's proposed leverage adjustment and the Commission agreed with the ALJ's Recommended Decision.

In the 2020 PECO Energy - Gas Division case, the Commission stated,

> … we have adopted the ALJ's recommendation to use I&E's DCF methodology and to use I&E's CAPM calculation as a check on the reasonableness of the DCF determined cost of equity. Therefore, we shall adopt the ALJ's recommended 10.24% cost of equity. In our view, this is an appropriate cost of equity for PECO given the record developed in this proceeding.[11]

In the Recommended Decision, the ALJ agreed with I&E's recommended cost of equity, which did not include a leverage adjustment.[12]

Finally, regarding the 2021 Aqua base rate case, the Commission did in fact reject the Company's proposed leverage adjustment as follows,

> We find I&E's arguments in opposition to the Company's position to be persuasive. For example, as I&E observed, credit rating agencies assess financial risk based upon a company's booked debt obligations and the ability of its cash flow to cover the interest payments on those obligations. The agencies use a company's financial statements, and not the company's market capital structure, in conducting their analysis. It is a company's financial statements that affect the market value of the stock, and, therefore, the financial statements and the book value capital structure are relied upon in an analysis such as that done by rating agencies. I&E St. 2 at 40; I&E St. 2-SR at 10.

[11] *Pa. PUC v. PECO Energy Company – Gas Division,* Docket No. R-2020-3018929, p. 171 (Order Entered June 22, 2021).

[12] *Pa. PUC v. PECO Energy Company – Gas Division*, Docket No. R-2020-3018929, Recommended Decision, p. 215.

> Accordingly, we find that the record in this proceeding supports rejecting the Company's requested leverage adjustment.[13]

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S ASSERTION THAT INVESTORS DO NOT BASE THEIR DECISIONS ON BOOK VALUE, BUT RATHER THE RETURN THEY EXPECT TO EARN ON THE DOLLARS THEY INVEST?

A. Investors purchase securities such as stocks at market value as opposed to book value. In doing so, they accept the returns and associated risks implied by market prices. However, financial statements, which are based on book values, show the entirely true financial position of a company, providing the foundation for investment and financing decisions. For example, financial institutions such as banks lend money based on actual book values and not the current price of a stock. Further, almost all financial ratios used in financial analysis utilize at least one book value variable from either the income statement or the balance sheet.

Mr. Moul's assertion that investors are unconcerned with the book value debt, or "some accounting value of little relevance to them" (PECO Statement No. 5-R, p. 29) of a utility is unsupported. Clearly an investor is fully aware and considers all the financial risks of a utility when determining a required return. In addition, the market capitalization information included in Value Line's reports and discussed by Mr. Moul (PECO Statement No. 5-R, p. 29) is not the same as

[13] *Pa. PUC v. Aqua Pennsylvania, Inc*., Docket No. R-2021-3027385, pp. 166-167 (Order Entered June 22, 2021).

market value capital structure. Market capitalization refers to the number of common stocks outstanding multiplied by the current stock market price, which is commonly used to measure the total market value of a company's stocks on a particular day in the stock market. A market value capital structure refers to the ratio of market debt to market equity, which, to my knowledge, is not included in Value Line's reports. Therefore, Mr. Moul's contention that Value Line includes market capitalization data does not offer any support for his leverage adjustment.

Q. HAS YOUR RECOMMENDATION CHANGED FROM DIRECT TESTIMONY REGARDING MR. MOUL'S LEVERAGE ADJUSTMENT?

A. No. For the reasons discussed above and in my direct testimony (I&E Statement No. 2, pp. 48-55), I continue to recommend that Mr. Moul's 138-basis point leverage adjustment (adder) to the DCF results be rejected.

INFLATION AND CAPITAL COSTS

Q. SUMMARIZE MR. MOUL'S GENERAL DISCUSSION ABOUT INFLATION AND CAPITAL COSTS.

A. Mr. Moul asserts that the Commission should recognize that accommodative policy by the Federal Open Market Committee (FOMC) has ended, and higher interest rates have occurred and will prevail in the future. He states the rate of inflation spiked upward to 9.1% in June 2022, and as of May 2024, it stood at 3.3% and the yield on A-rated public utility bonds has increased to 5.74% in May

2024 up from 2.77% in December 2020 (PECO Statement No. 5-R. p. 7). He then presents Blue Chip and Congressional Budget Office forecasts of yields on 10-year treasury notes by year for the period 2025-2030 and asserts that high interest rates demand higher capital costs (PECO Statement No. 5-R, pp. 7-8). Finally, he concludes that the Commission should consider the forecast of interest rates when it sets the cost of equity for PECO (PECO Statement No. 5-R, p. 8).

Mr. Moul agrees that there is always a possibility that the Fed Funds rate could be cut by the FOMC, but he expresses his concern that there also is a possibility that the rate could be increased at some point in the future. He also states that with no definitive plan in place, it would be speculative to infer what might occur in the future regarding the Fed Funds rate (PECO Statement No. 5-R, p. 9).

Q. WHAT IS YOUR RESPONSE TO MR. MOUL'S REBUTTAL TESTIMONY REGARDING INFLATION AND CAPITAL COSTS?

A. Mr. Moul focuses on historic inflation, increases in yield on A-rated public utility bonds, and the 2025-2030 forecasts of 10-year treasury yields. He speculates about continuing inflation pressure in the future. However, the historic high inflation rate does not suggest any meaningful conclusion because inflation has come down significantly from the historic levels and the changes in bond yields are continuous and volatile, and always driven by capital market conditions, which are influenced by various economic and financial market conditions.

Regarding the interest rate cuts, it is important to note that the Federal Reserve commitment for interest rate cuts is intact and it did not state that there will be no possibility of a rate cut in 2024-2025; it just wants to see the target inflation level closer to 2%. Per the latest news,[14] the Federal Reserve and analysts now predict interest rate cut(s) likely by end of the year 2024 and more rapidly next year, to make up to four rate cuts in 2025, up from three projected previously. Mr. Moul's statement that there is a possibility that the interest rate could be increased at some point in the future is unsupported and speculative. As discussed in my direct testimony, I reiterate that the Federal Reserve's commitment to interest rate reductions would have the effect of reducing potential inflation and interest rate risks for 2025 capital costs, when PECO's new rates will be in effect (I&E Statement No. 2, pp. 24-25).

Additionally, it is important to note that unlike unregulated companies, public utilities may file rate cases to address unforeseen or increased expenses and/or revenue shortfalls due to changes in market conditions.

Q. DOES THE DCF METHOD ADEQUATELY FACTOR IN THE IMPACT OF RECENT AND FORECASTED INFLATION AND INTEREST RATES?

A. Yes. My DCF calculation includes a spot stock price when determining the projected dividend yield and analysts who generate forecasted earnings growth

[14] Powell Signals Rate Cut Coming Into View but Declines to Say When (msn.com) (accessed on July 16, 2024). Powell's closer attention to cooling job market boosts hopes for Fed rate cuts (yahoo.com) (accessed on July 16, 2024).

rates should take current and projected inflation and interest rates into consideration as well. Therefore, the DCF analysis contains the most up-to-date projected information of any model. Thus, Mr. Moul's concerns of high inflation and interest rates (PECO Statement No. 5-R, p. 18) are adequately covered by using the DCF as a primary method for determining an appropriate return on equity. Therefore, there is no need for any adjustments in the market determined DCF results or consideration of other analysis (CAPM) results for the inflation and current interest rates in determining an appropriate cost of equity for PECO.

CAPITAL ASSET PRICING MODEL

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING YOUR APPLICATION OF THE CAPM.

A. Mr. Moul opines that my CAPM analysis understates the cost of equity for a few reasons, including my use of the yield on 10-year Treasury Notes for my risk-free rate and failure to use leverage adjusted betas (PECO Statement No. 5-R, p. 30). Each of these topics are discussed in more detail below.

RISK-FREE RATE

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING YOUR USE OF THE YIELD ON THE 10-YEAR U.S. TREASURY NOTE.

A. Mr. Moul claims that by using the 10-year Treasury Note, I introduced a systematic understatement of CAPM returns. He opines that his use of the yield

on a 30-year U.S. Treasury Bond is more appropriate than my use of the yield on a 10-year Treasury Note because 30-year bonds are "more a reflection of investor sentiment of their required returns." He points to the difference in yields on 30-year and 10-year Treasury obligations. Additionally, he provides a recalculation of my risk-free rate to use in the CAPM formula (PECO Statement No. 5-R, pp. 30-31).

Q. DO YOU AGREE WITH MR. MOUL THAT USING THE YIELD OF A 30-YEAR U.S. TREASURY BOND IS MORE APPROPRIATE DUE TO A LONGER-TERM BOND BEING LESS SUSCEPTIBLE TO FEDERAL POLICY ACTIONS?

A. No. As explained in my direct testimony (I&E Statement No. 2, pp. 56-57), I chose the 10-year Treasury Note as it balances the shortcomings of the short-term T-Bill and the 30-year Treasury Bond. Although long-term Treasury Bonds have less risk of being influenced by federal policies, they have substantial maturity risk associated with the market risk. In addition, long-term treasury bonds bear the risk of unexpected inflation. As such, my choice of a 10-year Treasury Note is more appropriate. Additionally, as mentioned in my direct testimony, the Commission has agreed with I&E and recognized the 10-year Treasury Note as the superior measure of the risk-free rate of return.[15]

[15] *Pa. PUC v. UGI Utilities, Inc. – Electric Division,* Docket No. R-2017-2640058, p. 99 (Order Entered October 25, 2018).

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING YOUR CALCULATION OF THE RISK-FREE RATE USED IN THE CAPM FORMULA.

A. Mr. Moul opines that I have incorrectly given the same weight to the yield on the 10-year Treasury Note for the third and fourth quarter of 2024 and first, second, and third quarters of 2025, as I do for the entire five-year period 2025 through 2029. He then recalculates the risk-free rate by averaging the 10-year Treasury yield forecasts by year from 2025 through 2030 to increase my calculated risk-free rate from 4.07% to 4.10% and also presents the 30-year Treasury Bond average yield of 4.30% for a comparison (PECO Statement No. 5-R, pp. 31-32).

Q. DO YOU AGREE WITH MR. MOUL'S ANALYSIS OF YOUR RISK-FREE RATE?

A. No. Mr. Moul's revised calculation proposes to give equal weight to each separate year from 2025 to 2030. The flaw with this approach is that the further out into the future one forecasts, the less reliable and more speculative the estimates become; therefore, to give the less reliable estimates equal weight would not be appropriate. It is more appropriate to weight the forecasted quarterly yields for 2024-2025 and the average yield for the period 2025-2029 as I have done in my direct testimony (I&E Exhibit No. 2, Schedule 8). Treasury yields are volatile and change frequently, and therefore, it is more appropriate to use forecasted yields for the quarters of 2024 and 2025 and a five-year average (2025-2029) yield rather

than using yearly forecasts in the calculation of a risk-free rate. Accordingly, my calculation provides a more accurate estimation of the risk-free rate for the FPFTY when the new rates will be in effect.

More importantly, what Mr. Moul fails to recognize, the risk-free rate of 3.75% he uses in his own calculation (PECO Exhibit PRM-1, Schedule 1, p. 2) is notably lower than the 4.07% risk-free rate I used in my CAPM analysis. Therefore, his criticisms of my risk-free rate appear meaningless and carry no weight.

LEVERAGE ADJUSTED BETAS

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING THE USE OF LEVERAGE ADJUSTED BETAS.

A. Mr. Moul simply claims that I failed to use leverage adjusted betas (PECO Statement No. 5-R, p. 30). He does not offer an explanation or additional information beyond what he argued in his direct testimony.

Q. IS THE USE OF "LEVERAGE ADJUSTED BETAS" IN CAPM ANALYSES APPROPRIATE?

A. No. Mr. Moul's adjustment only serves to inflate the result of his CAPM analysis, which I have discussed in greater detail in my direct testimony (I&E Statement No. 2 pp. 57-58). Value Line is a well-known and trusted source that both investors and the Commission rely upon, therefore, it is not necessary to make any

type of adjustments to the Value Line betas. Additionally, it is worth mentioning again that a stock with a price movement that is greater than the overall stock market will have a beta that is greater than one and would be described as having more investment risk than the market. Due to being regulated and the monopolistic nature of utilities, very rarely do they have a beta equal to or greater than one. Therefore, in this case, to apply an adjusted beta of 1.15 (rather than the Value Line average beta of 0.91) to the electric proxy group as Mr. Moul has done to account for the alleged financial risk associated with the book value capital structure is completely unwarranted and irrational.

Q. MR. MOUL HAS RECALCULATED YOUR CAPM RESULTS. DO YOU AGREE WITH HIS RECALCULATION?

A. No. Mr. Moul's recalculation of my CAPM result is incorrect. As discussed in my direct testimony and above, he used an inaccurate risk-free rate (PECO Statement No. 5-R, p. 32). Because of these factors, the recalculation of my CAPM result as Mr. Moul illustrates is inconsistent with my inputs in the CAPM analysis and unnecessary.

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS REGARDING YOUR CAPM ANALYSIS?

A. Yes. My recommended cost of equity is primarily based upon my DCF analysis for the reasons explained above and in my direct testimony. I reiterate that I

present a CAPM analysis to the Commission for comparison, not for recommendation purposes as the inputs are highly subjective, and other than beta, not company or industry specific.

RISK PREMIUM

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING THE RISK PREMIUM (RP) METHOD.

A. Mr. Moul opines that the RP method should be given consideration because it is straight-forward, understandable, and uses a company's own borrowing rate. He claims it provides a direct and complete reflection of a utility's risk and return and reflects prospective interest rates in the model, and therefore, the RP method should be given weight in determining the equity cost rate in this case (PECO Statement No. 5-R, p. 34). He states that my assertion that the RP method does not measure the current cost of equity as directly as the DCF is unfounded (PECO Statement No. 5-R, p. 35). He believes the industry will face high interest rates for the foreseeable future, and therefore, his RP cost rate is fully responsive to changing market fundamentals (PECO Statement No. 5-R, p. 36).

Q. DO YOU AGREE WITH MR. MOUL THAT THE RP METHOD PROVIDES A DIRECT AND COMPLETE REFLECTION OF A UTILITY'S RISK AND RETURN?

A. No. The RP method produces an indirect measure when compared to the DCF

method.

Q. PLEASE COMMENT ON THE INDIRECT MEASURE OF THE RP METHOD VERSUS THE MORE DIRECT MEASURE OF THE DCF METHOD.

A. I have clearly illustrated in my direct testimony how the two methods (RP and DCF) are different (I&E Statement No. 2, pp. 16 and 17-19). The main reason is that the RP method determines the rate of return on common equity indirectly by observing the cost of debt (interest rate) and adding to it an equity risk premium. The risk premium component in the RP method is subjective and varies depending on the debt and equity being compared. Additionally, the RP method does not directly measure the company specific risk as is done in the DCF method. The DCF measures equity more directly through the stock information, whereas the RP method measures equity indirectly using debt information and risk premium.

I disagree with Mr. Moul's speculative opinion that the industry will face high interest rates for the foreseeable future and his RP cost rate is fully responsive to changing market fundamentals. As discussed in the inflation and capital costs section above, the FOMC is considering a series of interest rate cuts in 2024-2025 when PECO's new rates will be in effect and continue thereafter. Therefore, it is inappropriate to assume that his current RP cost rate is responsive to future changing market fundamentals.

COMPARABLE EARNINGS

Q. SUMMARIZE MR. MOUL'S REBUTTAL TESTIMONY REGARDING THE COMPARABLE EARNINGS (CE) METHOD.

A. Mr. Moul claims that using the CE method satisfies the comparability standard established in the *Hope Natural Gas* case. Additionally, he states, "the financial community has expressed the view that the regulatory process must consider the returns that are being achieved in the non-regulated sector to ensure that regulated companies can compete effectively in the capital markets" (PECO Statement No. 5-R, pp. 36-37).

Q. DO YOU BELIEVE THAT THE COMPANIES USED BY MR. MOUL IN HIS CE METHOD ANALYSIS ARE SIMILARLY SITUATED AND COMPARABLE TO PECO?

A. No. As explained in my direct testimony (I&E Statement No. 2, pp. 37-38) the companies in Mr. Moul's analysis are not regulated utilities and similarly situated and, therefore, are too disparate to be used in a CE analysis. For example, the criteria Mr. Moul uses to choose the companies in his proxy group for his CE analysis are engaged in unregulated industries like Chemicals, Retail Stores, Financial Services, Telecom, Food, IT Services, Industrials, Machinery, Trucking, Diversified Business, Banking, Petroleum, Aerospace/Defense, Railroad, etc. (PECO Exhibit PRM-1, Schedule 14, pp. 1-2). All the companies of his proxy group operate in industries that are very different from a utility company and

operate under variable levels of regulation. Also, a large majority, if not all the companies Mr. Moul uses in his analysis, are not monopolies as utilities largely are. This means that they have significantly more competition and would require a higher return for the added risk. Additionally, the CE method should be excluded because it is entirely subjective as to which companies are comparable and it is debatable whether historical accounting returns are representative of the future.

MANAGEMENT PERFORMANCE POINTS

Q. SUMMARIZE THE COMPANY'S REBUTTAL TESTIMONY REGARDING MANAGEMENT PERFORMANCE POINTS.

A. Mr. Moul believes PECO has performed in an exemplary manner, as explained by PECO Witness Ms. LeVine and continues to advocate for an additional 15 basis point (0.15%) adjustment in the cost of equity. He then points to Ms. LeVine's direct and rebuttal testimony to establish that the Company's management performance warrants recognition by the Commission (PECO Statement No. 5-R, p. 40).

Ms. LeVine asserts that PECO has demonstrated excellence with regard to the quality and reliability of its service, commitment to energy efficiency, willingness to embrace cost-effective new technologies, vigilance in protecting the safety of its workers, and strong promotion of community and economic development. She states that PECO has also successfully managed and controlled its operating expenses since its last base rate case in 2021 to deliver savings to

customers and has achieved reductions in customer service interruptions and has implemented customer service enhancements. Finally, she asserts that PECO has continued to deliver superior performance worthy of recognition by the Commission (PECO Statement No. 1-R, pp. 13-16).

Q. WHAT IS YOUR RESPONSE TO THE COMPANY'S REBUTTAL TESTIMONY REGARDING THE CONSIDERATION OF ADDITIONAL BASIS POINTS FOR EXEMPLARY MANAGEMENT PERFORMANCE?

A. As discussed in greater detail in my direct testimony (I&E Statement no. 1, pp. 61-67), I maintain that PECO, or any utility company for that matter, should not reap additional rewards for programs funded by ratepayers or for meeting their obligations under 66 Pa C.S.A. §1501.

Also, while I am aware that under 66 Pa C.S.A. §523 the Commission shall consider a utility's performance, it is not mandatory that the Commission grant additional points in the cost of equity. Moreover, I continue to assert that for any company, true strong management performance is earning a higher return through its operating efficiency and efficient use of resources and cost cutting measures. The greater net income resulting from cost savings and true efficiency in management and operations is available to be passed on to shareholders. I reiterate my position that PECO should not be rewarded for doing what the Company is legally required to provide as to quality and reliability of its service, commitment to energy efficiency, willingness to embrace cost-effective new

technologies, safety of its workers, and customer services. I believe Ms. LeVine's claim for PECO's management excellence in various areas is "business as usual" requirements. Ms. Levine acknowledges that "there is no question that PECO is required to deliver utility services efficiently and effectively to benefit our customers, and we have certainly done that" (PECO Statement No. 1-R, p. 15). I continue to recommend that any addition of basis points to the cost of equity for management performance be disallowed.

Q. DOES THE COMMISSION'S 2022 MANAGEMENT AND OPERATION AUDIT REPORT SUPPORT PECO'S CLAIM FOR EXEMPLARY MANAGEMENT PERFORMANCE?

A. No. As discussed in my direct testimony (I&E Statement No. 2, pp. 62-64), the Management and Operation Audit Report (Exhibit I-3, p. 1 of the report)[16] identified the level of operational efficiency and improvements required in the areas of cost allocations and electric operations. The report identified PECO's electric operational area as requiring improvements, mainly in reducing staff overtime, improving SAIDI and CAIDI performance to or below the Commission's benchmark, reducing the number of customers experiencing interruptions, reducing outages caused by broken/uprooted vegetation to the 2015-2018 levels, and reducing service interruptions caused by equipment failures.

[16] Management and Operations Audit of PECO Energy Company, prepared by the Commission's Bureau of Audits at Docket No. D-2021-3023909, July 2022.

Q. DOES THE COMMISSION'S PAST AWARD OF ADDITIONAL EQUITY POINTS TO RECOGNIZE MANAGEMENT PERFORMANCE AWARDED TO AN ELECTRIC UTILITY MEAN THAT PECO SHOULD ALSO RECEIVE AN ADJUSTED RETURN ON EQUITY?

A. No. The 2017 UGI Electric case is irrelevant to the determination of whether PECO Electric should also be granted additional basis points to its cost of equity for management performance. Management performance is something that is very specific to each individual utility. Therefore, what the Commission has historically decided in this regard, and the management performance of other utilities, has no bearing on whether PECO should receive a higher return on equity to recognize its management performance. Notably, however, in the 2017 UGI Electric case, which was decided in a pre-pandemic climate, the Commission awarded the Company a minimal five additional basis points for management effectiveness. PECO's request is three times more than what UGI Electric was awarded.

Q. HAS YOUR RECOMMENDATION REGARDING THE COMPANY'S REQUEST FOR ADDITIONAL BASIS POINTS FOR MANAGEMENT PERFORMANCE CHANGED?

A. No. Considering the above discussion and the impact of management performance points on ratepayers (I&E Statement No. 2. p. 66), I continue to

recommend that any additional basis points for management performance be rejected.

OVERALL RATE OF RETURN

Q. HAS YOUR OVERALL RATE OF RETURN RECOMMENDATION CHANGED FROM YOUR DIRECT TESTIMONY?

A. No. My recommended cost of equity and overall rate of return remain unchanged from my direct testimony (I&E Statement No. 2, p. 6).

Q. WHAT IS YOUR OVERALL RATE OF RETURN RECOMMENDATION?

A. I continue to recommend the following rate of return for PECO:

I & E
PECO Energy Company - Electric Division
Summary of Cost of Capital

Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	46.60%	4.58%	2.13%
Common Equity	53.40%	9.91%	5.29%
Total	**100.00%**		**7.42%**

As discussed in my direct testimony, I reiterate that my recommended return on equity of 9.91% is higher than the average return on equity of 9.66% of all electric utility rate cases decided/approved by the state regulatory authorities in the first quarter of 2024. It is also important to note here that Pennsylvania is a deregulated state, which would indicate less risk. (I&E Statement No. 2, p. 68).

SUMMARY OF IBEW WITNESS REBUTTAL TESTIMONY

Q. SUMMARIZE IBEW WITNESS MR. ANASTASI'S COMMENT ON PECO'S CLAIMED ROE OF 10.75% IN REBUTTAL TESTIMONY.

A. Mr. Anastasi supports PECO's claimed ROE and he believes a return needs to be sufficient to assure confidence in the financial integrity of PECO and ensure it attracts and retains investors (IBEW Statement, p. 9).

Q. DO YOU AGREE WITH MR. ANASTASI'S CONCURRENCE WITH THE PECO'S CLAIMED ROE?

A. No. I disagree with Mr. Anastasi's acceptance of PECO's claimed ROE because he does not present a detailed cost of equity analysis that matches the Company's claimed ROE. To suggest that PECO's claimed cost of equity be approved absent a detailed analysis in a base rate proceeding is inappropriate and not in the public interest. Mr. Anastasi made a general comment that "a return needs to be sufficient to assure confidence in the financial integrity of PECO and to ensure it attracts and retains investors." It appears he did not evaluate PECO's financials and ratemaking calculations to support his position. His argument revolves around an investor's perspective who would not invest in PECO or another utility if it does not provide an expected return (IBEW Statement, p. 10). He is not concerned with the impact of PECO's claimed ROE on the rates and the burden that ratepayers would carry.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3046931
PECO Energy Company – Electric Division	:	

VERIFICATION OF D. C. PATEL

I, **D. C. Patel**, on behalf of the Bureau of Investigation and Enforcement, hereby verify that **I&E Statement No. 2**, **I&E Exhibit No. 2**, and **I&E Statement No. 2-SR**, were prepared by me or under my direct supervision and control.

Furthermore, the facts contained therein are true and correct to the best of my knowledge, information and belief and I expect to be able to prove the same if called to the stand at any evidentiary hearing held in this matter.

This Verification is made subject to the penalties of 18 Pa. C.S. § 4904 relating to unsworn falsification to authorities.

Signed in Harrisburg, Pennsylvania, this 5th day of August 2024.

/s/ *DCPatel*
D. C. Patel

I&E Statement No. 3
Witness: Esyan A. Sakaya

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY – ELECTRIC DIVISION

Docket No. R-2024-3046931

Direct Testimony

of

Esyan A. Sakaya

Bureau of Investigation and Enforcement

Concerning:

Test Year
Rate Base
FTY and FPFTY Reporting
Present Rate Revenue
Proposed Rate Revenue
Customer Charges
Scale Back of Rates

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INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Esyan A. Sakaya. My business address is Pennsylvania Public Utility Commission, 400 North Street, Harrisburg, PA 17120.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission in the Bureau of Investigation and Enforcement ("I&E") as a Fixed Utility Valuation Engineer.

Q. WHAT IS YOUR EDUCATION AND PROFESSIONAL BACKGROUND?

A. My education and professional background are set forth in Appendix A, which is attached.

Q. PLEASE DESCRIBE THE ROLE OF I&E IN RATE PROCEEDINGS.

A. I&E is responsible for protecting the public interest in proceedings before the Commission. The I&E analysis in the proceeding is based on its responsibility to represent the public interest. This responsibility requires the balancing of the interests of ratepayers, the regulated utility, and the regulated community as a whole.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to present recommendations regarding

PECO Energy Company – Electric Division's ("PECO" or "Company") request for approximately $464.0 million or approximately 25.9% ($463,632,000 / $1,788,967,000) increase in base rate revenue (PECO Volume 2, Exhibit MJT-1, Schedule A-1, lines 17).

Q. DOES YOUR DIRECT TESTIMONY INCLUDE AN EXHIBIT?

A. Yes. I&E Exhibit No. 3 contains Schedules relating to my direct testimony.

Q. PLEASE DESCRIBE THE FILING.

A. On March 28, 2024, PECO filed a base rate case reflecting $465,038,000 of additional revenue using the Fully Projected Future Test Year ("FPFTY") ending December 31, 2025. The $465,038,000 of additional revenue includes a $463,632,000 increase in distribution rate revenue, and $1,406,000 of additional miscellaneous revenue (PECO Volume 2, Exhibit MJT-1, Sch. A-1, lines 17 -20).

TEST YEARS

Q. WHAT IS A TEST YEAR AND HOW IS IT USED?

A. A test year is a twelve-month period over which a utility's costs and revenues are measured as the basis for setting prospective base rates. To meet its burden of proof, a utility has the option of selecting a historic test year ("HTY"), a future test year ("FTY"), or an FPFTY. An HTY is a twelve-month period selected by a company that represents a recent full year of actual data. An FTY begins the day

after the HTY ends and is determined using a combination of actual data and a projection of annualized and normalized estimates of future revenues and expenses and a corresponding rate base at the end of that period. An FPFTY is defined as the twelve-month period that begins with the first month that the new rates will be placed into effect, after the application of the full suspension period permitted under Section 1308(d). By using an FTY or an FPFTY, a utility makes a projected claim of future revenues and expenses and a corresponding measure of value at the end of the period.

Q. WHAT TEST YEARS HAS THE COMPANY USED IN THIS PROCEEDING?

A. PECO has selected the year ended December 31, 2023 as the HTY, the year ending December 31, 2024 as the FTY, and the year ending December 31, 2025 as the FPFTY (PECO Statement No. 3, p. 2).

Q. WHAT TEST YEAR HAS THE COMPANY BASED ITS REVENUE REQUIREMENT ON IN THIS PROCEEDING?

A. PECO based its requested revenue requirement on the FPFTY ending December 31, 2025 (PECO Statement No. 3, p. 2).

RATE BASE

Q. WHAT IS RATE BASE?

A. Rate base is the depreciated original cost of a utility's investment in plant a utility has in place to serve customers plus other additions and deductions that the Commission determines to be necessary in order to keep the utility operating and providing safe and reliable service to its customers.

Q. HOW IS RATE BASE USED WITHIN THE RATEMAKING FORMULA?

A. Rate base is one part of the financial equation used by the Commission to determine the appropriate revenue that a utility is granted in a rate proceeding. The revenue determination allows the utility to meet its expense obligations and gives it the opportunity to earn the rate of return established by the Commission in a rate proceeding. The equation used to determine the proper revenue requirement level is:

Revenue Requirement = (Rate Base x Rate of Return) + Operating Expenses + Depreciation Expenses + Taxes.

Q. HOW IS THE DEPRECIATED ORIGINAL COST OF PLANT-IN-SERVICE AT THE END OF THE TEST YEAR DETERMINED?

A. The depreciated original cost is equal to the original cost of the plant-in-service that is used and useful in the provision of utility service to the customers less accumulated depreciation as adjusted by other items such as salvage value and

removal costs. By using an FPFTY, the depreciated original cost of plant in service is computed by taking a "snapshot" look at the depreciated original cost value of used and useful utility plant estimated to be in service at the end of the FPFTY.

Q. WHAT OTHER ADDITIONS AND DEDUCTIONS TO THE DEPRECIATED ORIGINAL COST OF UTILITY PLANT ARE ALLOWED IN RATE BASE?

A. Some of the additions to rate base include materials and supplies, prepayments, and cash working capital. Some of the deductions include deferred income taxes and customer deposits. Some additions are applicable to a specific utility or utility type.

Q. WHAT IS THE COMPANY'S JURISDICTIONAL RATE BASE, ORIGINAL COST OF PLANT IN SERVICE, ACCUMULATED DEPRECIATION, AND NET ELECTRICAL PLANT IN SERVICE PROJECTED FOR THE FPFTY?

A. For the FPFTY, PECO is claiming $8,855,637,000 of rate base, which includes $11,242,906,000 of projected original cost plant, $2,253,728,000 of accumulated depreciation, and $555,965,000 of net common plant resulting in $9,545,143,000 of net electric plant in service. The rate base also includes additions of $214,843,000 of cash working capital, and $30,350,000 of materials and supplies

and deductions of $596,644,000 for accumulated deferred income taxes ("ADIT"), $57,291,000 for customer deposits, customer advances of $2,889,000, and an ADIT regulatory liability of $277,875,000 (PECO Volume 2, MJT-1, Sch. C-1, line 1-12).

FTY AND FPFTY REPORTING

Q. WHAT AMOUNT OF PLANT ADDITIONS AND RETIREMENTS IS THE COMPANY PROJECTING FOR THE FTY?

A. Included in the rate base described above, the Company is claiming $1,270,347,000 of plant additions and $148,926,000 of retirements in the FTY (PECO Exhibit MJT-2, Sch. C-2, pp 19-20).

Q. WHAT AMOUNT OF PLANT ADDITIONS AND RETIREMENTS IS THE COMPANY PROJECTING FOR THE FPFTY?

A. The Company is claiming $1,197,911,000 of plant additions and $130,050,000 of retirements in the FPFTY (PECO Exhibit MJT-1, Sch. C-2, pp. 19-20).

Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING PECO'S CLAIMED FTY AND FPFTY PLANT ADDITIONS AND RETIREMENTS?

A. Yes. I recommend that the Company be required to provide the Commission's Bureau of Investigation and Enforcement and the Office of Consumer Advocate with an update to PECO Exhibit MJT-2, Schedule C-2, pp. 18- 23 no later than

April 1, 2025, which should include actual plant additions, retirements, and reclassifications by month from January 1, 2024 through December 31, 2024. I also recommend that the Company be required to provide an update to PECO Exhibit MJT-1, Schedule C-2, pp 18-23 no later than April 1, 2026, which should include actual plant additions, retirements, and reclassifications by month from January 1, 2025 through December 31, 2025.

Q. WHY DO YOU RECOMMEND THAT PECO BE REQUIRED TO PROVIDE THESE UPDATES?

A. There is value in determining how closely PECO's projected investments in future facility compare to the actual investments made by the end of the FTY and FPFTY. Establishing rates using an FPFTY, PECO is requesting ratepayers to pre-pay a return on its projected investment in future facilities that are not in place and providing service at the time the new rates take effect and are not subject to any guarantee of being completed and placed into service. While the FPFTY allows for such projections, there should be some timely verification of the projections. Determining the correlation between PECO's projected plant additions and actual plant additions will help inform the Commission and the parties in PECO's future rate cases.

PRESENT RATE REVENUES

Q. WHAT IS THE COMPANY'S CLAIM FOR PRESENT RATE REVENUES?

A. The Company's claim for total FPFTY operating revenues under pro forma present rates is $2,908,189,000 (PECO Exhibit MJT-1, Sch. A-1, line 20). Present rate distribution revenues of $1,788,967,000 are included in total operating revenues above and shown on PECO Exhibit MJT-1, Sch. A-1, line 18.

Q. HOW DOES THE COMPANY DETERMINE ITS CLAIMED PRESENT RATE REVENUES FOR THE FPFTY?

A. Revenues at present rates were developed by adjusting the budgeted revenues for PECO's electric operations for the FPFTY to: (1) remove revenues related to portions of the Company's business that are not subject to the Commission's jurisdiction; (2) remove revenues billed under the surcharge (i.e., non-base rate revenue) that recovers the cost of implementing the Company's energy efficiency and conservation programs pursuant to Act 129; (3) reverse the revenue credit associated with the Company's tax repair allowance catch-up adjustment, which is being provided pursuant to the terms of the settlement of PECO's 2010 electric base rate case; (4) annualize revenues related to changes in the number of customers to reflect year-end levels for the FPFTY; (5) normalize revenues to reflect 365.25 days; and (6) to reflect various pro forma revenue adjustments (PECO Statement No. 3, pp. 33-37).

Q. DO YOU AGREE WITH THE COMPANY'S PRESENT RATE REVENUES CLAIM?

A. No.

Q. WHAT DO YOU RECOMMEND FOR FPFTY PRESENT RATE DISTRIBUTION REVENUES?

A. I recommend an increase of $3,846,000 to the Company's claim.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. As detailed below, I am recommending adjustments to increase present rate revenue to add back projected sales declines for 2025 and 2026 for claims associated with Act 129-related load reductions.

Q. WHAT IS ACT 129?

A. Act 129 was passed by the Pennsylvania General Assembly on October 7, 2008 and signed into law on October 15, 2008. It became effective on November 14, 2008 and mandates, among other things, that jurisdictional electric distribution companies ("EDCs") with at least 100,000 customers reduce energy demand and consumption within their service territories. EDCs are, in return, allowed to recoup those energy and consumption losses in base rates.

Q. IS PECO CLAIMING LOST REVENUES DUE TO ACT 129 LOAD REDUCTIONS IN THIS PROCEEDING?

A. Yes. The Company's claimed revenue losses due to Act 129 are shown on PECO Exhibit MJT-1, Sch. D-5C. Specifically, PECO is claiming it will experience a revenue loss of $3,846,000 attributable to Act 129 load reductions during the FPFTY ending December 31, 2025 that will not occur until 2026, which is beyond the end of the FPFTY.

Q. ARE YOU PROPOSING TO REMOVE THE ACT 129 PRESENT RATE REVENUE ADJUSTMENT FOR REDUCTIONS IN 2026?

A. Yes. I recommend that the $3,846,000 reduction projected for 2026 be rejected and not be included in present rate revenues.

Q. PLEASE EXPLAIN THE RATIONALE FOR YOUR RECOMMENDATION.

A. To establish reasonable rates, the number of customers or usage volumes must be neither over-projected nor under-projected as these components are critical to determine the appropriate customer charges and usage rates. Specifically, distribution rates are determined by multiplying the approved customer charges by the number of bills (based upon the projected number of customers) to arrive at the customer charge revenue. Next, any remaining revenues to be recovered from that

class is determined by dividing the remaining revenues into the projected usage volumes to arrive at the usage rates.

The selected test year is important to appropriately project customer count and usage. As described above, the Company elected to use an FPFTY ending December 31, 2025; however, it is requesting to recover $3,846,000 of losses that are projected to occur in 2026, which is beyond the end of FPFTY. Rates will become effective on December 26, 2024; therefore, if the Company is permitted to include two years of sales declines in the first month rates become effective, the Company will over-collect revenue until the end of 2026, or for approximately two-years. It is not reasonable to go beyond the FPFTY and reflect revenue decline that may occur for up to two years in the future on the first day rates become effective.

CUSTOMER COST ANALYSIS

Q. WHAT IS A CUSTOMER COST ANALYSIS AND HOW IS IT USED?

A. A customer cost analysis is part of a cost of service study that includes direct costs and certain indirect customer costs. It is used to determine the appropriate customer charges for the various classes.

Q. WHAT ARE THE COMPANY'S TOTAL CLAIMED CUSTOMER COSTS PER MONTH?

A. The Company is claiming monthly customer costs as follows: $15.14 per month

for the Residential class; $22.67 for the GS class; $305.40 for the PD class; and $399.68 for the HT class (PECO Exhibit TJJ-5).

While I do not agree with all the customer cost components claimed by the Company, the components I would change would not result in a customer cost that differs materially from those proposed by the Company. Therefore, I am accepting the Company's claimed customer charges.

PROPOSED RATE REVENUES

Q. WHAT IS THE COMPANY'S CLAIM FOR PROPOSED RATE REVENUES?

A. The Company is claiming approximately $2,053 million in total distribution revenue. This is an increase of approximately $464 million over present base rate revenue of $1,589 million (PECO Exhibit JAB-1).

SCALE BACK OF RATES

Q. WHAT IS THE RATE OF RETURN AND RELATIVE RATE OF RETURN AND WHY ARE THEY IMPORTANT?

A. The rate of return for each class can be determined in a cost of service study by dividing the net income of each class into the rate base for each class to arrive at the rate of return for each class, expressed as a percentage. The relative rate of return is the rate of return divided by the overall rate of return expressed in a number. If the relative rate of return is greater than 1.0, the revenue received from

this class is greater than the cost of providing service to that class. If the relative rate of return is less than 1.0, the revenue received from this class is less than the cost of providing service to that class.

Q. HAVE YOU SUMMARIZED THE PROPOSED REVENUES AND SHOW THE RATES OF RETURN AND RELATIVE RATES OF RETURN UNDER PROPOSED RATES?

A. Yes. I have prepared I&E Exhibit No. 3, Schedule 1 showing the Company's proposed revenues by class. The rate of return by class is shown on line 28, and the relative rate of return is shown on line 29. I use this schedule for a proposed scale back if/when the Commission grants less than the full increase.

Q. WHAT SCALE BACK METHODOLOGY DO YOU RECOMMEND IF THE COMMISSION GRANTS LESS THAN THE FULL INCREASE?

A. If the Commission grants less than the Company's full requested increase, I recommend that the Commission follow a two-step scale-back as shown on I&E Exhibit No. 3, Schedule 2, p. 1, line 6, and I&E Exhibit No. 3, Schedule 2, p. 2, lines 6-7 showing the reduction to the various classes and different scale back levels.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDED SCALE BACK METHODOLOGY?

A. My scale back methodology is based first upon the results of the Company's cost of service study which shows the rates of return and relative rates of return under proposed rates. By changing various class increases through my targeted scale back, the relative rate of return for most classes will move towards 1.0, meaning that the cost to provide service to that class equals the revenues received from that class.

Q. WHAT IS THE OVERALL SCALE BACK THAT YOU WILL ADDRESS IN YOUR EXAMPLE?

A. My scale back example is based on a total reduction to the Company's requested increase of $95.7 million ($463,632,187 - $367,932,187) (I&E Exhibit No. 3, Sch. 3, columns C and E, line 8).

Q. WHAT IS THE FIRST STEP OF YOUR TARGETED SCALE BACK UNDER THIS METHODOLOGY?

A. The first step shows a $50 million scale back level going only to the Residential class (I&E Exhibit No. 3, Sch. 2, p. 1, column C, line 6).

Q. WHY DO YOU RECOMMEND THE FIRST STEP BE APPLIED ONLY TO THE RESIDENTIAL CLASS?

A. Under the Company's proposed rates, the relative rate of return for the Residential class is 1.10 (I&E Exhibit No. 3, Sch. 1, column C, line 29). Applying a $50 million reduction to the Residential class lowers the rate of return for the Residential class to 1.04 (I&E Exhibit No. 3, Sch. 2, p. 1, column C, line 30). As described above, a rate of return should be close to 1.00 so that the revenue received from each class recovers the cost of providing service to each class.

Q. WHAT IS THE SECOND STEP OF YOUR TARGETED SCALE BACK UNDER THIS METHODOLOGY?

A. The second step shows an additional $45.7 million scale back level (I&E Exhibit No. 3, Sch. 2, columns C, E, and G). At this $95.7 million ($50 million + $45.7 million) scale-back amount the relative rates of return for the Residential, General Service, High-Tension, and Lighting classes are 1.02 except for High Tension which is 1.03 (I&E Exhibit No. 3, Sch. 2, page 2, columns C, E, G, and I, lines 7 and 32).

Q. WHY DO YOU RECOMMEND THE SECOND STEP BE APPLIED TO THESE CLASSES?

A. Under the Company's proposed rates, the relative rates of return for these classes are all above 1.00. After this targeted scale back, the relative rate of return for

each of these classes is closer to 1.00 (I&E Exhibit No. 3, Sch. 2, columns C, E, G and I, line 32). As described above, the relative rate of return should be close to 1.00 so that the revenue received from each class recovers the cost of providing service to each class.

Q. WHAT DO YOU RECOMMEND IF THE COMMISSION GRANTS A REDUCTION TO PECO'S REQUESTED INCREASES OF GREATER THAN $95.7 MILLION?

A. If the Commission grants a reduction to PECO's requested increase of more than $95.7 million, I recommend that revenue be scaled back proportional to the percentage increases shown on I&E Exhibit No. 3, Sch. 2, page 2, line 14. This will keep the relative rates of return close to the rates of return shown on I&E Exhibit No. 3, Sch. 2, page 2, line 32.

Q. SHOULD THE ELECTRIC PROPULSION CLASS BE SCALED BACK?

A. No. Under proposed rates, the rate of return of the EP class is 0.75 (I&E Exhibit No. 3, Sch. 2, page 2, column H, line 32). As described above, if the relative rate of return is below 1.00 the revenue received from this class is less than the cost of providing service to this class.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Esyan A. Sakaya

THE PENNSYLVANIA PUBLIC UTILITY COMMISSION
400 North Street
HARRISBURG, PA 17120

Education:

National Association of Regulatory Utility Commissioners, Clearwater, FL
Utility Rate School; Utility Rate Making Basics, October 2019

Society of Depreciation Professionals, Philadelphia, PA
Introduction to Depreciation; Depreciation Fundamentals, September 2019

Temple University, Philadelphia, PA
Bachelor of Science; Major in Engineering Technology, 2015

Community College of Philadelphia, Philadelphia, PA
Associate of Applied Science; Major in Construction Management Technology, 2011

Island School of Building Arts, Gabriola Island, BC-Canada
Certificate Graduate: Heavy Timber Construction August 2002-November 2002

Solar Energy International, Carbondale, CO
Certificate Graduate: Basic and Advanced Photovoltaic Design, April 2002-May 2002

Experience:

12/2018-Present
Pennsylvania Public Utility Commission-Harrisburg, PA

Fixed Utility Valuation Engineer - Assist in engineering related studies related to valuation, depreciation, cost of service, quality of service as they apply to regulated utilities. Contribute in evaluating, contrasting and conducting performance analyses in distinctive sections of valuation engineering and rate structure involving valuation concepts, original cost, rate base, fixed capital costs, inventory processing, excess capacity, cost of service, and rate design. Provide expert testimony in rate related utility cases.

4/2018-12/2018
Pennsylvania Department of Transportation-Harrisburg, PA

Photogrammetry Technician I - Created three-dimensional mapping layouts of natural and man-made features from stereoscopic images on a computer workstation. Assisted in the field placement of ground based surveyed control-points prior to aerial photography acquisition. Provided field support in the use of laser scans for comprehensive digital surveying data. Operated global positioning satellite surveying equipment to obtain accurate geodetic coordinates of pre-established benchmarks.

8/2017-4/2018
Pennoni and Associates. Consulting Engineers-King of Prussia, PA

Construction Inspector – Provided quality assurance in the onsite material testing of concrete, soils, and asphalt. Read and interpreted construction drawings and specifications of materials and components. Completed daily reports regarding project progress to engineers, project managers/superintendents, contractors, and clients.

TESTIMONY SUBMITTED:

I have assisted and/or submitted testimony in the following proceedings:

NO.	Case
1.	UGI Gas Utilities - Gas Division, Docket No. R-2018-3006814
2.	Newtown Artesian Water Company, Docket No. R-2018-3006904
3.	Pittsburgh Wastewater, Docket No. M-2018-2640803
4.	PAWC Purchase of Steelton, Docket No. A-2019-3006814
5.	Philadelphia Gas Works, Docket Nos. R-2019-3009016 & R-2019-3007636
6.	Community Utilities Water, Docket No. R-2019-3008947
7.	Aqua Purchase of Cheltenham, Docket No. A-2019-3008491
8.	UGI North, Docket No. R-2019-3009647
9.	UGI Central, Docket No. R-2019-3009647
10.	UGI South, Docket No. R-2019-3009647
11.	Twin Lakes Utilities, Docket No. R-2019-3010958
12.	Penn Power Company, Docket No. P-2019-3012628
13.	UGI Gas Utilities, Docket No. R-2019-3015162
14.	National Fuel and Gas Distribution, Docket No. R-2020-3015251
15.	Columbia Gas of PA, Docket Nos. R-2020-3018993 & R-2020-3018835
16.	Duquesne Light Company, Docket No. P-2020-3019522

17. PA American Water Co., Docket Nos. R-2020-3019369 & R-2020-3010937
18. Bethlehem Water Company, Docket No. R-2020-3020256
19. Audubon Water Company, Docket No. R-2020-3020919
20. Twin Lakes Utilities, Docket No. P-2020-3020914
21. Pike County Light and Power-Gas, Docket No. R-2020-3022134
22. Pike County Light and Power-Electric, Docket No. R-2020-3022135
23. Duquesne Light Company, Docket No. R-2021-3024750
24. Community Utilities Water, Docket No. R-2021-3025206
25. Community Utilities Wastewater, Docket No. R-2021-3025206
26. Hanover Municipal Water Works, Docket No. R-2021-3026116
27. Aqua Pennsylvania, Inc., Docket Nos. R-2021-3027385 & R-2021-3027386
28. Aqua Purchase of Willistown, Docket No. A-2021-3027268
29. National Fuel and Gas Distribution, Docket No. R-2022-3030235
30. UGI Gas Utilities, Docket No. R-2021-3030218
31. PECO Energy Company – Gas, Docket No. R-2022-3031113
32. Valley Energy, Inc., Gas, Docket No. R-2022-3032300
33. Citizens' Electric Company, Docket No. R-2022-3032369
34. Leatherstocking Gas Company, LLC Docket No. R-2022-303276
35. National Fuel and Gas Distribution, Docket No. R-2022-3035730
36. Aqua Purchase of Shenandoah, Docket No. A-2022-3034143
37. UGI Electric Utilities, Docket No. R-2022-3037368
38. Philadelphia Gas Works, Docket No. R-2023-3037933
39. Columbia Water, Docket No. R-2023-3040258
40. Community Utilities Water, Docket No. R-2023-3042804
41. Community Utilities Wastewater, Docket No. R-2023-3042805
42. CAN DO, Inc., Docket Nos. R-2023-3040153 and R-2023-3040151
43. Veolia Water, Inc., Docket No. R-2024-3045192
44. Veolia Wastewater, Inc., No. Docket R-2024-3045193
45. Columbia Gas Company, Docket No. R-2024-3046519

I&E Exhibit No. 3
Witness: Esyan A. Sakaya

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY – ELECTRIC DIVISION

Docket No. R-2024-3046931

Exhibits to Accompany

the

Direct Testimony

of

Esyan A. Sakaya

Bureau of Investigation and Enforcement

Concerning:

Test Year
Rate Base
FTY and FPFTY Reporting
Present Rate Revenue
Proposed Rate Revenue
Customer Charges
Scale Back of Rates

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025
Under Proposed Rates

LINE NO.	DESCRIPTION		TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(A)		(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
1	**SUMMARY AT PRESENT RATES**									
2	**DEVELOPMENT OF DISTRIBUTION RETURN**									
3	OPERATING REVENUE									
4	Sales of Electricity - Base		$1,589,176	$927,169	$177,981	$266,019	$7,647	$178,267	$7,059	$25,034
5	**Proposed Increase**		**$463,632**	**$227,563**	**$69,038**	**$89,931**	**$2,714**	**$67,873**	**$2,770**	**$3,743**
6	**Purchase Power Increase**		**$331**	**$213**	**$56**	**$46**	**$0**	**$16**	**$0**	**$0**
7	**Transmission Increase**		**-$93**	**-$211**	**-$109**	**$40**	**$5**	**$178**	**$4**	**$0**
8	Decommissioning Revenues		-$4,214	-$1,316	-$335	-$874	-$34	-$1,584	-$51	-$20
9	Other Operating Revenue		$52,234	$30,329	$7,314	$8,509	$199	$5,004	$237	$642
10	Miscellaneous Revenue		$1,404	$748	$77	$105	$3	$80	$1	-$5
11	TOTAL OPERATING REVENUE		$2,102,471	$1,184,495	$254,022	$363,776	$10,535	$249,834	$10,019	$29,395
12	Increase		**$465,275**	**$228,313**	**$69,062**	**$90,122**	**$2,723**	**$68,147**	**$2,775**	**$3,738**
13	OPERATING EXPENSES									
14	Operation and Maintenance Expense		$820,555	$481,167	$108,427	$127,851	$4,171	$84,636	$3,819	$10,484
15	Depreciation and Amortization Expense		$335,839	$176,058	$44,254	$64,149	$1,758	$41,956	$1,998	$5,667
16	Taxes Other Than Income Taxes-General		$25,669	$13,550	$3,345	$4,421	$148	$3,759	$175	$271
17	Taxes Other Than Income Taxes-Distribution GRT	27,437	$91,675	$53,148	$10,152	$15,535	$450	$10,497	$416	$1,477
18	**Unitized GRT**	**5.900%**	**$27,354**	**$13,426**	**$4,073**	**$5,306**	**$160**	**$4,005**	**$163**	**$221**
19	Income Taxes	12.308%	$98,633	$51,097	$13,374	$18,503	$549	$13,228	$631	$1,251
20	TOTAL OPERATING EXPENSES		$1,399,725	$788,445	$183,625	$235,765	$7,236	$158,080	$7,202	$19,371
21	**OPERATING INCOME (RETURN)**		$702,351	$396,050	$70,397	$128,011	$3,299	$91,754	$2,817	$10,024
	Income Tax Rate		12.308%	11.427%	15.965%	12.629%	14.268%	12.600%	18.302%	11.095%
22	**DEVELOPMENT OF RATE BASE**									
23	Electric Plant in Service		$11,242,906	$5,686,522	$1,494,012	$2,234,178	$59,900	$1,506,068	$73,233	$188,993
24	Less: Accumulated Depreciation		$2,253,728	$1,135,300	$283,421	$458,360	$11,163	$298,002	$14,131	$53,351
25	Plus: Rate Base Additions		$746,058	$422,127	$90,986	$125,301	$4,070	$92,092	$3,292	$8,190
26	Less: Rate Base Deductions		$934,699	$466,872	$120,096	$202,261	$4,857	$120,617	$5,583	$14,413
27	**TOTAL DISTRIBUTION RATE BASE**		$8,800,537	$4,506,477	$1,181,481	$1,698,858	$47,950	$1,179,541	$56,811	$129,419
28	**DISTRIBUTION RATE OF RETURN (PRESENT)**		7.98%	8.79%	5.96%	7.54%	6.88%	7.78%	4.96%	7.75%
29	**DISTRIBUTION INDEX RATE OF RETURN (PRESENT)**		1.00	1.10	0.75	0.94	0.86	0.97	0.62	0.97

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025
First $50,000,000 Scale Back

LINE NO.	DESCRIPTION		TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(A)		(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
1	SUMMARY AT PRESENT RATES									
2	DEVELOPMENT OF DISTRIBUTION RETURN									
3	OPERATING REVENUE									
4	Sales of Electricity - Base		$1,589,176	$927,169	$177,981	$266,019	$7,647	$178,267	$7,059	$25,034
5	Proposed Increase		$463,632	$227,563	$69,038	$89,931	$2,714	$67,873	$2,770	$3,743
6	**I&E Recommended - First Dollar Relief**		**-$50,000**	**-$50,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
7	Purchase Power Increase		$331	$213	$56	$46	$0	$16	$0	$0
8	Transmission Increase		-$93	-$211	-$109	$40	$5	$178	$4	$0
9	Decommissioning Revenues		-$4,214	-$1,316	-$335	-$874	-$34	-$1,584	-$51	-$20
10	Other Operating Revenue		$52,234	$30,329	$7,314	$8,509	$199	$5,004	$237	$642
11	Miscellaneous Revenue		$1,404	$748	$77	$105	$3	$80	$1	-$5
12	TOTAL OPERATING REVENUE		$2,052,471	$1,134,495	$254,022	$363,776	$10,535	$249,834	$10,019	$29,395
13		Scaleback	**$415,275**	**$178,313**	**$69,062**	**$90,122**	**$2,723**	**$68,147**	**$2,775**	**$3,738**
14	Percent Increase		**26.1%**	**19.2%**	**38.8%**	**33.9%**	**35.6%**	**38.2%**	**39.3%**	**14.9%**
15	OPERATING EXPENSES									
16	Operation and Maintenance Expense		$820,555	$481,167	$108,427	$127,851	$4,171	$84,636	$3,819	$10,484
17	Depreciation and Amortization Expense		$335,839	$176,058	$44,254	$64,149	$1,758	$41,956	$1,998	$5,667
18	Taxes Other Than Income Taxes-General		$25,669	$13,550	$3,345	$4,421	$148	$3,759	$175	$271
19	Taxes Other Than Income Taxes-Distribution GRT	27,437	$91,675	$53,148	$10,152	$15,535	$450	$10,497	$416	$1,477
20	Unitized GRT	5.900%	$24,404	$10,476	$4,073	$5,306	$160	$4,005	$163	$221
21	Income Taxes	12.308%	$92,793	$49,244	$10,310	$18,033	$474	$12,921	$424	$1,388
22	TOTAL OPERATING EXPENSES		$1,390,935	$783,642	$180,562	$235,295	$7,161	$157,773	$6,996	$19,508
23	OPERATING INCOME (RETURN)		$661,140	$350,854	$73,460	$128,481	$3,374	$92,060	$3,023	$9,887
24	DEVELOPMENT OF RATE BASE									
25	Electric Plant in Service		$11,242,906	$5,686,522	$1,494,012	$2,234,178	$59,900	$1,506,068	$73,233	$188,993
26	Less: Accumulated Depreciation		$2,253,728	$1,135,300	$283,421	$458,360	$11,163	$298,002	$14,131	$53,351
27	Plus: Rate Base Additions		$746,058	$422,127	$90,986	$125,301	$4,070	$92,092	$3,292	$8,190
28	Less: Rate Base Deductions		$934,699	$466,872	$120,096	$202,261	$4,857	$120,617	$5,583	$14,413
29	TOTAL DISTRIBUTION RATE BASE		$8,800,537	$4,506,477	$1,181,481	$1,698,858	$47,950	$1,179,541	$56,811	$129,419
30	DISTRIBUTION RATE OF RETURN (PRESENT)		7.51%	7.79%	6.22%	7.56%	7.04%	7.80%	5.32%	7.64%
30	DISTRIBUTION INDEX RATE OF RETURN (PRESENT)		1.00	1.04	0.83	1.01	0.94	1.04	0.71	1.02

Total Residential	7.46%
Total Residential	1.01

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025
$95,700,000 Scale Back

LINE NO.	DESCRIPTION		TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(A)		(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
1	SUMMARY AT PRESENT RATES									
2	DEVELOPMENT OF DISTRIBUTION RETURN									
3	OPERATING REVENUE									
4	Sales of Electricity - Base		$1,589,176	$927,169	$177,981	$266,019	$7,647	$178,267	$7,059	$25,034
5	Proposed Increase		$463,632	$227,563	$69,038	$89,931	$2,714	$67,873	$2,770	$3,743
6	**I&E Recommended - First Dollar Relief**		**-$50,000**	**-$50,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
7	**I&E Recommended - Second Dollar Relief**		**-$45,700**	**-$30,000**	**$0**	**-$7,000**	**$0**	**-$8,000**	**$0**	**-$700**
8	Purchase Power Increase		$331	$213	$56	$46	$0	$16	$0	$0
9	Transmission Increase		-$93	-$211	-$109	$40	$5	$178	$4	$0
10	Decommissioning Revenues		-$4,214	-$1,316	-$335	-$874	-$34	-$1,584	-$51	-$20
11	Other Operating Revenue		$52,234	$30,329	$7,314	$8,509	$199	$5,004	$237	$642
12	Miscellaneous Revenue		$1,404	$748	$77	$105	$3	$80	$1	-$5
13	TOTAL OPERATING REVENUE		$2,006,771	$1,104,495	$254,022	$356,776	$10,535	$241,834	$10,019	$28,695
14		Scaleback	**$369,575**	**$148,313**	**$69,062**	**$83,122**	**$2,723**	**$60,147**	**$2,775**	**$3,038**
15	Percent Increase		**23.3%**	**16.0%**	**38.8%**	**31.2%**	**35.6%**	**33.7%**	**39.3%**	**12.1%**
16	OPERATING EXPENSES									
17	Operation and Maintenance Expense		$820,555	$481,167	$108,427	$127,851	$4,171	$84,636	$3,819	$10,484
18	Depreciation and Amortization Expense		$335,839	$176,058	$44,254	$64,149	$1,758	$41,956	$1,998	$5,667
19	Taxes Other Than Income Taxes-General		$25,669	$13,550	$3,345	$4,421	$148	$3,759	$175	$271
20	Taxes Other Than Income Taxes-Distribution GRT	27,437	$91,675	$53,148	$10,152	$15,535	$450	$10,497	$416	$1,477
21	Unitized GRT	5.900%	$21,708	$8,706	$4,073	$4,893	$160	$3,533	$163	$180
22	Income Taxes	12.308%	$87,501	$45,769	$10,310	$17,222	$474	$11,994	$424	$1,307
23	TOTAL OPERATING EXPENSES		$1,382,946	$778,397	$180,562	$234,071	$7,161	$156,375	$6,996	$19,385
24	OPERATING INCOME (RETURN)		$623,429	$326,098	$73,460	$122,705	$3,374	$85,459	$3,023	$9,310
25	DEVELOPMENT OF RATE BASE									
26	Electric Plant in Service		$11,242,906	$5,686,522	$1,494,012	$2,234,178	$59,900	$1,506,068	$73,233	$188,993
27	Less: Accumulated Depreciation		$2,253,728	$1,135,300	$283,421	$458,360	$11,163	$298,002	$14,131	$53,351
28	Plus: Rate Base Additions		$746,058	$422,127	$90,986	$125,301	$4,070	$92,092	$3,292	$8,190
29	Less: Rate Base Deductions		$934,699	$466,872	$120,096	$202,261	$4,857	$120,617	$5,583	$14,413
30	TOTAL DISTRIBUTION RATE BASE		$8,800,537	$4,506,477	$1,181,481	$1,698,858	$47,950	$1,179,541	$56,811	$129,419
31	DISTRIBUTION RATE OF RETURN (PRESENT)		7.08%	7.24%	6.22%	7.22%	7.04%	7.25%	5.32%	7.19%
32	DISTRIBUTION INDEX RATE OF RETURN (PRESENT)		1.00	1.02	0.88	1.02	0.99	1.02	0.75	1.02

Total Residential	7.02%
Total Residential	0.99

PECO Energy Company (Electric)
R-2024-3046931
Scale Back Levels

	Rate Class	Full Increase Revenue	First $50,000,000	Step One	Next $45,700,000	Step Two
	(A)	(B)	(C)	(D)	(E)	(F)
1	Residential (R)	$227,563,269	-$50,000,000	$177,563,269	-$30,000,000	$147,563,269
2	Residential Heating (RH)	$69,037,645	$0	$69,037,645	$0	$69,037,645
3	General Service (GS)	$89,930,558	$0	$89,930,558	-$7,000,000	$82,930,558
4	Primary Distribution (PD)	$2,714,274	$0	$2,714,274	$0	$2,714,274
5	High Tension (HT)	$67,873,375	$0	$67,873,375	-$8,000,000	$59,873,375
6	Electric Propulsion (EP)	$2,770,020	$0	$2,770,020	$0	$2,770,020
7	Lighting	$3,743,046	$0	$3,743,046	-$700,000	$3,043,046
8	**Total**	$463,632,187	-$50,000,000	$413,632,187	-$45,700,000	$367,932,187
9	**Miscellaneous**	$924,000	-$99,648	$824,352	-$91,078	$733,274
10	**Total Including Miscellaneous**	**$464,556,187**	**-$50,099,648**	**$414,456,539**	**-$45,791,078**	**$368,665,461**

I&E Statement No. 3-SR
Witness: Esyan A. Sakaya

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY – ELECTRIC DIVISION

Docket No. R-2024-3046931

Surrebuttal Testimony

of

Esyan A. Sakaya

Bureau of Investigation and Enforcement

Concerning:

Test Year
Rate Base
FTY and FPFTY Reporting
Present Rate Revenue
Proposed Rate Revenue
Customer Charges
Scale Back of Rates

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INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Esyan A. Sakaya. My business address is Pennsylvania Public Utility Commission, Commonwealth Keystone Building, 400 North Street, Harrisburg, PA 17120.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Pennsylvania Public Utility Commission (Commission) in the Bureau of Investigation and Enforcement (I&E) as a Fixed Utility Valuation Engineer.

Q. ARE YOU THE SAME ESYAN A. SAKAYA WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I submitted I&E Statement No. 3 and I&E Exhibit No. 3.

Q. DOES YOUR SURREBUTTAL TESTIMONY INCLUDE AN ACCOMPANYING EXHIBIT?

A. Yes. My surrebuttal testimony includes I&E Exhibit No. 3-SR.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my surrebuttal testimony is to revise exhibits and recommendations concerning PECO Energy Company - Electric Division (PECO

or Company) provided in my direct testimony based on the Company's rebuttal testimony and to address the rebuttal testimony of the following witnesses: PECO witness Michael J. Trzaska (PECO Statement No. 3-R) and PECO witness Joseph A. Bisti (PECO Statement No. 7-R). I will also address the rebuttal testimony submitted on behalf of the Philadelphia Area Industrial Energy Users Group ("PAIEUG") by witness Billie S. LaConte (PAIEUG St. No. 1-R), the rebuttal testimony submitted on behalf of the Pennsylvania Office of Small Business Advocate ("OSBA") by witness Kevin C. Higgins (OSBA St. No. 1-R), the rebuttal testimony submitted on behalf of Local 614 of the International Brotherhood of Electrical Workers, AFL-CIO ("IBEW") by witness Lawrence Anastasi (IBEW St. No. 1-R), and the rebuttal testimony submitted on behalf of the National Railroad Passenger Corporation ("Amtrak") by witness Aliea A. Munger: Ph.D. (Rebuttal Testimony of Aliea A. Munger, Ph.D.).

FPFTY REPORTING REQUIREMENTS

Q. DID YOU HAVE ANY RECOMMENDATIONS REGARDING PLANT ADDITIONS THAT PECO ELECTRIC PROJECTS TO BE IN SERVICE AT THE FTY ENDING DECEMBER 31, 2024 AND THE FPFTY ENDING DECEMBER 31, 2025?

A. Yes. I recommend that the Company be required to provide the Commission's Bureau of Investigation and Enforcement and the Office of Consumer Advocate with an update to PECO Exhibit MJT-2, Schedule C-2, pp. 18- 23 no later than

April 1, 2025, which should include actual plant additions, retirements, and reclassifications by month from January 1, 2024 to December 31, 2024. I also recommend that the Company be required to provide an update to PECO Exhibit MJT-1, Schedule C-2, pp. 18-23 no later than April 1, 2026, which should include actual plant additions, retirements, and reclassifications by month from January 1, 2025 to December 31, 2025 (I&E Statement. No. 3, pp. 6-7).

Q. DID THE COMPANY RESPOND TO YOUR RECOMMENDATION?

A. Yes. Company witnesses Trzaska and Anastasi accept my reporting requirements recommendations (PECO St. No. 3-R, p. 4 and IBEW St. No. 1-R, p. 12).

PRESENT RATE REVENUE

Q. WHAT ADJUSTMENTS DID YOU RECOMMEND TO THE COMPANY'S FPFTY PRESENT RATE DISTRIBUTION REVENUE?

A. As stated in my direct testimony, I recommended increasing present rate revenues to add back projected revenue declines as a result of Act 129 for 2026. Specifically, I recommended that the Company's claim of revenue lost, which is projected to be $3,846,000 for 2026 be rejected (I&E Statement No. 3, p. 10).

Q. WHAT WAS THE BASIS FOR YOUR RECOMMENDATION?

A. As explained in direct testimony, PECO selected the year ending December 31, 2025 as the FPFTY. Therefore, PECO's other rate making components and billing

determinants as well as its claimed revenue in this proceeding should be based on the FPFTY ending December 31, 2025. However, the $3,846,000 prospective revenue lost due to Act 129 load reductions that the Company is expecting to incur during the year 2026 is well beyond the end of the FPFTY (I&E Statement No. 3, pp. 10-11).

Q. DID THE COMPANY RESPOND TO YOUR RECOMMENDATION THAT REVENUE LOST DUE TO ACT 129 LOAD REDUCTIONS FOR THE YEAR 2026 BE EXCLUDED?

A. Yes. In rebuttal testimony, PECO witness Michael J. Trzaska objects to my recommended adjustment related to the projected revenue lost due to Act 129 load reductions in 2026 and believes the Company should be allowed to claim lost revenue beyond the end of the FPFTY for several reasons. He states that PECO has a strong history of usage reductions and because the projected usage reductions are known and measurable, it is appropriate to reflect revenue projected to be lost in 2026 in the FPFTY. Second, he claims it would be unfair and unreasonable to deny the Company the recovery of lost revenue because of implementing these programs. Third, he states it should be reflected because of the legislative mandate of Act 129 and the fact that PECO is meeting the goals set forth in its Energy Efficiency and Conservation Program (EE&C Program). Finally, he opines that since rate case expense is normalized over two years, the

same time rates are scheduled to be in effect, the usage reductions for 2026 should also be reflected (PECO St. No. 3-R. pp. 4 - 10).

Q. DO YOU AGREE WITH THE COMPANY'S ARGUMENT THAT IT SHOULD BE ALLOWED TO CLAIM THE $3,846,000 REVENUE LOST DUE TO ACT 129 LOAD REDUCTIONS FOR THE YEAR 2026 IN THIS PROCEEDING?

A. No. As indicated in my direct testimony, the Company used the FPFTY ending December 31, 2025. PECO's revenue increase request in this proceeding is based on the FPFTY, which does not extend to 2026. From a ratemaking standpoint, allowing the Company to include the revenue lost due to Act 129 load reductions for the year 2026 would be inappropriate, for the same reasons it would be inappropriate to include plant additions beyond the FPFTY. Revenue and expense claims should align with anticipated FPFTY results; allowing revenue declines beyond the FPFTY adds that amount, dollar for dollar, to the Company' s claimed FPFTY revenue requirement. If the $3,846,000 revenue lost due to Act 129 load reductions for two additional years after the end of the FPFTY is allowed in this proceeding, the Company will establish a revenue requirement higher than appropriate for the FPFTY and will recover these excess dollars in customer rates through the end of 2026. Therefore, PECO's argument that the Company should be allowed to claim $3,846,000 in revenue lost due to Act 129 load reductions for

one additional year after the end of the FPFTY in this proceeding should be rejected.

Q. WILL YOUR RECOMMENDATION DENY PECO RATE RECOVERY FOR LOST REVENUE IN THIS PROCEEDING AS SUGGESTED BY MR. TRZASKA?

A. No. My recommendation in this proceeding does allow recovery of revenue lost during the FTY and FPFTY, but not beyond the FPFTY. In the future when the Company files a base rate case covering future periods, the present rate revenues it proposes in that future proceeding will capture the years of revenue decline that are subsequent to the FPFTY in this proceeding.

Q. DO YOU AGREE THAT SINCE PECO HAS A STRONG COMMITMENT TO USAGE REDUCTIONS AND THE PROJECTED REDUCTION AMOUNT IS SET FORTH IN ITS PHASE IV EE&C PROGRAM, THIS AMOUNT SHOULD BE REFLECTED IN THIS CASE?

A. No. As described by PECO, the time period of the EE&C Program, in which the reduction amount was established, is outside the FPFTY. Therefore, the revenue decline should not be reflected in this proceeding. In addition, simply because it is part of a plan does not make it appropriate for recovery here. Accordingly, this argument is without merit.

Q. DOES ACT 129'S LEGISLATIVE MANDATE REFERENCED BY PECO REQUIRE THE INCLUSION OF LOST REVENUE BEYOND THE END OF THE FPFTY?

A. No. The legislation cited by PECO describes the fact that utilities are entitled to recover the lost revenue. However, it does not describe the methodology or describe the time period for the recovery of projected future revenue declines. While I agree that Act 129 and sound ratemaking principles allow recovery of lost revenue in the FPFTY, I do not agree with PECO to include lost revenue beyond the end of the FPFTY.

Q. DO YOU AGREE WITH PECO THAT IT WOULD BE PROPER TO INCLUDE THESE POST-FPFTY REVENUE LOSSES BECAUSE THE TIME PERIOD OF THOSE LOSSES WOULD OVERLAP WITH THE RATE CASE EXPENSE NORMALIZATION PERIOD?

A. No. Rate case expense and future revenue declines are two different items. Rate case expense normalization provides for a levelized expense in base rates; it does not extinguish a current expense into a future period. It is normalized because the Company does not file a rate case every year or even necessarily on regular intervals. The normalization adjusts the expense included in base rates based on a Company's historic filing frequency. Rate case expense, like all other expenses, is the amount to be incurred in the FPFTY and does not contain a future expense

component. It is unreasonable to increase customer rates by anticipated revenue declines that occur beyond the end of the FPFTY.

Q. DID THE COMPANY PROVIDE ANY VALID REASONS FOR INCLUDING USAGE DECLINE UP TO TWO YEARS BEYOND THE END OF THE FPFTY?

A. No. Therefore, my recommendation to remove $3,846,000 of projected usage decline should be approved.

PROPOSED RATE REVENUE

Q. WHAT WAS THE COMPANY'S INITIAL CLAIM FOR PROPOSED RATE REVENUE?

A. PECO initially claimed an approximate total distribution revenue of $2,053 million. This was an increase of approximately $464 million over present base rate revenue of $1,589 million (PECO Exhibit JAB-1).

Q. DID PECO REVISE THE AMOUNT OF ITS REQUESTED INCREASE AND PROPOSED RATE REVENUE CLAIM IN REBUTTAL TESTIMONY?

A. Yes. PECO is now proposing a total distribution revenue of $2,052 million. This equates to an increase of approximately $463 million or approximately $1 million less than the original requested increase of approximately $464 million (PECO St.

No. 3-R, p. 2 and PECO Exhibit JAB-1 Revised). PECO Exhibit JAB-1 also shows the revised revenue by class totaling approximately $463 million before purchased electric and other revenue.

Q. DO YOU HAVE A CORRESPONDING UPDATE TO YOUR EXHIBIT SHOWING THE PROPOSED REVENUE AND PROPOSED RATE OF RETURN BY CLASS?

A. Yes. As a result of the Company changing proposed revenue by class, I am revising I&E Ex. No. 3, Sch. 1.

Q. WHAT ARE THE DIFFERENCES BETWEEN THE SCHEDULE IN YOUR DIRECT TESTIMONY AND THIS REVISED SCHEDULE?

A. I reflect the Company's revised proposed revenue on I&E Ex. No. 3-SR, line 5, and I am also correcting the calculation of miscellaneous revenue by class on line 10. Finally, as a result of these changes, some of the return and relative rates of return on lines 28 and 29 are slightly different than the return and relative rates of return shown on I&E Ex. No. 3, Sch. 1.

<u>SCALE BACK OF RATES</u>

Q. WHAT DID YOU RECOMMEND IF THE COMMISSION GRANTS LESS THAN THE FULL INCREASE?

A. I recommended that the first $50 million reduction go to the Residential class, that

the next $45.7 million be allocated based upon my recommendation on I&E Ex. No. 3, Sch. 2, p. 2, line 7. Next, I recommended any further scale back be proportional to the percentage increases shown on line 15. Finally, I recommended that the EP class not be included in any scale back (I&E St. No. 3, p. 14-16).

Q. WHY DID YOU MAKE THIS SCALE BACK RECOMMENDATION?

A. I recommended the targeted scale back shown on I&E Exhibit No. 3, Sch. 2 to move the relative rate of return of each class towards 1.00. In other words, so that revenue received from each class is closer or equal to the cost of providing service to that class (I&E St. No. 3, pp. 14-16).

Q. DO YOU HAVE ANY CHANGES TO THE FIRST STEP OF YOUR SCALE BACK RECOMMENDATION?

A. No. I continue to recommend that the first $50 million scale back be applied to the Residential class for the reason stated in my direct testimony (I&E St No. 3, p. 14-15).

Q. DO YOU HAVE ANY CHANGES TO THE SECOND STEP OF YOUR SCALE BACK RECOMMENDATION?

A. Yes. As a result of the Company's revised proposed revenue by class, I am revising the High Tension and Lighting scale back amounts that I originally

proposed as shown on I&E Ex No. 3, Sch. 2, p. 2, line 7, columns G and I.

Q. WHY DO YOU NEED TO CHANGE THE SCALE BACK FOR THE HIGH TENSION AND LIGHTING CLASSES?

A. As described above, the Company changed some of the proposed revenue levels and as a result of these changes, the rate of return and relative rates of return for these classes changed. Therefore, to move the relative rate of return for these classes towards 1.00, I revised the scale back of revenue for these classes, and now the relative rates of return for the Residential, General Service, High Tension, and Lighting classes are all 1.02 (I&E Ex. No. 3-SR, Sch. 2, p. 2, line 32).

Q. DID PECO ADDRESS YOUR SCALE BACK IN REBUTTAL TESTIMONY?

A. Yes. PECO witness Bisti disagrees with my scale back recommendation and supports a proportional scale back. He states that my recommendation is not proportional to the increase by class, and that a proportional scale back treats all customer classes fairly. He also mentions gradualism (PECO St. No. 7-R, p. 9).

Q. PLEASE ADDRESS THE COMPANY'S PROPOSED PROPORTIONAL SCALE BACK.

A. The Company's proportional scale back does not target a specific rate class but is designed to treat all customer classes equally based directly on the amount of any

reduction in the total revenue request (PECO St. No. 7-R, p. 8).

Q. PLEASE ADDRESS THE COMPANY'S CLAIM THAT YOUR TARGETED SCALE BACK IS NOT PROPORTIONAL TO THE INCREASE BY CLASS.

A. It is not designed to be proportional; the purpose of my scale back recommendation is to move the relative rate of return for each class towards 1.00. The Company's proposal would be reasonable if the percentage increase was the same for each class and if under proposed rates the cost of providing service to each class is equal to the revenue received from each class. Therefore, my recommendation will do a better job of moving the relative rate of return under proposed rates towards 1.00, which should be the goal in ratemaking.

Q. DOES THE COMPANY DEFINE WHAT IT MEANS TO TREAT CUSTOMERS FAIRLY, OR WHAT WOULD VIOLATE THE CONCEPT OF GRADUALISM?

A. The Company does not describe what is meant by treating customers fairly. Therefore, it's not possible to determine what level an increase by class or more specifically what proposed rate the Company believes is unfair to a customer or class. The Company did not define gradualism in the scale back section of its testimony. However, in the revenue allocation section of testimony the Company does describe how allowing an increase for an individual class up to two times the

system average would not violate the concept of gradualism (PECO St. No. 7, p. 6).

Q. DO YOU ACCEPT THE PERCENTAGE INCREASES TO EACH CLASS PROPOSED BY THE COMPANY?

A. Yes. The highest percentage increase I accept is the 39.2% increase proposed by the Company for the Residential Heating class, which I recommend be included in the scale back. The next highest percentage increase I accept is the 38.2% increase proposed by the Company for the EP class, which I recommend not be scaled back (I&E Ex. No. 3-SR, Sch. 1, col. H, line 13).

Q. DO YOU CONTINUE TO RECOMMEND NO SCALE BACK BE APPLIED TO THE EP CLASS?

A. Yes. I continue to believe the EP class should not be scaled back.

Q. WHAT WILL BE THE RELATIVE RATE OF RETURN FOR THE EP CLASS AFTER YOUR SECOND SCALE BACK STEP IS APPLIED AND HOW WILL IT COMPARE TO THE TOTAL SYSTEM INCREASE?

A. The relative rate of return for the EP class will be 0.74, well below 1.00. At this scale back level, the EP class will receive approximately 1.6 (38.2% / 28.2%) times the system average, showing that my proposed scale back is reasonable and

does not conflict with the Company's interpretation of gradualism (I&E Ex. No. 3-SR, Sch. 2, p. 2, line 14).

Q. DOES THE COMPANY'S REBUTTAL TESTIMONY CHANGE YOUR RECOMMENDATION TO APPLY A TARGETED SCALE BACK?

A. No. As stated in my direct testimony, one goal of a scale back is to scale back the increase by class so that the relative rate of return for each class moves to or towards 1.00 (I&E Statement No. 3, p. 14). My recommendations satisfy this goal. Therefore, I continue to recommend the targeted scale back as shown on I&E Ex. No. 3-SR, Sch. 2, p. 2, cols. B to I, lines 6-7, and 32.

Q. DID THE NATIONAL RAIL PASSENGER CORPORATION (AMTRAK) FILE REBUTTAL TESTIMONY?

A. Yes. As mentioned in rebuttal testimony, Amtrak receives service under Rate Schedule EP (Amtrak St. 1-R, p. 6).

Q. WHAT DID THE COMPANY PROPOSE FOR RATE SCHEDULE EP?

A. The Company originally proposed an increase of approximately $2.8 million or 39.2% (PECO Ex. JAB-1). In rebuttal testimony, the Company reduced this increase to approximately $2.7 million or 38.2% (PECO Ex. JAB-1 Revised).

Q. DID YOU ACCEPT THE COMPANY'S ORIGINAL PROPOSAL AND DO YOU NEED TO REVISE THE UPDATED INCREASE?

A. Yes. I accepted the originally proposed increase, and I accept the revised proposed increase (I&E Ex. No. 3-SR, Sch. 1, column H).

Q. DID YOU INCLUDE THE EP CLASS IN YOUR SCALE BACK RECOMMENDATION?

A. No. After my $95.7 million dollar scale back example, the rate of return for the EP class was 0.74, because the relative rate of return of this class was below 1.00, the revenue received from the EP class is less than the cost of providing service to this class (I&E Ex. No. 3-SR, Sch. 2, p. 2, col. H, line 32).

Q. DID AMTRAK DISAGREE WITH YOUR RECOMMENDATION NOT TO INCLUDE THE EP CLASS IN YOUR SCALE BACK?

A. Yes, for several reasons. First, Amtrak opines that my scale back violates the concept of gradualism, interclass equity and fairness, citing the increase of 39.2% for the EP class which is 10.0% more than the system average of 29.2%. Amtrak asserts that the Company and other intervenors focused on the classes that are over earning. Amtrak also claims it is important to determine if the results of the Cost of Service Study (COSS) changed since the last case (Rebuttal Testimony of Aliea A. Munger, Ph.D., p. 9).

Q. DOES YOUR SCALE BACK VIOLATE THE CONCEPT OF GRADUALISM?

A. No. First, according to PECO Ex. JAB-1 Revised, the increase for the EP class is only 1.3 (38.0 / 29.1) times the system average. Since it is generally believed that anything above 2.0 violates the concept of gradualism, a factor of 1.3 falls well below the point where it could be considered "rate shock." Second, if Amtrak had a concern with the 39.2% increase under proposed rates, it should have described this concern in its direct testimony, which it failed to do.

Q. WHY DID THE COMPANY, OTHER INTERVENERS, AND YOU TREAT THE CLASSES THAT ARE OVER EARNING DIFFERENTLY THAN THE CLASSES THAT ARE UNDER EARNING?

A. Because relative rates of return above 1.00 reflect classes whose revenue exceeds the cost of providing service to that individual class, and relative rates of return below 1.00 reflect classes whose revenue is less than the cost of providing service to that class. One of the objectives of rate design is to move all classes towards the cost of providing service to that class and minimize inter-class subsidization.

Q. WHY DO THE PAST RESULTS OF A THREE-YEAR OLD COSS NOT MATTER IN THIS CASE?

A. Because the Company's budget related to plant additions and retirements, projected usage levels, revenues, taxes and interest along with the allocation

factors associated with each rate class, are evaluated in each case, are these budgets are not fixed and change over time.

Q. DOES AMTRAK MAKE A SCALE BACK RECOMMENDATION?

A. Yes. Amtrak recommends that the Commission consider gradualism, COSS changes over time, and ultimately limit the final increase for the EP class to no more than 10% above the system average (Rebuttal Testimony of Aliea A. Munger, Ph.D., p. 7).

Q. SHOULD THE COMMISSION ACCEPT THE RATIONALE AND THE AMTRAK RECOMMENDATIONS CONCERNING THE EP CLASS?

A. No. For the reasons stated above and in my direct testimony, the Amtrak recommendations concerning the EP class should be rejected.

Q. DID THE OSBA DISAGREE WITH YOUR RECOMMENDATION TO APPLY THE FIRST $50 MILLION SCALE BACK TO THE RESIDENTIAL CLASS?

A. Yes. The OSBA believes that the Company's proposed increase is a more reasonable starting point for a proportional scale back (OSBA St. No. 1-R, pp. 6-7).

Q. SHOULD THE OSBA RECOMMENDATION FOR A PROPORTIONAL SCALE BACK FROM THE COMPANY'S PROPOSED RATES BE ACCEPTED?

A. No. The OSBA proposal based upon the Company's original filing does not move the relative rate of return sufficiently towards 1.00 as the relative rate of return for the residential class after the $50 Million dollar scale back is still at 1.04, which is greater the cost to provide service to that rate class class (I&E Ex. No. 3-SR, Sch. 2, p. 1, col. C, line 31). Therefore, the OSBA scale back proposal, which would result in lesser movement towards cost to serve, should be rejected.

Q. DID WALMART, INC. (WALMART) THROUGH THE REBUTTAL TESTIMONY OF PAIEUG DISAGREE WITH YOUR SCALE BACK RECOMMENDATION?

A. Yes, for three reasons. First, Walmart has issues with the Company's COSS, but recommends a proportional scale back if the Commission grants less than the full increase. Second, Walmart claims that the I&E proposal favors the Residential class comparing various percentage increases. Third, Walmart claims that the I&E recommendation does not satisfy its stated goal of moving the relative rate of return of a class towards 1.00 for the High Tension (HT) class (PAIEUG St. No. 1-R, pp. 6-7).

Q. DID YOU PREVIOUSLY DESCRIBE WHY A PROPORTIONAL SCALE BACK IS UNREASONABLE?

A. Yes. I describe in my direct testimony and above that a targeted scale back is superior to a proportional scale back because by scaling back the revenue to a customer class with a relative rate of return above 1.00, will cause the relative rates of return for any remaining classes to move up towards 1.00 (I&E St. No. 3, p. 14).

Q. IS WALMART CORRECT IN IMPLYING THAT YOU UNFAIRLY FAVORED THE RESIDENTIAL CLASS OVER OTHER CLASSES?

A. No. Under the Company's proposed rates, the rate of return of the Residential class is 1.10, well above 1.00 (I&E Ex. No. 3-SR, Sch. 1, col. C, line 29). Therefore, my recommendation is based upon a sound rate design that moves all rate classes towards the cost to serve each class, and it is not based upon favoritism.

Q. PLEASE ADDRESS THE RELATIVE RATE OF RETURN FOR THE HIGH TENSION CLASS MOVING FROM 0.97 TO 1.02 IN YOUR SCALED BACK RATES.

A. PAIEUG witness Ms. LaConte does not appear to be familiar with relative rate of return, how the spreadsheet works, or how rate of return changes at different revenue levels. Under fully proposed rates, there is an overall rate of return, then

as this total is reduced by removing the revenue from one class, this total revenue is reduced and the relative rate of return of the other classes with no change in revenue will change. This change is because the relative rate of return measures the relativity of a class rate of return to the total rate of return (I&E Ex. No. 3-SR, Sch. 1, col. G, line 29 and I&E Ex. No. 3-SR, Sch. 2, p. 2, col. G, line 32).

Q. THEREFORE, DOES THE RELATIVE RATE OF RETURN FOR THE HIGH TENSION CLASS MOVING FROM 0.97 TO 1.02 CONTRADICT YOUR STATED GOAL?

A. No. As described above, that minimal shift from 0.03 below to 0.02 above 1.00 for such a small class with a small amount of revenue relative to the other classes is reasonable (I&E Ex. No. 3-SR, Sch. 1, col. G, line 29 and I&E Ex. No. 3-SR, Sch. 2, p. 2, col. G, line 32).

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

I&E Exhibit No. 3-SR
Witness: Esyan A. Sakaya

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

PECO ENERGY COMPANY – ELECTRIC DIVISION

Docket No. R-2024-3046931

Exhibit to Accompany

the

Surrebuttal Testimony

of

Esyan A. Sakaya

Bureau of Investigation and Enforcement

Concerning:

Test Year
Rate Base
FTY and FPFTY Reporting
Present Rate Revenue
Proposed Rate Revenue
Customer Charges
Scale Back of Rates

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025
Under Proposed Rates

LINE NO.	DESCRIPTION		TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(A)		(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
1	**SUMMARY AT PRESENT RATES**									
2	**DEVELOPMENT OF DISTRIBUTION RETURN**									
3	OPERATING REVENUE									
4	Sales of Electricity - Base		$1,589,176	$927,169	$177,981	$266,019	$7,647	$178,267	$7,059	$25,034
5	**Proposed Increase**		**$462,558**	**$228,035**	**$69,691**	**$89,239**	**$2,626**	**$66,161**	**$2,683**	**$4,124**
6	**Purchase Power Increase**		**$333**	**$214**	**$57**	**$46**	**$0**	**$16**	**$0**	**$0**
7	**Transmission Increase**		**-$93**	**-$211**	**-$109**	**$40**	**$5**	**$178**	**$4**	**$0**
8	Decommissioning Revenues		-$4,214	-$1,316	-$335	-$874	-$34	-$1,584	-$51	-$20
9	Other Operating Revenue		$52,234	$30,329	$7,314	$8,509	$199	$5,004	$237	$642
10	Miscellaneous Revenue		$1,404	$692	$211	$270	$8	$201	$8	$13
11	TOTAL OPERATING REVENUE		$2,101,398	$1,184,913	$254,811	$363,248	$10,451	$248,243	$9,940	$29,793
12	Increase		**$464,202**	**$228,730**	**$69,850**	**$89,595**	**$2,639**	**$66,556**	**$2,695**	**$4,136**
13	Percent Increase		**29.2%**	**24.7%**	**39.2%**	**33.7%**	**34.5%**	**37.3%**	**38.2%**	**16.5%**
	OPERATING EXPENSES									
14	Operation and Maintenance Expense		$820,555	$481,167	$108,427	$127,851	$4,171	$84,636	$3,819	$10,484
15	Depreciation and Amortization Expense		$335,839	$176,058	$44,254	$64,149	$1,758	$41,956	$1,998	$5,667
16	Taxes Other Than Income Taxes-General		$25,669	$13,550	$3,345	$4,421	$148	$3,759	$175	$271
17	Taxes Other Than Income Taxes-Distribution GRT	27.437	$91,675	$53,148	$10,152	$15,535	$450	$10,497	$416	$1,477
18	**Unitized GRT**	**5.900%**	**$27,291**	**$13,454**	**$4,112**	**$5,265**	**$155**	**$3,903**	**$158**	**$243**
19	Income Taxes	12.323%	$98,633	$51,097	$13,374	$18,503	$549	$13,228	$631	$1,251
20	TOTAL OPERATING EXPENSES		$1,399,661	$788,473	$183,664	$235,724	$7,231	$157,979	$7,197	$19,393
21	**OPERATING INCOME (RETURN)**		$701,737	$396,440	$71,147	$127,524	$3,221	$90,264	$2,742	$10,399
	Income Tax Rate		12.323%	11.417%	15.823%	12.671%	14.564%	12.782%	18.705%	10.738%
22	**DEVELOPMENT OF RATE BASE**									
23	Electric Plant in Service		$11,242,906	$5,686,522	$1,494,012	$2,234,178	$59,900	$1,506,068	$73,233	$188,993
24	Less: Accumulated Depreciation		$2,253,728	$1,135,300	$283,421	$458,360	$11,163	$298,002	$14,131	$53,351
25	Plus: Rate Base Additions		$746,058	$422,127	$90,986	$125,301	$4,070	$92,092	$3,292	$8,190
26	Less: Rate Base Deductions		$934,699	$466,872	$120,096	$202,261	$4,857	$120,617	$5,583	$14,413
27	**TOTAL DISTRIBUTION RATE BASE**		$8,800,537	$4,506,477	$1,181,481	$1,698,858	$47,950	$1,179,541	$56,811	$129,419
28	**DISTRIBUTION RATE OF RETURN (PRESENT)**		7.97%	8.80%	6.02%	7.51%	6.72%	7.65%	4.83%	8.04%
29	**DISTRIBUTION INDEX RATE OF RETURN (PRESENT)**		1.00	1.10	0.76	0.94	0.84	0.96	0.61	1.01

I&E Exhibit No. 3-SR
Schedule No. 1
Page 1 of 1

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025
First $50,000,000 Scale Back

LINE NO.	DESCRIPTION		TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(A)		(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
1	SUMMARY AT PRESENT RATES									
2	DEVELOPMENT OF DISTRIBUTION RETURN									
3	OPERATING REVENUE									
4	Sales of Electricity - Base		$1,589,176	$927,169	$177,981	$266,019	$7,647	$178,267	$7,059	$25,034
5	Proposed Increase		$462,558	$228,035	$69,691	$89,239	$2,626	$66,161	$2,683	$4,124
6	**I&E Recommended - First Dollar Relief**		**-$50,000**	**-$50,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
7	Purchase Power Increase		$333	$214	$57	$46	$0	$16	$0	$0
8	Transmission Increase		-$93	-$211	-$109	$40	$5	$178	$4	$0
9	Decommissioning Revenues		-$4,214	-$1,316	-$335	-$874	-$34	-$1,584	-$51	-$20
10	Other Operating Revenue		$52,234	$30,329	$7,314	$8,509	$199	$5,004	$237	$642
11	Miscellaneous Revenue		$1,252	$540	$211	$270	$8	$201	$8	$13
12	TOTAL OPERATING REVENUE		$2,051,246	$1,134,761	$254,810	$363,249	$10,452	$248,242	$9,940	$29,793
13	Increase		**$414,050**	**$178,579**	**$69,850**	**$89,595**	**$2,639**	**$66,556**	**$2,695**	**$4,137**
14	Percent Increase		**26.1%**	**19.3%**	**39.2%**	**33.7%**	**34.5%**	**37.3%**	**38.2%**	**16.5%**
15	OPERATING EXPENSES									
16	Operation and Maintenance Expense		$820,555	$481,167	$108,427	$127,851	$4,171	$84,636	$3,819	$10,484
17	Depreciation and Amortization Expense		$335,839	$176,058	$44,254	$64,149	$1,758	$41,956	$1,998	$5,667
18	Taxes Other Than Income Taxes-General		$25,669	$13,550	$3,345	$4,421	$148	$3,759	$175	$271
19	Taxes Other Than Income Taxes-Distribution GRT	27,437	$91,675	$53,148	$10,152	$15,535	$450	$10,497	$416	$1,477
20	Unitized GRT	5.900%	$24,341	$10,504	$4,112	$5,265	$155	$3,903	$158	$243
21	Income Taxes	12.323%	$92,816	$49,335	$10,416	$17,996	$465	$12,754	$416	$1,436
22	TOTAL OPERATING EXPENSES		$1,390,895	$783,761	$180,706	$235,217	$7,146	$157,505	$6,982	$19,578
23	OPERATING INCOME (RETURN)		$660,352	$351,000	$74,104	$128,032	$3,305	$90,738	$2,958	$10,215
24	DEVELOPMENT OF RATE BASE									
25	Electric Plant in Service		$11,242,906	$5,686,522	$1,494,012	$2,234,178	$59,900	$1,506,068	$73,233	$188,993
26	Less: Accumulated Depreciation		$2,253,728	$1,135,300	$283,421	$458,360	$11,163	$298,002	$14,131	$53,351
27	Plus: Rate Base Additions		$746,058	$422,127	$90,986	$125,301	$4,070	$92,092	$3,292	$8,190
28	Less: Rate Base Deductions		$934,699	$466,872	$120,096	$202,261	$4,857	$120,617	$5,583	$14,413
29	TOTAL DISTRIBUTION RATE BASE		$8,800,537	$4,506,477	$1,181,481	$1,698,858	$47,950	$1,179,541	$56,811	$129,419
30	DISTRIBUTION RATE OF RETURN (PRESENT)		7.50%	7.79%	6.27%	7.54%	6.89%	7.69%	5.21%	7.89%
31	DISTRIBUTION INDEX RATE OF RETURN (PRESENT)		1.00	1.04	0.84	1.00	0.92	1.03	0.69	1.05

Total Residential	7.47%
Total Residential	1.00

I&E Exhibit No. 3-SR
Schedule No. 2
Page 1 of 2

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025
$95,700,000 Scale Back

LINE NO.	DESCRIPTION		TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(A)		(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
1	SUMMARY AT PRESENT RATES									
2	DEVELOPMENT OF DISTRIBUTION RETURN									
3	OPERATING REVENUE									
4	Sales of Electricity - Base		$1,589,176	$927,169	$177,981	$266,019	$7,647	$178,267	$7,059	$25,034
5	Proposed Increase		$462,558	$228,035	$69,691	$89,239	$2,626	$66,161	$2,683	$4,124
6	**I&E Recommended - First Dollar Relief**		**-$50,000**	**-$50,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
7	**I&E Recommended - Second Dollar Relief**		**-$45,000**	**-$30,000**	**$0**	**-$7,000**	**$0**	**-$6,900**	**$0**	**-$1,100**
8	Purchase Power Increase		$333	$214	$57	$46	$0	$16	$0	$0
9	Transmission Increase		-$93	-$211	-$109	$40	$5	$178	$4	$0
10	Decommissioning Revenues		-$4,214	-$1,316	-$335	-$874	-$34	-$1,584	-$51	-$20
11	Other Operating Revenue		$52,234	$30,329	$7,314	$8,509	$199	$5,004	$237	$642
12	Miscellaneous Revenue		$1,115	$449	$211	$249	$8	$180	$8	$10
13	TOTAL OPERATING REVENUE		$2,006,110	$1,104,670	$254,810	$356,227	$10,452	$241,321	$9,940	$28,690
14	Increase		**$368,914**	**$148,488**	**$69,850**	**$82,574**	**$2,639**	**$59,635**	**$2,695**	**$3,033**
15	Percent Increase		**23.2%**	**16.0%**	**39.2%**	**31.0%**	**34.5%**	**33.5%**	**38.2%**	**12.1%**
16	OPERATING EXPENSES									
17	Operation and Maintenance Expense		$820,555	$481,167	$108,427	$127,851	$4,171	$84,636	$3,819	$10,484
18	Depreciation and Amortization Expense		$335,839	$176,058	$44,254	$64,149	$1,758	$41,956	$1,998	$5,667
19	Taxes Other Than Income Taxes-General		$25,669	$13,550	$3,345	$4,421	$148	$3,759	$175	$271
20	Taxes Other Than Income Taxes-Distribution GRT	27,437	$91,675	$53,148	$10,152	$15,535	$450	$10,497	$416	$1,477
21	Unitized GRT	5.900%	$21,686	$8,734	$4,112	$4,852	$155	$3,496	$158	$178
22	Income Taxes	12.323%	$87,581	$45,845	$10,416	$17,181	$465	$11,951	$416	$1,308
23	TOTAL OPERATING EXPENSES		$1,383,004	$778,501	$180,706	$233,989	$7,146	$156,295	$6,982	$19,385
24	OPERATING INCOME (RETURN)		$623,105	$326,169	$74,104	$122,238	$3,305	$85,026	$2,958	$9,305
25	DEVELOPMENT OF RATE BASE									
26	Electric Plant in Service		$11,242,906	$5,686,522	$1,494,012	$2,234,178	$59,900	$1,506,068	$73,233	$188,993
27	Less: Accumulated Depreciation		$2,253,728	$1,135,300	$283,421	$458,360	$11,163	$298,002	$14,131	$53,351
28	Plus: Rate Base Additions		$746,058	$422,127	$90,986	$125,301	$4,070	$92,092	$3,292	$8,190
29	Less: Rate Base Deductions		$934,699	$466,872	$120,096	$202,261	$4,857	$120,617	$5,583	$14,413
30	TOTAL DISTRIBUTION RATE BASE		$8,800,537	$4,506,477	$1,181,481	$1,698,858	$47,950	$1,179,541	$56,811	$129,419
31	DISTRIBUTION RATE OF RETURN (PRESENT)		7.08%	7.24%	6.27%	7.20%	6.89%	7.21%	5.21%	7.19%
32	DISTRIBUTION INDEX RATE OF RETURN (PRESENT)		1.00	1.02	0.89	1.02	0.97	1.02	0.74	1.02

Total Residential	7.04%
Total Residential	0.99

I&E Exhibit No. 3-SR
Schedule No. 2
Page 2 of 2

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3046931
PECO Energy Company – Electric Division	:	

VERIFICATION OF ESYAN SAKAYA

I, **Esyan Sakaya**, on behalf of the Bureau of Investigation and Enforcement, hereby verify that **I&E Statement No. 3**, **I&E Exhibit No. 3**, **I&E Statement No. 3-SR**, and **I&E Exhibit No. 3-SR**, were prepared by me or under my direct supervision and control.

Furthermore, the facts contained therein are true and correct to the best of my knowledge, information and belief and I expect to be able to prove the same if called to the stand at any evidentiary hearing held in this matter.

This Verification is made subject to the penalties of 18 Pa. C.S. § 4904 relating to unsworn falsification to authorities.

Signed in Harrisburg, Pennsylvania, this 6th day of August 2024.

/s/ *Esyan Sakaya*_____

Esyan Sakaya

CITY AND PEA
STATEMENT NO. 1

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v. PECO ENERGY COMPANY – ELECTRIC DIVISION
DOCKET NO. R-2024-3046931

DIRECT TESTIMONY

WITNESS: ELIZABETH H. LANKENAU

SUBJECTS: IMPACT ON RESIDENTS AND
DECARBONIZATION GOALS

DATE: JUNE 17, 2024

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DIRECT TESTIMONY

OF

Elizabeth H. Lankenau

I. INTRODUCTION AND BACKGROUND

1. Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A: My name is Elizabeth H. Lankenau. My business address is 1515 Arch St, 13th floor, Philadelphia, PA 19102.

2. Q: WHERE ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A: I am employed by the City of Philadelphia as Interim Director of the Office of Sustainability. In that capacity, I manage the Municipal Energy Office, which is responsible for tracking City government energy use, developing and implementing energy conservation, energy efficiency, and renewable energy projects for facilities, and providing strategic procurement of City government's energy supply. I also manage the Climate Solutions team, which develops and implements policies and plans to support city-wide emissions reduction and advance Philadelphia's equitable clean energy transition to meet the city's climate goals. The Climate Solutions team focuses on decarbonizing the City's buildings in the residential, commercial, and industrial sectors.

3. Q: WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A: I hold a Bachelor of Arts degree from the University of Pittsburgh with dual majors in Sociology and Urban Studies; a Master of Science degree from the University of Pennsylvania in Historic Preservation; and a certificate from Harvard's Kennedy School of Government for its Climate Change and Energy Program. I am certified by the

American Institute of Certified Planners (Member #115145). Upon graduating from Penn, I worked for the City's Historical Commission and then entered consulting, first at a transportation firm and then at a planning firm. I returned to the City as an on-site consultant at the Philadelphia Water Department and then transferred to the Managing Director's Office of Transportation & Infrastructure Systems. I have been in this role as Director of Sustainability since March of 2023.

4. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A: The purpose of my direct testimony is to ensure that the outcomes of PECO Electric's ("PECO" or "the Company") base rate case are fair and just for Philadelphia, do not impact the socio-economic quality of life of Philadelphians, do not disproportionately impact historically marginalized and vulnerable communities, and do not conflict with the important work that the City is doing to equitably decarbonize to mitigate and address the worst impacts of climate change. My testimony will discuss how many Philadelphians are already facing a high energy burden—a burden that disproportionately impacts the city's Black communities—and how the proposed rate increase will further exacerbate this burden and racial inequity in Philadelphia, impacting quality of life. I will also provide testimony on how Philadelphia is expected to get hotter, and the inability to adequately afford energy needed to stay cool exposes Philadelphians to poor public health outcomes. This testimony will also describe the City's observations related to PECO's programs for low to moderate-income customers and provide recommendations for how such programs could be improved. Finally, I will discuss how raising the price of electricity also inhibits the City's efforts to encourage and aid its citizens in transitioning energy use in the buildings and modes of transportation around Philadelphia from fossil fuels to electricity

in effort to address Philadelphia's climate footprint and why further delay of decarbonization increases the vulnerability of Philadelphians to the impacts of climate change.

II. IMPACTS OF RATE INCREASES ON THE RESIDENTS OF THE CITY OF PHILADELPHIA

5. PLEASE DESCRIBE THE STATE OF ENERGY BURDEN AND ENERGY POVERTY EXPERIENCED IN PHILADELPHIA.

A: A household's energy burden is the percentage of income spent on home energy bills. A high energy burden is considered to be above 6%, and a severe energy burden above 10%.[1] Philadelphia, along with Birmingham, Detroit, Riverside, Rochester, and Atlanta is one of six metro areas that have a greater percentage of households with a higher energy burden than the national average (25%).[2] In the metro areas of Baltimore, Philadelphia, Detroit, Boston, and Birmingham, at least one-quarter of low-income households have energy burdens above 18%, which is three times the high energy burden threshold of 6%.[3] In addition, high energy burdens adversely impact households and communities of color at disproportionate rates when compared to white households, regardless of income level.[4] The median energy burden of Black households in Philadelphia is 53% higher than that of non-Hispanic white households.[5] Rising electricity rates are a key concern for quality of life and racial equity in Philadelphia, where nearly 23% of residents live below the poverty

[1] https://www.aceee.org/sites/default/files/pdfs/aceee-01_energy_burden_-_philadelphia.pdf.
[2] https://www.aceee.org/sites/default/files/pdfs/u2006.pdf.
[3] https://www.aceee.org/sites/default/files/pdfs/u2006.pdf.
[4] https://www.nrel.gov/docs/fy23osti/83173.pdf.
[5] https://www.aceee.org/sites/default/files/pdfs/aceee-01_energy_burden_-_philadelphia.pdf.

line ($25,750 for a household of four) and tens of thousands more live just above it[6] and 43% of residents are Black.[7]

Energy touches every aspect of our modern lives, from providing for our basic needs, to accessing information through our technical devices, heating and cooling our homes, and maintaining safe food and medicine. The impacts of high energy burdens and energy insecurity (a similar but separate metric, defined as the inability to meet basic household or business energy needs[8]) can be felt on all aspects of quality of life. There is a close connection between energy burden and the cycle of poverty. Low-income households with high energy burdens may have to decide between paying for energy and other necessities such as food or medicine and are more likely to experience food insecurity and housing instability, with these hardships being exacerbated for Black people.[9] Energy insecurity or energy poverty is also known to result in negative health and safety consequences, when residents may spend their limited funds on energy instead of critical medications, which can lead to adverse medical outcomes.[10]

A key concern in Philadelphia is renters; as homeowning households represent just 53% of all households in the city.[11] National research finds that rental households are twice as likely to suffer from energy insecurity by forgoing food or medicine, keeping the home at an unsafe temperature, and receiving a disconnection notice than owner-occupied households, and are less likely to participate in utility incentive programs due to barriers such as time, awareness, and access.[12] A household suffering from rent burden that cannot

[6] https://www.pewtrusts.org/en/research-and-analysis/reports/2023/04/philadelphia-2023-state-of-the-city.
[7] https://www.census.gov/quickfacts/fact/table/philadelphiacountypennsylvania/HSD310222.
[8] https://www.nrel.gov/docs/fy23osti/83173.pdf.
[9] https://www.nrel.gov/docs/fy23osti/83173.pdf.
[10] https://www.nrel.gov/docs/fy23osti/83173.pdf.
[11] https://www.pewtrusts.org/-/media/assets/2023/04/philadelphia-2023-the-state-of-the-city.pdf.
[12] https://www.nrel.gov/docs/fy23osti/83173.pdf.

afford utility bills, even if on the lower side, can be evicted for not paying utility bills.[13] Nearly 49% of Philadelphia's households spend at least 30% of their income on rent, making them "cost burdened" according to the standard set by the U.S. Census Bureau.[14]

While the rising electricity rates will affect residents in Philadelphia, they are also likely to impact small businesses. Small businesses and commercial buildings serve important roles in their communities, catering to the needs of community residents, employing people who live nearby, and helping define the character of neighborhoods. A business experiencing energy insecurity and potentially shutting down can have a cascading impact on the people who own and work at that business and on the community that relies on that business for employment, goods, and services.[15]

6. WHY AREN'T UNIVERSAL SERVICE PROGRAMS SUFFICIENT TO ADDRESS THE ENERGY BURDENS FACED BY PHILADELPHIANS?

A: While PECO has programs to assist low-income residents with their utility bills, it is likely that, with the increased rates, a greater number of residents will need assistance with their electricity bills. It is unclear if and how PECO's programs can meet the increased assistance need of Philadelphians, both residents and tenants as well as small businesses across the city, and whether they will be sufficient in addressing exacerbated energy burden and energy insecurity due to the rate increases.

As it is, statewide Public Utility Commission data shows that only a share of low-income customers as identified by the U.S. Census are enrolled in PECO Customer

[13] https://www.nrel.gov/docs/fy23osti/83173.pdf.
[14] https://www.pewtrusts.org/en/research-and-analysis/reports/2023/04/philadelphia-2023-state-of-the-city.
[15] https://www.nrel.gov/docs/fy23osti/83173.pdf.

Assistance Programs.[16] The report titled "Universal Service Programs and Collections Performance, 2022 Report"[17], published by the PAPUC in September 2023, notes that PECO-Electric had 145,073 confirmed low-income electric customers.[18] On the next page of this report, the PAPUC noted that PECO-Electric had 370,514 estimated low-income customers.[19] In 2022, 121,487 participants enrolled in PECO-Electric's CAP program, an 83.7% participation rate for confirmed low-income customers.[20] In the report, the PAPUC notes that this rate is calculated based on confirmed low-income customers, and would be much lower if it reflected estimated low-income customers.[21] Thus, a large number of low-income customers, particularly in Philadelphia, may not be receiving the financial help they need to pay for electricity and PECO's requested rate increase will only increase the hardship for these unenrolled customers.

7. Q: DO YOU HAVE ANY RECOMMENDATIONS AS TO HOW PECO COULD BETTER TRACK AND REPORT ITS DATA ON ASSISTANCE TO LOW INCOME CUSTOMERS?

A: The City would like all of its citizens who qualify for assistance with their electricity bills to receive that financial help. The City would also like to understand the reasons why certain customers do not receive the financial help they would be eligible for and how the City and its partners could work with PECO to reach these customers and have them enrolled.

[16] *Universal Service Programs and Collections Performance, 2022 Report*, PA Public Utility Commission, September 2023, https://www.puc.pa.gov/media/2573/2022-universal-service-report-final.pdf.
[17] Id.
[18] Id., p. 8.
[19] Id., p. 9.
[20] Id., p. 58.
[21] Id.

One way this could be achieved is if the Company adopts greater transparency in its reporting on its low-income program figures and performance, beyond what the PA Public Utilities Commission ("Commission" or "PUC") publishes regularly. While the Commission publishes annual reports on PECO's performance, there is room for improvement in PECO's reporting procedures, and stakeholders, like the City and its partners, would benefit from improved reporting that is more easily accessible and digestible for them. This includes better and timely transparency and easily accessible data on the Low Income Usage Reduction Program "(LIURP") and Customer Assistance Programs ("CAP") figures and performance, disaggregated by key measures including, but not limited to, monthly or quarterly reporting periods and geographic-specific information, such as zip codes. For example, in response to interrogatories, PECO noted that they do not track the number of customers who request and do not qualify for a Health Usage Rider exemption to the CAP annual maximum.[22] Also in their responses, PECO noted that they do not track how many homes were deferred from LIURP due to Health & Safety (H&S) reasons once the H&S budget was exhausted.[23] This information is vital to the City and its partners in understanding how to support customers who may not have qualified for assistance under PECO's policies. In addition, learning this information can help PECO improve its programs. Beyond data tracking and transparency in performance outcomes, PECO should also address enrollment burdens and increase program accessibility, by adopting auto-enrollment and increasing language access.

The City recommends that the Commission have PECO initiate regular stakeholder meetings with the City and the various organizations in its territories to gather information

[22] CITY/PEA Exhibit EHL-1, Response of PECO to Philadelphia-PEA-I-4(f).
[23] Id., Philadelphia-PEA-I-4(h)(iii).

on what data is needs to be collected, how regularly that data is collected, how it should be communicated to improve transparency on performance and outcomes of PECO's low-income programs and services.

III. IMPACTS ON THE CITY OF PHILADELPHIA'S DECARBONIZATION AND CLIMATE RESILIENCE GOALS

8. Q: CAN YOU PLEASE DESCRIBE SOME OF THE UNIQUE CHARATERISTIC OF THE CITY OF PHILADELPHIA THAT MAKE THE IMPACTS OF CLIMATE CHANGE, PARTICULARLY RISING TEMPERATURES, MORE EXTREME FOR ITS INHABITANTS AND WHY IT IS SO IMPORTANT THAT PECO IMPROVE ITS COLLABORATION WITH THE CITY AND ITS CUSTOMERS ON MITIGATING THESE IMPACTS?

A: Philadelphia is a City that experiences a condition referred as the urban heat island effect.[24] Air temperature and surface temperature are not the same. For example, on a hot sunny afternoon, the surface of a car gets hotter than the air around it. How hot an object or surface gets depends on how exposed it is to the sun, what color it is, and what it is made of. This means that dense parts of the City – specifically areas with lots of dark-colored roads, parking lots, and buildings, as well as fewer trees and plants – not only get hotter, but also retain heat longer than surrounding areas. We experience this on a hot day in Philadelphia, where some parts of the city are nearly 30°F warmer than others. Extreme heat can significantly impact public health, and urban heat islands make some

[24] *Urban Heat Hot Spots,* Climate Central, July 26, 2023, https://www.climatecentral.org/climate-matters/urban-heat-islands-2023.

communities, including people aged 65 and older, infants and young children, and people with certain chronic medical conditions, more vulnerable than others.

Philadelphia has a Heat Vulnerability Index (HVI) that identifies the neighborhoods most vulnerable to extreme heat by identifying which census tracts have the greatest exposure and greatest sensitivity (considering sociodemographic and health indicators) to heat. In 2020, Philadelphia worked with NASA through their DEVELOP program to update the City's heat Vulnerability Index.[25] Results demonstrate which parts of the City have disproportionate exposure (City/PEA Figure EHL-1).

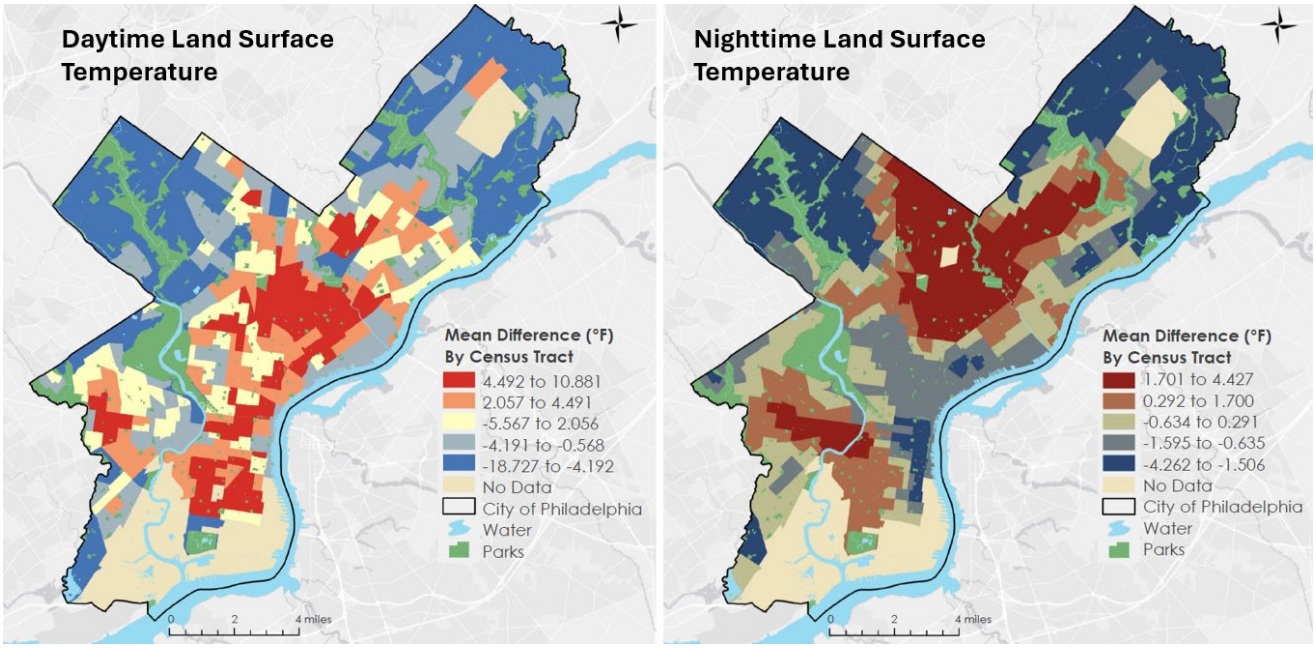


Figure 1. Daytime and Nighttime Land Surface Temperature disparity. Daytime Land Surface Temperature comes from NASA's LandSat 8 satellite and shows the difference in average daytime temperatures in the summer months (June-September) by census tract from 2017-2019. Nighttime Land Surface Temperature comes from NASA's Aqua MODIS satellite and shows the difference in average nighttime temperatures in the summer months (June-September) by census tract from 2017-2019.

[25] *Assessing Land Surface Temperature, Vegetation Cover, and Compounding Vulnerability Factors to Identify High Priority Areas for Cooling Initiatives in Philadelphia, Pennsylvania*, The National Air and Space Administration, Spring 2020, https://develop.larc.nasa.gov/2020/spring/PhiladelphiaHAQ.html#:~:text=This%20project%20supported%20the%20Philadelphia,each%20census%20tract%20within%20Philadelphia; see also, *Spring 2020 Project Summary – Philadelphia Health and Air Quality*, NASA DEVELOP National Program Arizona – Tempe, Microsoft Word - 2020Spring_AZ_PhiladelphiaHealthAQ_ProjectSummary_FD-final.docx (nasa.gov).

Philadelphia is projected to see increases in average temperatures and extreme events due to climate change. The City's All-Hazard Mitigation Plan, updated and published in 2022, provides the most recent heat projections for the City. City/PEA Figure EHL-2 below demonstrates that the average number of days above 95°F will increase from an average of 3 days per year to over 22 by mid-century and over 27 by the end-of-century time period. For days above 100°F Philadelphia is projected to increase from an average of 0 days above that threshold to 5 or more by mid-century and between 6 and 30 by the end-of-century.

City/PEA Figure EHL-2. Temperature projections from Philadelphia's 2022 All-Hazard Mitigation Plan[26] (pg. 128).

	Observed (1950-1999)	Projections for 2040-2059	Projections for 2080-2099
Average summer temperatures	84.5°F	89.7 - 90.5°F	90.7 - 96.4°F
Average number of days above 95°F	3	22 - 26.4	27.8 - 66.7
Average number of days above 100°F	0	5 - 7.5	6.7 - 30.6
Hottest 7-day average temperature	92°F	97.1 - 97.9°F	97.4 - 102.4°F

9. HOW MIGHT THE PROPOSED RATES IMPACT THE CITY'S DECARBONIZATION AND CLIMATE RESILIENCE EFFORTS?

A: The City's Office of Sustainability strives to, not only decarbonize City facilities and fleets, but also encourage and aid its citizens and businesses in their own decarbonization efforts. Some specific opportunities include the installation of heat pumps, especially to replace inefficient electric systems for heating, and the installation of rooftop solar. For both the City's residents and businesses, raising electricity rates will make it more difficult to implement decarbonization efforts as many decarbonization strategies involve

[26] https://www.phila.gov/media/20230706165653/OEM-Hazard-Mitigation-Plan-2022.pdf.

electrification, thus making the costs of these transitions higher. For residents specifically, the City is concerned about the ability to support the replacement of fossil fuel-based equipment for space and water heating in single-family and multi-family dwellings and commercial buildings with electric equipment, which will be inhibited significantly by these rate increases. Electrification is a vital tool in helping to decarbonize buildings, which account for a significant share of Philadelphia's emissions.

Q: WHY IS IT IMPORTANT FOR RESIDENTS OF PHILADELPHIA TO ELECTRIFY THEIR HOMES AND OTHERWISE DECARBONIZE THEIR LIFESTYLES?

A: Electrification also provides many other co-benefits, particularly improved indoor and outdoor air quality–avoiding combustion of fossil fuels in buildings reduces exposure to carbon monoxide and particulate matter.[27] Efforts to decarbonize are strongly linked with the City's goal to improve quality of life and public health outcomes for all Philadelphians, with an emphasis on reducing racial disparities. Philadelphia ranks at the 89th state percentile and 93rd national percentile for asthma prevalence among adults aged 18 and over.[28]

Another key concern of the increased rates is our ability to protect Philadelphians from the impacts of climate change and make the city more resilient to these impacts. As the impacts of climate change intensify, Philadelphia is expected to get hotter.[29] It is estimated that, for every 2°F rise in temperature, electricity demand increases 1%–9%.[30] Electricity rate increases will impact the ability of Philadelphians, many of whom are

[27] https://www.nyserda.ny.gov/Residents-and-Homeowners/Improving-Air-Quality.
[28] https://ejscreen.epa.gov/mapper/.
[29] https://www.phila.gov/media/20230706165653/OEM-Hazard-Mitigation-Plan-2022.pdf.
[30] https://www.nrel.gov/docs/fy23osti/83173.pdf.

already energy burdened, to access and afford energy needed for adequate cooling, and avoid adverse public health outcomes due to exposure to heat.

In a city like Philadelphia, with high energy burdens, high rates of poverty, large tenant constituencies, rising heat and significant racial inequities, PECO's proposed rate increases are expected to have profound negative impacts. These rate increases will increase residents' vulnerability to poverty, housing insecurity, and poor public health outcomes, and will significantly impact our ability to decarbonize our city and protect Philadelphians from the impacts of climate change.

IV. CONCLUSION

10. Q: WHAT FINAL RECOMMENDATIONS WOULD YOU LIKE TO MAKE TO THE COMMISSION?

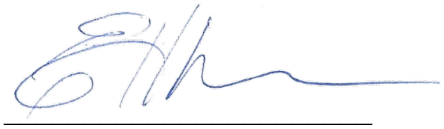
A: While PECO operates customer assistance programs to help Philadelphians with their utility bills, many Philadelphians either do not qualify for, or otherwise are not enrolled in, these programs, but still experience high energy burdens, and the proposed rate increases would only exacerbate these burdens. My recommendation to the Commission is that PECO's requested rate increase be rejected or, otherwise, significantly reduced to prevent exacerbating the energy burden of many Philadelphians and compounding the effects of climate change.

11. Q: DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A: Yes, for now. I would like to reserve the right to file supplemental direct testimony in response to the comments provided by Philadelphians in the public input hearings held in this proceeding.

VERIFICATION

I, Elizabeth H. Lankenau, hereby declare that that the facts set forth in the foregoing direct testimony are true to the best of my knowledge, information and belief, and that I make this verification subject to the penalties of 18 Pa. C.S. §4904 pertaining to false statements to authorities.



Elizabeth H. Lankenau

DATE: June 17, 2024

EHL
EXHIBITS

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
The Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania
& The Tenant Union Representative Network
CAUSE-PA Set I

Response Date: May 28, 2024

CAUSE-PA-I-29

Of the jobs indicated in response to CAUSE-PA-I-26, disaggregated by year and nine-digit zip code, how many LIURP jobs were coordinated with external home repair or weatherization programs?

RESPONSE:

Of the jobs indicated in response to CAUSE-PA-I-26, there were none that were coordinated with external home repair or weatherization programs.

PECO has worked with organizations such as the Philadelphia Energy Authority's "Built-To Last" program pilot implemented in 2021 that ended in 2022. However, there were no jobs coordinated due to program guideline requirements not aligning.

Responsible Witness: Jacqueline F. Golden

CITY AND PEA
STATEMENT NO. 1-SR

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v. PECO ENERGY COMPANY – ELECTRIC DIVISION
DOCKET NO. R-2024-3046931

SURREBUTTAL TESTIMONY

WITNESS: ELIZABETH H. LANKENAU

DATE: August 2, 2024

SURREBUTTAL TESTIMONY

OF

ELIZABETH H. LANKENAU

INTRODUCTION

1. Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A: My name is Elizabeth H. Lankenau. My business address is 1515 Arch St, 13th floor, Philadelphia, PA 19102.

2. Q: HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A: Yes, I submitted my direct testimony, City and PEA Statement No. 1, on June 17th, 2024.

3. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A: My surrebuttal testimony will respond to the rebuttal testimony statements made by PECO witness Jacqueline Golden related to low-income customer issues.

LOW-INCOME CUSTOMER ISSUES

4. REFER TO PECO ST. 10-R, PAGES 3-5. IN RESPONSE TO YOUR TESTIMONY ON BILL AFFORDABILITY, PECO WITNESS GOLDEN DESCRIBES PECO'S EXISITING AND PROPOSED CUSTOMER EDUCATION AND OUTREACH PLAN. DO YOU BELIEVE THESE METHODS WILL PROTECT LOW-INCOME PHILADELPHIANS CURRENTLY FACING OR POTENTIALLY VULNERABLE TO ENERGY INSECURITY?

A: As explained in my direct testimony, rising electricity rates are a key concern for quality of life and racial equity in Philadelphia, where nearly 23% of residents live below the

poverty line and tens of thousands more live just above it.[1] Further, 43% of residents of Philadelphia are Black and the median energy burden of Black households in Philadelphia is 53% higher than that of non-Hispanic white households.[2] In my opinion, raising electricity rates will increase the energy burden of Philadelphia's low-income population and this burden will impact certain communities of Philadelphians more than others.

While PECO intends to devote more resources to its education and outreach efforts to offset the effects of its requested rate increase, it is still unclear if the additional investment in low-income education and outreach totally captures the actions and approaches necessary and available to ensure that PECO's low-income customers receive the assistance they need with their higher energy bills. As raised in my direct testimony, additional barriers to enrollment exist, such as documentation burdens and language access,[3] that reflect needs and opportunities for improvements in PECO's low-income program design and delivery, which PECO witness Golden did not address satisfactorily in rebuttal testimony.

For instance, on the need for improved language assess PECO Witness Golden notes in rebuttal that PECO has translated the information on its website to Spanish and simplified Chinese.[4] While providing such translation is a step in the positive direction, the top six languages spoken in Philadelphia, for instance, are Spanish, Portuguese, Chinese Mandarin, Haitian Creole, Vietnamese and Russian. The City believes PECO should be improving its language access capabilities to all of its customers and, therefore, would like

[1] City/PEA Statement No. 1, p. 3-4, citing https://www.pewtrusts.org/en/research-and-analysis/reports/2023/04/philadelphia-2023-state-of-the-city.
[2] Id., citing https://www.aceee.org/sites/default/files/pdfs/aceee-01_energy_burden_-_philadelphia.pdf.
[3] City/PEA St. No. 1, pp. 7-8.
[4] PECO St. No. 10-R, p. 4.

to collaborate with PECO on improving its language access offerings, particularly to its low-income customers.

Regarding automatic enrollment, the City disagrees with PECO's logic that customers would rather retain their choice of whether to enroll in CAP or another low-income program than benefit from the ease of being automatically enrolled in a program that would provide further relief from their energy burden.[5]

These are policies that the City believes PECO has a responsibility to adopt to offset some of the impact of its requested rate increase. PECO should demonstrate a commitment to innovative problem-solving to meet the needs of Philadelphians and an impactful way to do so would be to be a more engaged and collaborative partner. PECO should consider the City, including the Office of Sustainability, and the advocacy organizations partners in developing innovative tools to assist PECO's most vulnerable customers. This is the space where such entities thrive and can provide added value to the utility.

5. Q: HOW DO YOU RECOMMEND THAT PECO ENGAGE WITH THE CITY AND OTHER STAKEHOLDERS OUTSIDE OF OFFICAL PUBLIC UTILITY COMMISSION PROCEEDINGS TO IMPROVE THE PERFORMANCE OF ITS CUSTOMER ASSISTANCE PROGRAMS?

A: While the Universal Services Advisory Committee ("USAC") exists, the City had limited awareness of USAC prior to this base rate proceeding. Moving forward, the City is committed to participating in future USAC meetings; however, the City would like PECO to commit to the following regarding the USAC meetings:

[5] PECO St. 10-R, p. 9.

- Collaboration with stakeholders and attendees on meeting invite lists and agenda setting;
- Responsiveness to meeting stakeholders and attendees request for data and information; and
- Follow best practices for stakeholder meetings including, but not limited to, circulating meeting dates/times/locations and agenda with sufficient time for review and feedback, compiling meeting minutes and make them accessible to all stakeholders and attendees, and ensuring attendance from PECO staff and personnel empowered to address the concerns and questions of stakeholders.

Regular collaboration and innovation on problem-solving need to be deeply and foundationally integrated into PECO's ways of working to protect low-income customers in its service territory from increased vulnerability to energy insecurity and the City truly looks forward to strengthening its collaboration with PECO moving forward. The City recognizes PECO is providing a valuable and fundamental service to Philadelphians and we are committed to supporting the Company in ensuring equitable and secure access to electricity.

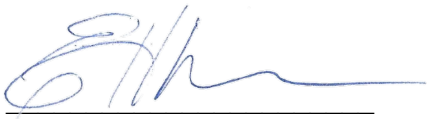
CONCLUSION

6. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A: Yes, it does.

VERIFICATION

I, Elizabeth H. Lankenau, hereby declare that that the facts set forth in the foregoing testimony are true to the best of my knowledge, information and belief, and that I make this verification subject to the penalties of 18 Pa. C.S. §4904 pertaining to false statements to authorities.

Signature: 

Print Name: Elizabeth H. Lankenau

Title: Interim Director

Organization: City of Philadelphia/Office of Sustainability

Address: 1515 Arch Street

13th Floor

Philadelphia, PA 19102

DATE: August 2, 2024

CITY AND PEA
STATEMENT NO. 2

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v. PECO ENERGY COMPANY – ELECTRIC DIVISION
DOCKET NO. R-2024-3046931

DIRECT TESTIMONY

WITNESS: DOMINIC G. McGRAW

SUBJECTS: CITY'S DECARBONIZATION GOALS,
ACCOUNT MANAGEMENT,
AND MUNICIPAL OPERATING COSTS

DATE: JUNE 17, 2024

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DIRECT TESTIMONY
OF

Dominic G. McGraw

I. INTRODUCTION AND BACKGROUND

1. Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A: My name is Dominic G. McGraw. My business address is 1515 Arch St, 18-024, Philadelphia, PA 19102.

2. Q: WHERE ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A: I am employed by the City of Philadelphia ("City") as Deputy Director of Energy Services & Operations. In that capacity, I manage the Municipal Energy Office, an office within the Office of Sustainability, which is responsible for tracking City government energy use, developing and implementing energy conservation, energy efficiency, and renewable energy projects for facilities, and providing strategic procurement of City government's energy supply. My team and I work to implement the City's Municipal Energy Master Plan ("MEMP"), a roadmap for increased energy efficiency, renewable energy generation, and energy resilience, and the Municipal Clean Fleet Plan, which provides guidance and recommendations on how the City can transition its vehicle fleet to electric and other clean technologies in an efficient and cost-effective manner.

3. Q: WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A: Before the City, I worked in the Information Technology field for both the academic and corporate sectors. I hold a bachelor's degree from Delaware Valley University, a

Master's in Information Technology Leadership from La Salle University, and a Master's in Environmental Studies from the University of Pennsylvania.

4. Q: WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A: The purpose of my direct testimony is to discuss the potential impact of the proposed rate increase on the City's decarbonization and energy conservation efforts, to highlight challenges that the City has historically faced in pursuing electric vehicle ("EV") charging and solar projects with PECO – Electric Division ("PECO" or "the Company"), to cover roadblocks that the City has faced with regards to PECO's routine account management, and to discuss the potential impacts of the rate case on the City's operating expenses.

II. DECARBONIZATION GOALS

5. Q: HOW MIGHT THE PROPOSED RATES IMPACT THE CITY'S DECARBONIZATION EFFORTS?

A: On March 28, 2024, PECO submitted a base rate increase filing with the Pennsylvania Public Utility Commission ("Commission" or "PUC") requesting an annual overall electric rate increase of approximately $464 million, with a one-time credit of $64 million, resulting in a net electric rate increase of $399 million in 2025.[1] Raising electricity rates will make it more difficult for the City and its inhabitants to implement necessary decarbonization efforts as many decarbonization strategies involve electrification, thus making the costs of these transitions higher and potentially cost-prohibitive. As stated by The National Renewable Energy Laboratory ("NREL") in their 2017 technical report on electrification and decarbonization:

[1] PECO St. 1, p. 5.

> "…electrification of end-use services in the transportation, buildings, and industrial sectors coupled with decarbonization of electricity generation has been identified as one of the key pathways to achieving a low-carbon future in the United States."[2]

Similarly, the American Council for an Energy-Efficient Economy ("ACEEE") has stated that, "electrification—meeting energy needs with clean electricity instead of fossil fuels—is essential to reducing carbon emissions."[3] The City is aware of the devastating effects that climate change will have on our society, and thus it is imperative that all sectors work towards decarbonization as soon as possible. For some processes, such as heating or vehicle use, the pathway to decarbonization involves fuel switching from fossil fuels to electricity while simultaneously decarbonizing the grid mix. Electrification can often be economically challenging as electric rates are generally higher than the alternative fossil fuel (such as natural gas or petroleum).[4] Thus, it is currently uneconomical for the City to electrify apart from EVs and raising the base rate for electricity will compound this issue.

6. Q: YOU MENTIONED THAT RAISING ELECTRICITY RATES HINDERS THE IMPLEMENTATION OF DECARBONIZATION STRATEGIES. WHY IS THAT IMPORTANT TO THE CITY?

A: In Philadelphia, climate change will have two major impacts: hotter temperatures and more precipitation. These impacts will be felt most by Black, brown, and low-income neighborhoods that are more likely to have pollution and industrial areas, and less likely to have green land cover like parks and gardens. Climate change will also affect the City

[2] NREL. (2017). Electrification & Decarbonization: Exploring U.S. Energy Use and Greenhouse Gas Emissions in Scenarios with Widespread Electrification and Power Sector Decarbonization. Technical Report, vi.
[3] ACEEE. 2024. *Electrification and Decarbonization*. https://www.aceee.org/topic/electrification-and-decarbonization
[4] In 2023, on average, the City paid 2.66 times more for our all-in blended electricity rate compared to natural gas. This is quite high as the City already pays a low electric generation rate by hedging in the wholesale market via a Load Serving Entity through a dedicated PJM subaccount.

economically, most noticeably from increases in severe weather. In order to try to avoid the worst impacts of climate change, the City has committed to achieving carbon neutrality by 2050 citywide. Continuing to emit carbon as usual will have devastating impacts on the planet and the City. The decarbonization work that we are doing, therefore, is crucial to safeguarding the health and wellbeing of the residents of Philadelphia.

7. Q: CAN YOU PLEASE DESCRIBE THE "CHALLENGES" THE CITY HAS FACED IN COLLABORATING WITH PECO ON EV CHARGER AND SOLAR INSTALLATIONS PROJECTS?

A: As mentioned earlier, the City is attempting to decarbonize as aggressively as possible, but many projects have been delayed or abandoned due to PECO not having the proper infrastructure, planning, and processes in place for electrification and other renewable energy projects to be approved and completed in a timely and cost-effective manner. The Philadelphia Energy Authority ("PEA"), in conjunction with the City, submitted an interrogatory to PECO related to these planning concerns and asked if PECO currently has a climate action or decarbonization plan for the impact of the operation of its grid on global warming and PECO's response directed us to PECO's website which contained minimal information on these purported efforts.[5] Below, I will describe some of the obstacles the City has faced in pursuing decarbonization projects with PECO.

<u>EV infrastructure</u>

Part of the challenge to the City's expansion of EV infrastructure is PECO's piecemeal approach that increases the timeline and complexity of installation, requiring individual documentation for each site rather than working with the City on a

[5] See Exhibit DGM-1, PECO Interrogatory Response Philadelphia-PEA-I-3.

comprehensive plan for charging. In order to complete the necessary upgrades at City facilities to install EV chargers, PECO currently requires an individual Service and Meter application ("S&M") for each installation, which can sometimes take weeks to review and progress forward. The City recommends that PECO reevaluate this process to allow for bundled project documentation submittals for EV chargers rather than one per location, and to consider working more closely with large stakeholders such as the City on higher-level strategy and implementation.

Billing and cost-sharing for renewable projects

PECO's billing structures and infrastructure requirements for solar have led to project delays and abandonment at the Northeast Airport. The Philadelphia Department of Aviation ("DOA") submitted an interconnection application for a solar installation in February of 2022 and did not receive the scope and budget until **seven (7) months later** in September of 2022. The scope included the upgrade of utility-owned transformers at a cost of $350k +/- 40%, at the expense of the DOA. The transformers were close to the end of their useful life; however, the "depreciation credit" offered by PECO was only $5,000, which is around one percent (1%) of the cost range. PECO claimed that they would not plan to replace the equipment until it fails, despite it serving critical equipment. In addition, they also stated that their minimum service level obligation is to provide one-way power, so if the transformer had been at the end of its useful life, they would have replaced it with a transformer that would not have been sufficient for the solar installation. The DOA engaged PECO regarding the potential to cost-share in the upgrade of the PECO-owned transformer; however, they were provided feedback in December of 2022 that PECO does not have any mechanism under the tariff to allow for the sharing of costs of a proposed

project with a customer. The delay in scope development, along with the investment needed to upgrade the transformer, led to the inability for DOA to move forward with the contract as negotiated via the Power Purchase Agreement ("PPA") pursued for the project. This caused an additional 12-month delay for new procurement and increased costs for over twenty (20) years. The equipment was finally installed by PECO in March of 2024, allowing DOA to now resume discussions around issuing a second PPA RFP, two years after the initial application submission.

The City recommends that the Commission require PECO to address the lack of flexibility in its billing structure as it relates to cost-sharing for infrastructure upgrades to allow more solar projects, like the one at the airport, to be implemented with less barriers. Additionally, applicants for solar projects should be receiving more accurate and dependable estimated costs at a percentage range much lower than forty percent (40%). Solar projects are vital to the City's decarbonization efforts and electric distribution companies like PECO should have the proper mechanisms in place to allow such projects to be pursued and executed with ease.

Negated cost savings from energy efficiency and conservation measures

The City is undergoing a project to convert all streetlights within the City of Philadelphia—approximately 130,000 lights—to LEDs with control capabilities. This will change the tariff of the lighting systems from Street Lighting Customer-Owned rate ("SLE") to the Smart Lighting Control rate ("SLC") once the fixtures are converted. While the transition to LEDs will save an estimated thirty-three percent (33%) in energy usage per year over the lifetime of the fixtures, the proposed SLC rate change will result in an

estimated net increase in streetlighting costs.[6] The twenty-nine percent (29%) increase in the proposed variable distribution charge for the SLC rate could disincentivize other organizations from pursuing LED lighting with controls by affecting the economics of the project, thus impacting the ability for PECO customers to reduce the energy associated with exterior lighting. The SLE variable distribution rate is also going up twenty-nine percent (29%) in the proposed tariff, so this would have a similar effect even if the proposed lighting did not incorporate controls.

The City is concerned that the benefits and cost savings from energy efficiency and conservation programs will be negated by PECO's requested rate increase. As testified by PECO witness Nicole LeVine, PECO's current phase of its ACT 129 Energy Efficiency and Conservation program has helped customers save more than 545,045 megawatt hours of electricity.[7] While assisting customers in reducing their electricity usage through Act 129 is certainly something to be applauded, PECO is claiming that this rate increase is necessary in part because of reduced sales resulting from energy efficiency and conservation efforts.[8] PECO, further, has adjusted its future revenue requirement to recover anticipated lost revenue resulting, naturally, from the reduced usage by customers.[9] While I understand that PECO is *permitted* under Act 129 to recover such costs, I did not see in PECO's testimony where the Company has explained the reduced cost of service resulting from less customer demand and consumption. Again, the City recommends that the Commission consider the signal that customers will receive when they take steps to invest

[6] See Exhibit DGM-2.
[7] PECO St. 1, p. 13.
[8] PECO St. 2, p. 7, lines 1-6.
[9] PECO St. 3, p. 35, lines 7-17; see also, PECO St. 3, Exhibit D-5C.

in energy reduction methods and are not realizing the cost-saving benefits because of the extent of PECO's requested rate increase.

Summary

The City is concerned that there is not adequate planning by PECO surrounding infrastructure upgrades required for electrification and renewable projects such as interconnection and, yet, this is one of the stated reasons for the additional revenue requested in this rate increase proceeding.[10] In order to complete decarbonization projects in a timely, efficient, and cost-effective manner, the City encourages the Commission to require PECO to regularly work with large customers, such as the City, on comprehensive planning for decarbonization projects, including EV charging and solar, and re-evaluate its cost-sharing policies to ensure there is not undue economic burden on the customer for distribution infrastructure upgrades. The City also urges the Commission to reject or reduce PECO's requested increase in overall rates, including the streetlighting tariff, so as not to diminish the savings associated with installing efficient streetlighting equipment and potentially disincentivize other customers from pursuing similar projects. Lastly, the Commission should require PECO to hold regular meetings with stakeholders to gain insight into upcoming and potential electrification and renewable energy projects so that coordinated planning can be done years in advance of project inception.

The City is also concerned that PECO has not completed adequate planning relating to potential usage and demand increases as more customers pursue decarbonization. In fact, testimony from PECO Witness Nicole LeVine states "our overall sales are expected to be nearly flat in large part due to our aggressive pursuit of energy efficiency and

[10] PECO St. 1, pp. 5-6.

conservation…"[11] which indicates that PECO is not considering predicted energy usage increases associated with electrification in their sales predictions. As ACEEE outlines, "electrification of many buildings, vehicles, and factories—needed to address climate change—will increase electric demand in ways that require an evolution of the electric grid."[12] As such, the City urges the Commission to require PECO to include expected increases in usage and demand in their long-term planning and reevaluate these impacts on PECO's revenue requirement.

8. Q: WHAT HAS BEEN THE CITY'S EXPERIENCE WITH PECO'S EV-CHARGER PILOT?

A: While the City has been able to apply for the pilot rebate this year, the City believes adjustments are needed so that more customers as large as the City (with multiple, smaller customer departments) receive benefits of the EV-Charger pilot proportionate to its size and magnitude of its fleet. In December of 2023, the City attempted to gather more information from PECO regarding the L2 Commercial EV program to see if the entire City of Philadelphia's accounts were capped at the $60k incentive limit per customer or if there was an opportunity to get additional funding for EVs due to the size of the City's portfolio. In January of 2024, the City followed up with PECO on this matter and was told that they were still looking into it. We have still not heard back on this request.

9. Q: ARE THE CITY'S COMPLAINTS ABOUT PECO'S EXISTING EV-CHARGER PILOT ADDRESSED IN PECO'S CURRENT FILING?

[11] Id., p. 6.
[12] ACEEE. 2024. Coming Electrification Will Require the Grid to Evolve. https://www.aceee.org/blog-post/2023/02/coming-electrification-will-require-grid-evolve

A: In PECO's filing, PECO witness Steven J. DeMott testified that PECO plans to revise the L2 Charging Pilot's incentive amount for non-transit authority customers from $60k to a range of $40k to $100k depending on the "actual demand of rebates".[13] Witness DeMott later explains PECO's proposal of this range in incentives is designed to mitigate PECO's risk of over or underspending its annual budget for this program.[14] While, as witness DeMott explains, a year with less participation could increase the incentive amount for larger customers with more significant EV infrastructure projects, like the City, a year of higher participation could leave the City with only $40k in incentives.[15] And, while PECO proposes that the incentives be allocated annually, the City isn't guaranteed incentives given the program's first come, first served, nature. The City appreciates PECO's attempt to allocate higher incentives for larger customers, however, if the City of Philadelphia, and all of its departments, is considered one customer for purposes of the EV-charger pilot, the impact of the $40k to 100k incentive is extremely disproportionate compared to smaller commercial customers. Therefore, the City recommends that, if PECO's proposed EV Charger Pilot expansion is approved, that it include a provision allowing large governmental customers—with fleets in excess of 5,000 vehicles—to be eligible for multiple, individual incentives for up to five (5) of its departments. After all, the City is among the pool of customers paying for the pilot and the benefits the City receives from the pilot should be proportionate to its size, rather than limited simply because it is considered by PECO as "one customer."

[13] PECO St. 9, p. 11.
[14] Id. at pp. 16-17.
[15] Id.

III. ACCOUNT MANAGEMENT

10. HOW HAS YOUR EXPERIENCE BEEN WITH PECO'S ACCOUNT MANAGEMENT?

A: Unfortunately, the City regularly has trouble with PECO executing routine requests. Requests to turn on electricity for new meters, billing questions, and general inquiries often go without response for months, despite regular follow-ups. As a recent example, the City asked PECO to support expediting the turn-on for a new meter at a recreation center, which took well over a month after the initial request and PECO's request for additional information. As of 5/20/2024, the City has fourteen (14) outstanding requests from PECO which include seven (7) start service requests, five (5) billing questions, one (1) equipment question, and one (1) request for signature related to sales tax exemption. Sixty-four percent (64%) of these requests have been sitting for over a month without a response.

In addition, through our LED streetlighting project, we have faced obstacles working with PECO related to questions regarding PECO-owned equipment on poles. Early in the project, the City's contractors discovered that some of the poles contained PECO-owned equipment which the contractor's team did not want to remove without more information from PECO. The City reached out to PECO in September of 2023 regarding this equipment and was given conflicting information on whether the equipment could be removed. Even after multiple emails and calls with PECO, the City was not provided with clear directions on how to proceed with this equipment. Lack of direction for how to address the equipment when found is affecting project efficiency and increasing costs by not allowing the crew to complete the installations in the order determined. As of 5/23/24, the City's contractors provided the list of ten (10) poles identified thus far to PECO and PECO stated that they reviewed the equipment and removed those that were confirmed abandoned. However, the

City is still awaiting feedback from PECO on what the process should be moving forward to address this equipment if found again, so the crux of the issue has yet to be addressed.

PECO's billing system transition that occurred in February of 2024, coupled with all new account numbers for its customers, has also resulted in massive billing issues for the City that have not all been addressed four (4) months later. After the transition to the new account numbers, it took multiple weeks for the City's account numbers to be confirmed, and it took until April of 2024 for the City to get billed for the months of February, March, and April of 2024. Even once the bills were received, there were issues with the line-item charges not adding up to the total charges owed on some of the accounts, as well as inconsistencies in how the charge headers appeared and how they added up the charges underneath the header, prompting the City to do additional QA/QC of the invoices before approving them for payment to ensure that we were being billed correctly. In addition, the new bills were missing around 100 of the City's accounts, which were not provided to the City until mid-June of 2024, and PECO could only provide the data to the City in a spreadsheet rather than in our typical summary PDFs. Lastly, PECO still has not been able to invoice the City for our traffic or alley lighting accounts since January of 2024. We have provided this feedback to PECO but have not been given a timeline for when it will be fixed. As of our latest meeting with PECO on 6/13/24, PECO is still working on the above-mentioned issues and is also unable to issue the City's June bills due to an error with their system.

The City is concerned that PECO is requesting this rate increase without adequacy of existing service provided. We understand that PECO has taken steps towards improving their customer service lines, however, this does not affect larger customers who have

dedicated representatives. We are suggesting that PECO establish service-level agreements ("SLAs") for requests handled by account managers, both for routine billing questions as well as requests surrounding sustainability projects, so that we can ensure that customers' needs are being met in a timely manner.

IV. MUNICIPAL OPERATING COSTS

11. Q: ROUGHLY, HOW MUCH DOES THE CITY OF PHILADELPHIA PAY PECO FOR ELECTRICITY A YEAR?

A: In the calendar year 2023, the City paid $19.5MM to PECO in electric distribution costs.

12. AS THE CITY'S DEPUTY DIRECTOR OF ENERGY SERVICES AND OPERATIONS, CAN YOU DESCRIBE HOW THE RATE INPACT MIGHT AFFECT THE OPERATIONS OF THE VARIOUS CITY DEPARTMENTS?

A: The rate increase, as proposed, will impact the City's budget by an estimated $1.7MM[16] annually with the City's existing tariffs, which is detrimental to other programs that the City runs by taking those funds away from other needed areas. This increase will affect the City's streetlighting budget the most, effectively nullifying the energy savings that we are receiving from replacing the fixtures with LEDs and, instead, increasing streetlighting distribution costs. The state funding allocation for streetlighting for the City has decreased over the years, which was expected to be offset by a significant decrease in streetlighting energy costs. Without a decrease in energy costs, this will likely have a large impact on the department's entire operating budget, potentially impacting several core service operations, such as roadway maintenance and repair, traffic maintenance, repair and

[16] See Exhibit DGM-2.

engineering management, project management for transportation public works, surveying, and more.

V. CONCLUSION

13. Q. CAN YOU PLEASE SUMMARIZE THE REQUEST YOU ARE MAKING OF THE COMMISSION IN THIS PROCEEDING?

A: In summary, the City urges the Commission to take into consideration the impact that this proposed rate increase will have on decarbonization efforts across the service territory and to require PECO to improve its EV charger and solar interconnection processes and cost-sharing policies to ensure that crucial decarbonization projects are occurring in partnership with key stakeholders and are not cost-prohibitive. The City also requests that the Commission account for the City's above-described experience with PECO as a customer in evaluating the quality of service aspect of PECO's filing and overall requested rate increase, and also require PECO to examine its SLAs regarding account management to ensure that its customers are receiving adequate basic services, as required. Lastly, the City requests that the Commission not approve the requested rate increase, including the streetlighting tariff, so as not to diminish energy savings associated with energy efficiency upgrades upgrades and disincentivize future similar energy efficiency and conservation efforts for other PECO customers.

14. Q: DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A: Yes, it does.

VERIFICATION

I, Dominic G. McGraw, hereby declare that that the facts set forth in the foregoing direct testimony are true to the best of my knowledge, information and belief, and that I make this verification subject to the penalties of 18 Pa. C.S. §4904 pertaining to false statements to authorities.



Dominic G. McGraw

DATE: June 17, 2024

DGM
EXHIBITS

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
City of Philadelphia and Philadelphia Energy Authority
Philadelphia-PEA Set I

Response Date: June 03, 2024

Philadelphia-PEA-I-3

Decarbonization Planning

a. We understand that PECO has a climate action plan for its own direct operations. Please provide a copy.
b. Does PECO have a climate action or decarbonization plan for the impact of the operation of its grid on global warming?
    i. If not, is PECO preparing such a plan?
    ii. If PECO is preparing such a plan, please provide any documents relating to such preparation.
    iii. If it is not preparing such a plan, has PECO discussed preparing one?
c. In its filing, has PECO included forecasted electrification activity in their planning around projected future electricity sales? If so, please explain.
d. If not, how does PECO plan to accommodate increased demand and usage associated with electrification and include that in their planning for infrastructure upgrades and associated rates and revenues?

RESPONSE:

a. Refer to PECO's website: https://www.peco.com/safety-community/environment/our-path-to-clean for PECO's Path to Clean decarbonization plan.
b. See response to subpart a regarding the Path to Clean commitment related to the operational emissions of PECO's electric grid.

c. Yes, PECO has incorporated the impacts of Electric Vehicles (EVs) on its sales forecast (refer to Company's Statement No. 3, Direct Testimony of Marissa Humphrey, page 30).
d. N/A

Responsible Witness: Nicole L. LeVine

Rate Table	Charge Description	Current Rate	Proposed Rate	Rate Notes	Rate Change	Percent Difference
High Tension (HT)	Fixed Service Charge	$353.84	$371.67		$17.83	5%
	Variable Distribution Service Charge	$5.49	$7.83	per kW of billed demand	$2.34	43%
	High Voltage Distribution Discount - 33,000 volts	$0.18	$0.26	per kW of measured demand	$0.08	44%
	High Voltage Distribution Discount - 69,000 volts	$1.47	$2.13	per kW of measured demand	$0.66	45%
	High Voltage Distribution Discount - over 69,000 volts	$1.47	$2.13	per kW of measured demand	$0.66	45%
	Energy Efficiency Charge	$0.53	$0.53	per kW of PLC		0%
General Service (GS)	Fixed Distribution Service Charge - Single Phase Without Demand	$18.99	$24.47		$5.48	29%
	Fixed Distribution Service Charge - Single Phase With Demand	$24.21	$31.20		$6.99	29%
	Fixed Distribution Service Charge - Polyphase	$57.94	$74.66		$16.72	29%
	Variable Distribution Service Charge	$8.98	$12.10	per kW of billed demand	$3.12	35%
	Energy Efficiency Charge	$0.00458	$0.00458	per kWh		0%
Primary Distribution (PD)	Fixed Distribution Service Charge	$295.94	$297.61		$1.67	1%
	Variable Distribution Service Charge	$8.27	$12.16	per kW of billed demand	$3.89	47%
	Energy Efficiency Charge	$0.53	$0.53	per kW of PLC		0%
		$0.0006	$0.0006	per kWh for all kWh	$0	0%
Traffic Lighting Constant Load (TLCL)	Service Location Charge	$3.67	$4.08	per service location	$0.41	11%
	Variable Distribution Service Charge	$0.01644	$0.02144	per kWh (includes EE charge)	$0.005	30%
Street Lighting Customer-Owned (SLE)	Service Location Charge	$6.57	$7.49	per service location	$0.92	14%
	Variable Distribution Service Charge	$0.01869	$0.02412	per kWh	$0.00543	29%
Smart Lighting Control (SLC)	Service Location Distribution Charge	$5.56	$6.34	Service Location	$0.780	14%
	Variable Distribution Charge	$0.03496	$0.04524	per kWh	$0.01028	29%
Alley Lights	Service Location Distribution Charge	$2.31	$2.33	per location	$0.02	1%
	Variable Distribution Charge	NA	NA	NA		

Total City Annual Electric Potential Cost Increase with Existing Tariffs	**$1,685,575**
Total City Annual Electric Potential Cost Increase with New SL Tariff (Post-LED Installations)	**$676,892**

Streetlighting Cost Impact

Estimated Increase with Current Tariffs

PECO Rate	# of locations	Annual Use	UOM	Existing Annual Cost	Usage Rate Change	Usage Cost Impact	Fixed Rate Change	Fixed Cost Impact	Total Cost Increase with Existing Tariffs	Total New Cost with Existing Tariffs
PECO-AL [PECO-AL]	16,032	4,242,432	kWh	$444,407	N/A	N/A	$0.02	$3,847.68		
PECO-TL [PECO-TL]	2,942	3,371,184	kWh	$184,988	$0.00500	$16,855.92	$0.41	$14,474.64	**$1,453,596.82**	**$10,986,608.69**
PECO-SLE [PECO-SLE]	98,467	61,020,792	kWh	$8,903,617	$0.00543	$331,342.90	$0.92	$1,087,075.68		
Total		**68,634,408**	kWh	**$9,533,012**		**$348,198.82**		**$1,105,398.00**		

Estimated Increase with Updated Tariff for SL

PECO Rate	Cost per Location	Total Location Cost	Cost per kWh	Cost Total kWh	Total Cost	Cost Increase in SL Charges	Total Cost Increase (Once Fixtures are Converted to LEDs)	Total New Cost (Once Fixtures are Converted to LEDs)
SLC charges, in future	$6.34	$7,491,369.36	$0.04524	$1,821,983.22	$9,313,352.58	**$409,735.69**	**$444,913.93**	**$9,977,925.80**
SLE current charges	$6.57	$7,763,138.28	$0.01869	$1,140,478.60	$8,903,616.88			

*assumes 33% reduction in total kwh once all are converted to LED

Cost Impact - Remaining Tariffs

PECO Rate	Use	UOM	Demand	UOM	Cost	Demand Rate Change	Demand Cost Impact	Usage Rate Change	Usage Cost Impact	Number of Accounts/Locations	Fixed Rate Change	Fixed Cost Impact	High Voltage	Cost Increase	New Total Cost
PECO-GS [PECO-GS]	70,793,393.24	kWh	1,030.90	kW	$2,567,980	$3.12	$3,216.41	N/A	N/A	834	$9.73	$97,377.84			
PECO-HT [PECO-HT]	505,777,476.95	kWh	41,405.70	kW	$7,261,820	$2.34	$96,889.34	N/A	N/A	58	$17.83	$12,409.68	$19,322.66		
PECO-PD [PECO-PD]	5,939,104.00	kWh	710.00	kW	$154,699	$3.89	$2,761.90	N/A	N/A	N/A	N/A	N/A			
Total	**582,509,974.19**		**43,146.60**		**$9,984,499**		**$102,868**					**$109,788**	**$19,323**	**$231,978**	**$10,216,477**

CITY AND PEA
STATEMENT NO. 2-SR

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v. PECO ENERGY COMPANY – ELECTRIC DIVISION
DOCKET NO. R-2024-3046931

SURREBUTTAL TESTIMONY

WITNESS: DOMINIC G. McGRAW

DATE: August 2, 2024

SURREBUTTAL TESTIMONY

OF

DOMINIC G. MCGRAW

INTRODUCTION AND BACKGROUND

1. Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

   A: My name is Dominic G. McGraw. My business address is 1515 Arch St, 18-024, Philadelphia, PA 19102.

2. Q: HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

   A: Yes, I submitted my direct testimony, City and PEA Statement No. 2, on June 17th, 2024.

3. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

   A: My surrebuttal testimony will respond to the rebuttal testimony statements made by PECO witness Nicole LeVine related to PECO's cooperation with the City on its Clean Energy and Sustainability projects, and PECO witness Steven DeMott on my recommendation to PECO's EV Charger Pilot program.

CLEAN ENERGY AND SUSTAINABILITY PROJECTS

4. REFER TO PECO ST. 1-R, PAGES 16-17. PECO WITNESS LeVINE CONTENDS THAT THE COMPANY IS "MODERNIZING" ITS DISTRIBUTION SYSTEM INFRASTRUCTURE AND RECENTLY SECURED A FEDERAL INFRASTRUCTURE INVESTMENT AND JOB ACTS GRANT TO FURTHER MODERNIZE ITS ELECTRIC GRID OPERATIONS. HOW DO YOU RESPOND?

A: While the City appreciates that witness LeVine acknowledges PECO's responsibility to its customers to "modernize" its distribution system infrastructure to serve customers "whose energy needs are growing" and apply for outside grant assistance to alleviate some of the accompanying financial burden on its customers, the City is still not satisfied that PECO has performed the requisite studies and analyses on its local distribution system, or engaged with the proper stakeholders, like the City, to identify where these "modernization" investments should take place. For instance, when asked whether PECO evaluates possible increases in demand for electricity due to electrification, PECO stated that it has not conducted such an analysis.[1] Further, when asked whether PECO has conducted any studies or had internal conversations on the impact of solar installation on its electric distribution system's future capacity, PECO witness LeVine responded that "PECO has not conducted any studies on the overarching impact of solar installations on the future capacity of its distribution system and does not have records of internal conversations (if any occurred) on that topic."[2] PECO witness LeVine later added, "[t]here has been no need for such an overarching study in light of the manner in which PECO's system is designed, the amount of installed distributed solar capacity, and the intermittent nature of solar generation."[3] PECO then provides no explanation for what information it is relying on for "modernizing" its system to serve the evolving electrification and interconnection needs of its customers, even though it partially projects the need for increased rates to perform such duties.

[1] City/PEA 2-SR Exhibit 1 (Response to Philadelphia-PEA-III-4(b)).
[2] Id. (Response to Philadelphia-PEA-III-1).
[3] Id. (Response to Philadelphia-PEA-III-1(b)).

And while PECO has offered some intel into its approach to modernize its distribution system for a clean energy future in their Path to Clean and Exelon Sustainability reports, it is the City's experience that PECO is not fulfilling an important step listed in both its Path to Clean and Exelon Sustainability Report: partnering with customers and communities to help them meet their climate goals so that PECO can adapt and evolve in coordination with those plans.[4] For instance, Exelon's 2021 Sustainability Report references the need to collaborate with customers to chart its path to clean:

> "As we begin to downscale our analyses to the local community level and learn from the decarbonization efforts of cities and states where we do business, we seek to assess how our current programs, products and services can help to achieve community goals for climate action. Stakeholder perspectives and other factors inform our understanding of potential market size, the need for new or emerging zero-carbon technologies, and how our current businesses need to transition to reflect community planning and evolving customer energy needs. Ultimately, understanding the decarbonization pathways needed for our communities feeds back into our business strategy relating to the evolution of the energy delivery system and energy policies within our jurisdictions."[5]

Planning for a decarbonized, sustainable, clean energy future is a vital responsibility of PECO, and its customers rely on PECO to provide the infrastructure so that customers can pursue and complete their clean energy and electrification projects. They have no other option. It is particularly crucial that PECO strategically plan out its distribution system, during the current and future-forecasted rise of customer-owned renewable energy deployment and electric vehicle charger installations, as stated in my direct testimony.[6] Given that demand is strongly connected to customer behavior (i.e., facility electrification), the City believes PECO should be analyzing electrification trends and actively

[4] Id. (Response to Philadelphia-PEA-III-4).
[5] Id., see also csr-year-2021-pdf (1).pdf.
[6] City/PEA St. No. 2, pp. 8-19.

collaborating with its customers in planning future distribution system buildout and improvements now.

As a large customer of PECO with over a million citizens relying on it to transition to a clean energy future, the City has a strong desire to actively partner with PECO on planning a distribution system for a clean future. Such collaboration, unfortunately, has not occurred although efforts were made on behalf of the City.

5. REFER TO PECO ST. 1-R, PAGES 17-18. PECO WITNESS LeVINE CLAIMS THAT PECO'S COSTS DO NOT NECESSARILY DECLINE WHEN ENERGY EFFICIENCY AND CONVERSATION MEASURES ARE DEPLOYED. HOW DO YOU RESPOND?

A: The City and PEA requested the backup for this claim in an interrogatory and were told that the study of the impact on the current Act 129 Energy Efficiency and Conservation ("EE&C") program on PECO's cost and revenues is not yet complete.[7] I understand that PECO may, under Act 129, recover lost revenue resulting from lower energy consumption, however, the City thinks it is unfair for PECO to claim such lost revenues without an analysis as to whether PECO's costs to provide service simultaneously decreased. The City, therefore, recommends that the Commission consider the lack of information on possible operational savings associated with the reduction in customer energy and demand from PECO's EE&C programs when evaluating PECO's requested recovery for decreased sales.

6. PLEASE REFER TO PECO ST. 1-R, PAGE 18. PECO WITNESS LeVINE CONTENDS THAT PECO IS ENGAGED IN A "WIDE VARIETY OF PROGRAMS TO HELP [ITS]

[7] City and PEA Exhibit DGM-SR-1 (Response to Philadelphia-PEA-III-8).

CUSTOMERS ACHIEVE THIER GOALS RELATING TO RENEWABLE ENERGY." HOW DO YOU RESPOND?

A: As explained in my direct testimony, PECO's application processes are lengthy and time-consuming, and therefore, act as a barrier to the City's carbon reduction goals. As I explained in my direct testimony[8], the City must complete a Service and Meter ("S&M") application for each EV charger installation that it undertakes. This requirement is reasonable for entities with limited facilities where they can install chargers, but for an entity like the City where we are asking for support from PECO on selecting the best fit facilities to install chargers from an infrastructure perspective, this process is wholly inadequate. As stated in my direct testimony[9], a bulk application process that would allow the City to provide the same information that is included in S&M applications to PECO, but in one report, would streamline the process and would allow for more efficient planning and collaboration regarding EV infrastructure.

7. REFER TO PECO ST. 1-R, PAGES 18-21. PECO WITNESS LeVINE LISTS THE ACTIONS PECO HAS TAKEN TO SUPPORT THE CITY IN ITS DECARBONIZATION AND CLIMATE CHANGE MITIGATION EFFORTS. IN YOUR OPINION, HAVE THESE EFFORTS PRODUCED POSITIVE RESULTS FOR THE CITY?

A: The short answer is no. The City and PEA would not have intervened in this proceeding to such an extent if they thought PECO was providing a sufficient level of cooperation and support with their decarbonization and climate change mitigation efforts. While PECO has performed some helpful acts as listed in PECO witness LeVine's rebuttal testimony, it is

[8] City/PEA St. No. 2, pp. 4-5.
[9] City/PEA St. No. 2, p. 5.

of the City and PEA's opinion that these formalities and meetings often fail to produce real and meaningful results. As raised in my direct testimony,[10] the real barriers to the City and PEA's decarbonization and climate change mitigation efforts occur while the City and PEA are in the process of seeking PECO's approval, as well as during project implementation, that cause unnecessary delays and increases in cost to the City and PEA. Therefore, the City contends that there is significant proactive planning that PECO should be undertaking to prepare its distribution system for increased load and interconnections, and to understand how to best collaborate with stakeholders on these crucial clean energy and electrification initiatives.

8. REFER TO PECO ST. 1-R, PAGE 20. PECO WITNESS LeVINE CONTENDS THAT THE CITY'S REQUESTS FOR SUPPORT OF ITS ELECTRIFICATION INITAITIVES HAVE BEEN QUITE LIMITED. IS THIS STATEMENT CORRECT?

A: Absolutely not. As stated in my response to PECO's interrogatories[11], the City attempted to raise its plans for EV charging with PECO during the monthly meetings between PECO and the City, and the City was again directed only to the S&M submission process. Therefore, witness LeVine's statement that PECO would "welcome the opportunity to engage the City in broader discussions regarding its vehicle electrification strategy and encourage the City to share with [PECO] information on its electrification plans"[12] comes across to the City as hollow given PECO's lack of interest in collaboration in the past. In addition, Witness LeVine commented that "the City did not submit any applications for incentives under PECO's Level 2 commercial incentive program in the

[10] City/PEA St. No. 2, pp. 5-6.
[11] City and PEA Exhibit DGM-SR-2 (Response to PECO-City/PEA-II-1).
[12] PECO St. No. 1-R, p. 21.

first two years of its availability"[13] as testament that the City is not requesting support with its EV projects. This observation is mistaken. The City's EV incentive application history is not a reflection of the City's inaction on EVs; planning for and installing EV infrastructure takes time, especially for a municipality with a limited budget and an aging building stock that requires evaluations for make ready upgrades.

9. PLEASE REFER TO PAGE 21, LINES 12-22. PECO WITNESS LeVINE DESRIBES PECO'S APPROACH TO COST SHARING FOR INFRASTRUCTURE UPGRADES AS PROVIDING FOR "EQUITABLE FINANCIAL RESPONSIBILITY". DO YOU AGREE?

A: No, I do not. Witness LeVine's rebuttal testimony describes PECO's cost-sharing approach as one where, unless you are among a group of customers benefitting from the infrastructure upgrade, it is not PECO's responsibility to contribute to any of the costs. As I stated in my direct testimony[14], the infrastructure in question at the Northeast Airport was soon in need of replacement regardless of the City's project, but PECO was able to essentially avoid its responsibility to do so by refusing to replace the aged and inadequate infrastructure unless the City paid for the entire project. This is certainly not "equitable" to a customer requesting upgrades and offering to contribute to the upgraded portion of the costs of the infrastructure replacement.

10. REFER TO PECO ST. 1-R, PAGE 23. PECO WITNESS LeVINE CLAIMS THAT POTENTIAL INCREASES IN ELECTRIFICATION ARE NOT NEEDED IN THIS PROCEEDING BECAUSE THESE CHANGES ARE EXPECTED FARTHER IN THE FUTURE. DO YOU AGREE?

[13] PECO St. No. 1-R, p. 20.
[14] City/PEA St. No. 2, p. 5.

A: No, I do not. I believe this claim is shortsighted. Although huge spikes in demand due to electrification initiatives are unlikely to happen immediately in the first year that this rate case would take effect, the infrastructure investments that are needed to support this future increased load will take time to implement and planning should begin as soon as possible. Waiting until the increases have already occurred from customer electrification is irresponsible as infrastructure improvements cannot happen overnight.

11. REFER TO PECO ST. 1-R, PAGE 24. PECO WITNESS LeVINE CLAIMS THAT THE CITY'S CONCERNS REGARDING THE CITY'S NORTHEAST AIRPORT SOLAR PROJECT ARE NOT APPROPRIATE AND THAT THE DELAYS WERE CAUSED BY THE CITY AND ITS VENDORS. DO YOU AGREE?

A: No, I do not. This response completely ignores all involvement from PECO that contributed to the delays of the project. As stated in my direct testimony[15], even after submission of the correct project information on February 9, 2022, as confirmed by Witness LeVine[16], Philadelphia's Department of Aviation (DOA) still waited seven months for the project scope and budget from PECO. In addition, the extreme cost range quoted by PECO for the upgraded transformer (+/- 40%), which they were told was DOA's responsibility minus a 1% depreciation credit, increased uncertainty regarding project costs and contributed to further delays with the project. As stated in my direct testimony[17], the delay in scope development, along with the investment needed to upgrade the transformer, led to the inability for DOA to move forward with their contract as negotiated via the Power

[15] City/PEA St. No. 2, p. 5.
[16] PECO St. No. 1-R, p. 24.
[17] City/PEA St. No. 2, p. 6.

Purchase Agreement pursued for the project. The upgraded transformer was ultimately installed, but it was installed two years after the initial project submittal.

12. REFER TO PECO ST. 1-R, PAGES 24-26. PECO WITNESS LeVINE CLAIMS THAT PECO IS ALREADY WORKING CLOSELY WITH THE CITY ON VARIOUS PROJECTS AND THAT REPORTING ON GOVERNMENT PROJECTS IS NOT NECESSARY. HOW DO YOU RESPOND?

13. A: Given the difficulties that the City has experienced working with PECO on sustainability initiatives, the unique role of government customers, and the impact of energy transition projects on mitigating the worst impacts of climate change, the City believes that increased transparency would be beneficial to all parties involved. While the City appreciates the scheduled meetings with PECO, this is not enough to ensure adequate turnaround times on these crucial requests, which is at the heart of this reporting request.

EV CHARGER PILOT

14. REFER TO PECO ST. 9-R, PAGE 16-17. WITNESS DeMOTT CONTENDS THAT THE CITY'S REQUEST FOR MULTIPLE OPPORTUNITIES AT PECO'S ELECTRIC VEHICLE CHARGER INCENTIVE CAP WOULD BE INEQUITABLE TO OTHER PECO CUSTOMERS. HOW DO YOU RESPOND?

A: I disagree with PECO witness DeMott's conclusion that the City's request to be treated as multiple customers is "inequitable." The City's request is perfectly fair considering the City has a water department and an international airport which operate as large, individual enterprises. Additionally, PECO has inappropriately labeled Philadelphia Gas Works ("PGW") as the City for purposes of the incentive cap, further diminishing the City's ability

to utilize its incentive opportunity. PGW is a separately incorporated entity and not a department of the City.

Beyond this issue of other entities being mislabeled as the City for purposes of the incentive cap, what is also inequitable in this situation is that PECO's incentive cap is a one size fits all policy, whereby customers receive the same incentive cap regardless of fleet size. To correct this injustice towards customers with large fleets, I recommended in my direct testimony that customers with fleets over 5,000 vehicles be treated as multiple customers for purposes of the incentive cap.[18] In addition, my suggestion of an incentive breakdown by department was not meant to prescribe a literal requirement for the incentive cap, but rather to show the size and scale of the City's fleet and how these departments individually are comparable to entire organizations. Therefore, the City requests that PECO amend its definition of customer to allow the City's largest departments to have their own incentive cap.

CONCLUSION

15. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A: Yes.

[18] City/PEA St. No. 2, p. 10.

CITY AND PEA
EXHIBIT DGM-SR-1

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
City of Philadelphia and Philadelphia Energy Authority
Philadelphia-PEA Set III

Response Date: July 29, 2024

Philadelphia-PEA-III-4

Planning

The City and PEA are familiar the statements on the Company's Website at <https://www.peco.com/safety-community/environment/our-path-to-clean.%20%20> Please provide any operative documents that describe in detail the goals for decarbonization alluded to on the website, including the rationale behind the goals selected, the methods for attaining the goals, the responsibilities within the Company for attaining those goals, and the process for measuring progress against those goals.

a. Please provide any operative documents that describe the Company's plans or lack thereof to transition the electricity that it offers for sale to its customers, whether as default service or under any other Company tariff to non-fossil fuel generated electricity.
b. Please provide any documents in which PECO evaluates possible future increases in demand for electricity due to customer building and facility electrification.
c. Please provide any documents in which PECO evaluates the use of demand response from smart buildings, smart appliances, smart thermal loads, smart EV chargers and similar responsive customer energy management capabilities in managing peak and ramping demands on its system.

RESPONSE:

PECO's Path to Clean is in alignment with Exelon's Path to Clean goals. The following documents provide more information about the Path to Clean goals and methods.

- Exelon Sustainability Report 2021 at page 68 through 70: https://www.exeloncorp.com/content/dam/exelon/sustainability/interactive-csr/Documents/2021/csr-year-2021-pdf.pdf
- Exelon Sustainability Report 2022 at pages 57 through 60; www.exeloncorp.com/sustainability/interactive-csr/Documents/2022/csr-year-2022-pdf.pdf

a. Please refer to PECO's Default Service Provider (DSP VI) filing located in Current PECO Filings | PECO - An Exelon Company (scroll down to review additional links under this filing)
b. The Company has not conducted analysis on the impacts of building electrification on future electric demand.
c. The Company does not use customer energy management capabilities in managing peak and ramping demands on its system.

Responsible Witness: Nicole L. LeVine

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
City of Philadelphia and Philadelphia Energy Authority
Philadelphia-PEA Set III

Response Date: July 29, 2024

Philadelphia-PEA-III-8

Energy Efficiency and Conservation

Please provide the studies or documents wherein PECO has analyzed the impact of PECO's Act 129 EE&C program on its costs and revenues.

RESPONSE:

PECO participates in a transmission and distribution avoided cost study prior to the start of each new phase of PA Act 129 programs. The PA Statewide Evaluator is currently performing this analysis in anticipation of a Phase V for the Act 129 programs. This analysis is used to establish the potential for energy efficiency in each service territory, considering capacity, future investments, and load growth. This study is not complete at this time.

Responsible Witness: Nicole L. LeVine

CITY AND PEA
EXHIBIT DGM-SR-2

CITY/PEA RESPONSES
TO PECO SET II

Docket No. R-2024-3046931

PECO Interrogatories
To
The City of Philadelphia And The Philadelphia Energy Authority
Set II

PECO-CITY/PEA-II-1. Refer to City and PEA Statement No. 2, pages 4-5, where Mr. McGraw describes PECO's process for considering customer requests related to expansion of EV infrastructure and states that "PECO's piecemeal approach…increases the timeline and complexity of installation, requiring individual documentation for each site rather than working with the City on a comprehensive plan for charging." Please provide documentation of the City's requests to PECO for meetings to discuss a comprehensive plan for electric vehicle ("EV") charging and any documents that the City has shared with PECO regarding its comprehensive plan for EV infrastructure expansion.

RESPONSE: The City has not shared any documents with PECO regarding our comprehensive plan for EV infrastructure expansion because we were advised by PECO multiple times that we need to submit individual S&M applications for each site. The topic was discussed with PECO during several of the City's monthly check-ins with our PECO account representative. For example, during the meeting on 7/12/2023, the City discussed the EV charging application process with PECO and whether we could submit projects in bulk and were told that we needed to submit individual S&M applications. This process was discussed again during the 8/9/2023 call as well as the 9/14/2023, 10/12/2023, 11/8/2023 and 1/10/2024 calls.

WITNESS: DOMINIC G. McGRAW

DATED: 7/1/24

VERIFICATION

I, Dominic McGraw, hereby declare that that the facts set forth in the foregoing testimony are true to the best of my knowledge, information and belief, and that I make this verification subject to the penalties of 18 Pa. C.S. §4904 pertaining to false statements to authorities.

Signature: 

Print Name: Dominic McGraw

Title: Deputy Director, Energy Services & Operations, Office of Sustainability

Organization: City of Philadelphia

Address: One Parkway Building
1515 Arch St 18-024

DATE: August 2, 2024

CITY AND PEA
STATEMENT NO. 3

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v. PECO ENERGY COMPANY – ELECTRIC DIVISION
DOCKET NO. R-2024-3046931

DIRECT TESTIMONY

WITNESS: EMILY A. SCHAPIRA

SUBJECTS: PEA'S RESIDENTIAL PROGRAMS AND
ENERGY TRANSITION EFFORTS

DATE: JUNE 17, 2024

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DIRECT TESTIMONY

OF

Emily A. Schapira

I. INTRODUCTION AND BACKGROUND

1. Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A: My name is Emily A. Schapira. My business address is 1400 John F Kennedy Boulevard, Room 566, Philadelphia, PA 19107.

2. Q: WHERE ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A: I am employed by the Philadelphia Energy Authority ("PEA") as President and CEO. In this capacity, I lead 20 staff to accomplish PEA's mission and its City Council mandate.

3. Q: WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A: I hold an MBA from Wharton and a BA from the University of Pennsylvania. Prior to joining PEA full-time, I was Director of Global Accounts for Lighting at WESCO Distribution, a Fortune 500 electrical supply company. My focus was on developing portfolio-wide energy efficient lighting upgrades for large commercial, industrial and institutional customers. WESCO acquired my previous company, Aelux, in 2015, where I served as Chief Operating Officer, managing sales, marketing and operations teams, and VP of Marketing and Business Development since 2012. Aelux was a lighting and controls retrofitter serving clients across North America. Prior to joining Aelux, I worked on sustainability for Verizon and Intel, and started and ran the Wharton School's Sustainability Program, based in Wharton's facilities management group. My efforts

focused on operational eco-efficiency and behavior change, and supported LEED certifications and retrofit efforts across the Wharton portfolio. I also spent five years running a consumer heating oil co-op in Philadelphia and advocating for low-income energy assistance at the federal, state and local levels.

4. Q: PLEASE DESCRIBE PEA AND ITS MISSION AND ITS RELATIONSHIP TO THE CITY OF PHILADELPHIA ("PHILADELPHIA" OR "CITY").

A: PEA is a municipal authority established in 2010 by the City under the Municipality Authorities Act, 53 Pa. C. S., Ch. 56, whose purposes include the promotion of a vital clean energy sector of the Philadelphia economy and increased employment in the sector by undertaking efforts to strengthen the markets for energy efficiency and energy storage and generation projects. PEA is focused on issues of energy affordability and sustainability for Philadelphia's government and its citizens. In 2016, PEA launched the Philadelphia Energy Campaign, a $1 billion, 10-year investment in energy efficiency and clean energy projects to create 10,000 jobs. To date, PEA has helped launch over $904 million in projects, and created over 7,600 jobs. PEA's goal is to make Philadelphia a national model for implementing energy strategies that improve the health and well-being of the community and local economy, including the City's most vulnerable residents. PEA runs the nation's largest Solarize program and just completed a pilot round of low-income solar installations. PEA is also the Program Administrator for Philadelphia's Commercial Property-Assessed Clean Energy (C-PACE) program, and recently launched the Philadelphia Green Capital Corp, a green bank affiliate.

Philadelphia is the poorest big city in the country, has one of the highest rates of

low-income homeownership in the country[1], and the total cost of home repairs needed in the region totals $3.7 billion. Philadelphia is among the most energy burdened cities in the entire country,[2] with more than a quarter of low-income households spending more than 18% of their monthly income on home energy bills.[3] Philadelphia homeowners are struggling to afford basic repairs to their homes including HVAC maintenance and replacements, with many defaulting to the cheapest off-the-shelf replacement options such as electric or even kerosene space heaters. To address these deferred maintenance issues and reduce long-term energy burden, the Philadelphia Energy Authority runs Solarize Philly, a supervised program for rooftop solar that includes customer support and consumer protections, and Built to Last, a whole-home repair program that stabilizes low-income homes and provides energy efficiency and clean energy measures to ensure homes are safe, healthy, and cost-effective.

5. Q: WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A: The purpose of my direct testimony is to discuss PEA's experience in working with PECO in a variety of contexts. These include residential programs predominately targeted to low- and moderate-income households, such as Built to Last and Solarize Philly, and major individual energy efficiency and renewable energy projects on behalf of the City. PEA is grateful for PECO's collaboration in a variety of contexts, but believes that PECO can take steps to substantially increase the benefits to its low-income customers, the City, and PECO's ratepayers generally. PEA also hopes that PECO will increasingly focus on assisting the transition of the Philadelphia region to a low carbon economy consistent with

[1] https://www.pewtrusts.org/-/media/assets/2020/09/phillyhousingreport.pdf.
[2] https://www.inquirer.com/real-estate/housing/home-repair-cost-grants-pennsylvania-philadelphia-fed-funding-20230314.html.
[3] https://www.aceee.org/sites/default/files/pdfs/u2006.pdf.

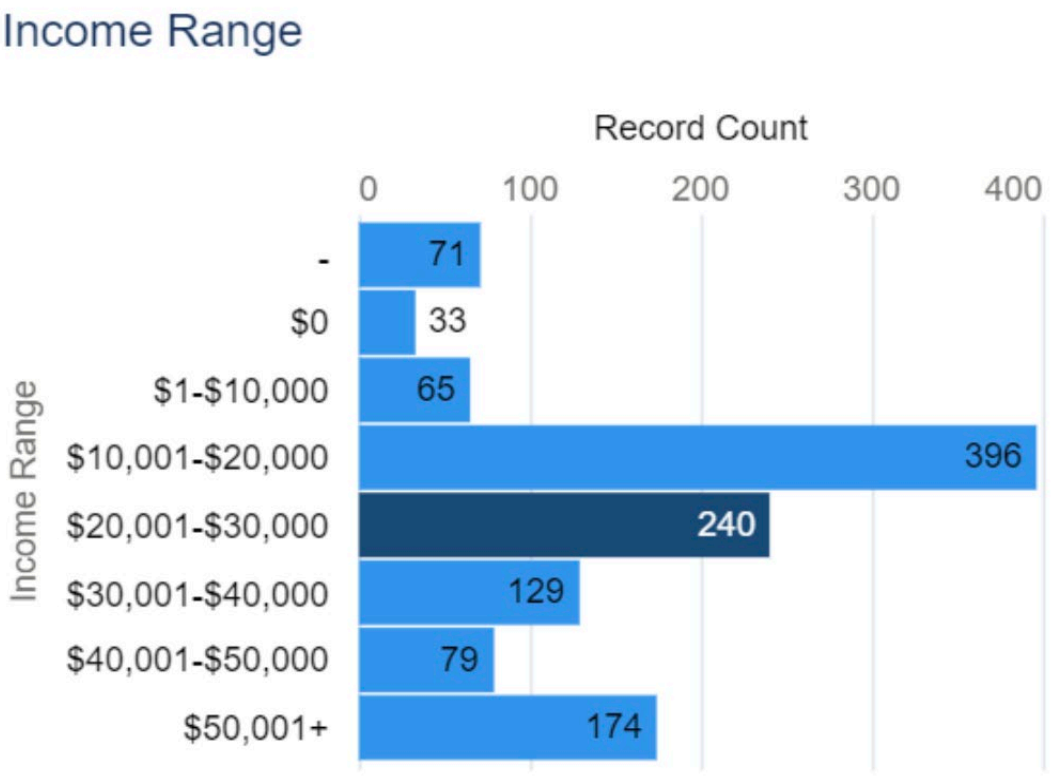
Pennsylvania's 2021 Climate Action Plan. We suggest that any rate increase granted to PECO should be conditioned, at least in part, on making progress toward these goals.

II. PEA'S RESIDENTIAL PROGRAMS

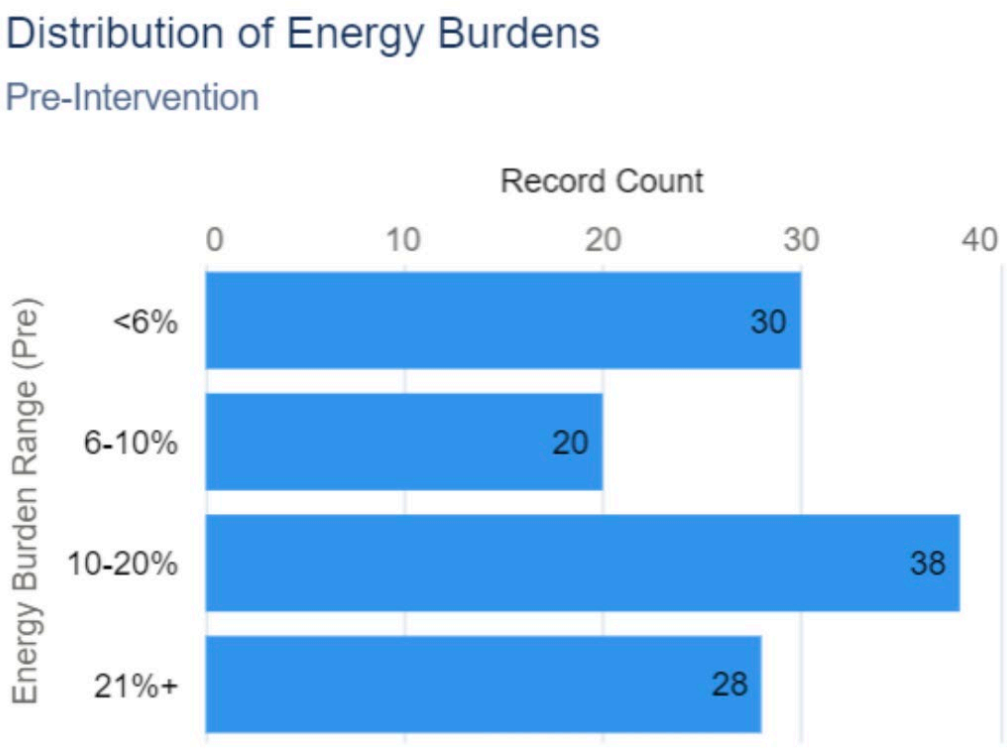
6. Q: WHO DOES PEA'S SOLARIZE PROGRAM SERVE?

A: Since 2017, PEA's Solarize Philly program has supported more than 3,000 home solar projects, half of those in the last 12 months. Further, PEA's nonprofit green bank affiliate, Philadelphia Green Capital Corp., will deploy at least $70 million in federal Inflation Reduction Act Solar for All (SFA) funds in Southeast Pennsylvania by 2029 to assist an estimated 6,300 low-income homes in adding rooftop solar. SFA will more than double annual home solar projects underway in Philadelphia and the surrounding four counties.

The following bar graph (City/PEA Figure ES-1) shows the distribution of incomes for Solarize participants. Most of this data is based on self-reported information collected from PEA's intake form and has not been validated through a formal intake process. This graphic does not account for household size and so cannot be used on its own to determine how they compare to the annual median income or federal poverty level. However, it is still insightful to see that a majority of households earn below $50k annually.



The following graph (City/PEA Figure ES-2) shows the distribution of energy burdens for early participants in BTL. PEA combined the total annual electric and gas utility costs for these households based on bills provided and then performed an energy burden calculation using annual utility costs and incomes. The graph indicates that about 75% of participants from this sample set have an energy burden above 6%, the qualifying level for PECO's Customer Assistance Program (CAP) and nearly 25% have an energy burden over 20%.



7. Q: WHAT HAS YOUR EXPERIENCE BEEN WITH PECO'S SUPPORT OF RESIDENTIAL SOLAR INTERCONNECTION AND WHAT IMPROVEMENTS CAN BE MADE TO SUPPORT THE GROWTH OF CLEAN ENERGY, ESPECIALLY FOR LOW-INCOME HOUSEHOLDS?

A: Currently PECO's interconnection process is lengthy, taking on average 14 weeks, which delays the benefit of home solar in reducing home electricity bills. This discourages program participation and the opportunity for customers to offset increasing electricity bills with low-cost renewable energy. The Solarize Philly program has observed longer than PUC-allowed field verification timelines (20 days vs. 15 allowed) and has experienced additional eight-week or longer interconnection delays when projects are referred for an engineering study. PECO states that on a systemwide basis only 2% of applications are deferred for additional engineering study, but the experience

of PEA's largest installer in Philadelphia is that 18 percent of applications are deferred.

PEA is concerned that the interconnection process will become increasingly tangled as interconnection applications increase, reducing PEA's ability to meet its clean energy economy goals and residents' opportunity to access low-cost renewable energy. PECO has only recently filled longstanding staff position vacancies in its interconnection team such as contract liaisons, field verifiers, and system engineers. It should evaluate the adequacy of that staffing and its outside verification contractors to meet the expanding needs. It is reasonable to expect them to bring their interconnection times in line with other utilities owned by Exelon where interconnections are completed, on average, between 2 and 8 weeks.[4]

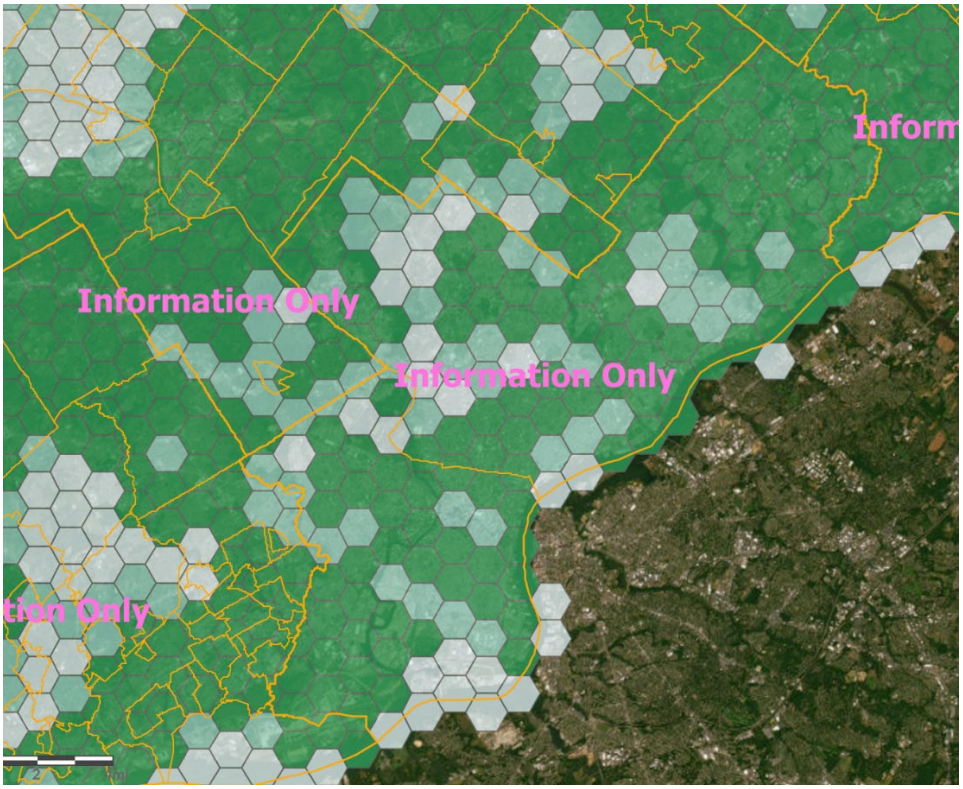
8. Q: WHY ARE PROJECTS HELD FOR ADDITIONAL ENGINEERING STUDY, AND WHAT CAN BE DONE TO IMPROVE THE SITUATION?

A: Referrals for engineering study are made because PECO believes that its distribution system has insufficient capacity to interconnect the customer's project. The customer is charged a substantial additional fee ($750 for a level 2 interconnection) for PECO to evaluate possible solutions with no assurance that a solution will be found. This provides a substantial disincentive to proceed with an application. If a solution is found, it typically involves downsizing the customer's solar project or installing equipment that allows PECO to remotely disable the system, making the system less valuable to the customer. The process clearly involves arbitrary distinctions among customers. In discovery, the City and PEA asked PECO for a map of their distribution system in Philadelphia showing

[4] https://www.atlanticcityelectric.com/smart-energy/my-green-power-connection/developers-contractors/applying-for-interconnection/how-to-apply; https://azure-na-assets.contentstack.com/v3/assets/blt47b6e332b18fb457/blt6f794129ba8a651f/DPL_Interconnection_Brochure_DE.pdf.

where there are limitations on interconnection. Initially they objected saying that the information is proprietary; then they withdrew their objection saying that no such map existed.

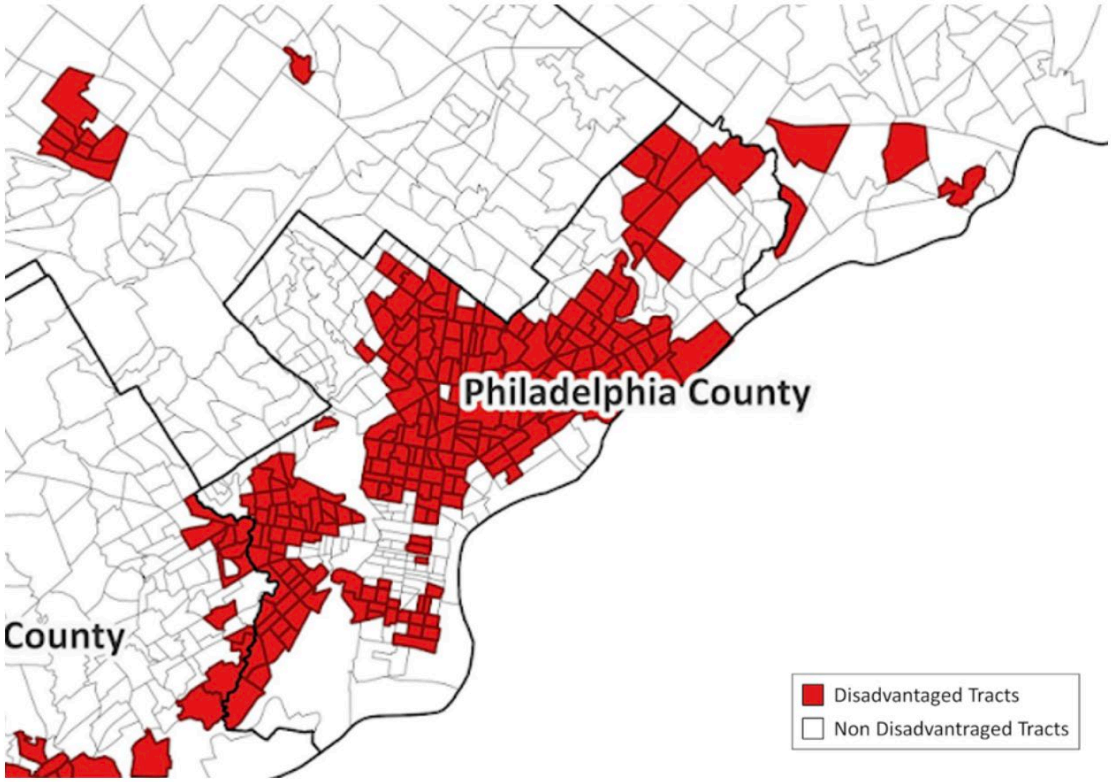
PECO did provide the below map (City/PEA Figure ES-3) of interconnection availability that is deliberately vague:[5]



For comparison, below is a map of the U.S. EPA designated disadvantaged census tracts in Philadelphia (City/PEA Figure ES-4). While there is not a one-to-one correspondence, it is clear that the less-viable interconnection areas (shaded in lighter and lightest green) tend to be concentrated in the disadvantaged census tracts as shown below (City/PEA

[5] PECO DER Interconnection Viability Map, https://www.peco.com/smart-energy/my-green-power-connection/developers-contractors/der-interconnection-viability.

Figure ES-5):



Map of disadvantaged census tracts in Philadelphia County
Source: Sustainable Capital Advisors, using the Climate and Economic Justice Screening Tool

Nationwide there is substantial evidence that disadvantaged communities are often served by low-capacity distribution.[6]

We think that it is more than a little surprising if PECO does not have detailed knowledge of the limitations of its distribution system to serve its customers. We suggest that the Commission should require PECO to compile such information, provide it to the Commission in detail and provide public reporting on the aggregate adequacy of its system in disadvantaged areas as compared to its system as-a-whole. From the evidence in the article cited in the previous paragraph, many distribution utilities have made this

[6] Eric Niiler, *An Outdated Grid Has Created a Solar Power Economic Divide,* Science (September 18, 2021), https://www.wired.com/story/an-outdated-grid-has-created-a-solar-power-economic-divide/.

detailed information public. In any event, PEA suggests that more detailed and transparent capacity planning information (beyond the current DER Interconnection Viability map) ought to be made available to solar installers and potential solar customers so that residents can adequately plan for all expenses related to installing and interconnecting new systems.

9. Q: ARE THERE OTHER ISSUES BESIDES TIMING OF PECO'S SOLAR INSTALLATION AND INTERCONNECTION PROCESSES THAT DETRIMENTALLY AFFECT RESIDENTS AND THEIR CAPACITY TO PARTICIPATE IN PEA SOLAR PROGRAMS?

A: Yes. Currently, PECO allows interconnection without distribution system enhancements when the local distribution grid can handle additional load, but as soon as that feeder reaches capacity, the next customer in line faces the prospect of paying the full cost of grid upgrades. While this has been the norm for commercial generator interconnections, it is changing in the wholesale context,[7] and it is inequitable for customer generators, especially low-income customers. A fairer process would see necessary grid upgrades either spread out among a much larger set of solar customers (possibly as part of its interconnection fee structure) or as part of system maintenance costs borne by all ratepayers.

Separately, if PEA's existing experience provides a guide, many CAP customers will be eligible for the Solar for all Program, which promises bill reductions of at least 20% for participating customers. While we believe that moving forward with a solar installation will be good for such customers, we do not yet have a full understanding of

[7] FERC Order 2023, 88 FR 61014, at ¶ 453, https://www.federalregister.gov/documents/2023/09/06/2023-16628/improvements-to-generator-interconnection-procedures-and-agreements.

how the installation will interact with the CAP program. A Solar for All customer may have the customer's bill reduced such that the customer is not eligible for CAP or the customer's eligibility is reduced. We believe that clarification is required to assure that a customer's lease or debt purchase payment, if any, for the Customer's solar project is included in the calculation of the Customer's energy burden. We also believe that the Commission should ensure that any savings realized by PECO from reduced payments to existing CAP customers are applied to other eligible customers not receiving payments.

10. Q: ARE THERE OTHER RESIDENTIAL PROGRAMS PEA ADMINISTERS BEYOND SOLAR WHEREBY THE PECO COLLABORATION AFFECTS CUSTOMER OUTCOMES?

A: Yes. PEA's Built to Last program served as the model for the Pennsylvania Whole Home Repair legislation,[8] and PEA now administers Philadelphia's Whole Home Repair program, as a part of its ongoing Built to Last program. Built to Last coordinates funding and delivery processes across federal, state, local and utility programs to bring health and safety, energy efficiency, and transition to clean energy sources to Philadelphia's poorest residents.

Under the program, PEA refers eligible Built to Last projects to PECO via PECO's contractor, CMC Energy, for support through LIURP and Act 129, providing the benefit of those programs to such homes as a part of the broader retrofits. Built to Last is extremely well aligned with LIURP requirements by design. However, PECO stated in its interrogatories response related to this rate case increase proposal that:

> "Of the jobs indicated in response to CAUSE-PA-I-26, there were none that were coordinated with external home repair or weatherization programs. PECO has worked with organizations

[8] PA Senate Bill 1135 (2022).

> such as the Philadelphia Energy Authority's "Built-To Last" program pilot implemented in 2021 that ended in 2022. However, there were no jobs coordinated due to program guideline requirements not aligning."[9]

PEA has not been notified of unaligned program guideline requirements, and has received confirmation from CMC Energy that they completed work on 30 homes, are in progress at 3 homes, and are reviewing another 48 homes (81 total projects) under the program, which is now in full operation beyond the initial pilot phase. PEA views this as a comparatively successful collaboration with PECO and is surprised that PECO seems to be unaware of its own (at least indirect) participation. We believe that the Built to Last program provides an effective mechanism to leverage LIURP and Act 129 funds to serve more customers and allows PECO to meet its universal service obligations and Act 129 goals. PEA would expect PECO to promptly raise any real or perceived program misalignments with PEA and to explore ways to expand its relationship with partners like PEA to assist PECO in meeting its goals for energy efficiency and low-income residents served.

III. THE CITY'S ENERGY TRANSITION

11. Q: PEA SERVES MORE THAN THE RESIDENTIAL SECTOR; WHAT IS YOUR EXPERIENCE IN YOUR INTERACTIONS WITH PECO IN YOUR OTHER PROGRAMMING AND PROJECTS?

A: PEA, as a municipal authority, is empowered to enter into long-term service contracts related to energy and building energy improvements on behalf of the City. The City, in turn, is enabled to enter into long term contracts with municipal authorities such as PEA.

[9] City/PEA Exhibit EAS-1, PECO Interrogatory Response CAUSE-PA-TURN-III-1.

PEA uses this structure to develop valuable long-term projects for and in collaboration with the City such as the recently completed 70 MW Adams County solar project, which is now supplying approximately 25% of the electricity used directly by the City.

City projects typically require City Council approval as to scope and costs. If PECO's approval process creates timeline, scope, or budget uncertainty after City approval, it can delay or derail a previously approved project. The City, and any municipality need to be able to depend on PECO for transparent processes in terms of timeline, requirements, and cost. Unfortunately, this has not been PEA's experience. In connection with PEA's procurement for a Northeast Philadelphia Airport Solar Power Purchase Agreement in 2022, PECO took over seven months to review the project's interconnection requirements and required payment for extensive improvements which it had expected to make soon in any event. This project must now be rebid after interconnection scope, cost, and timeline all changed and made it impossible for the original selected vendor to hold its bid. PECO interconnection delays resulted in the stalling of a project that would by now have been delivering 1.5 MW of additional low-cost renewable energy to this City-owned airport.

As another example, the City engaged PECO over the course of seven (7) years leading up to its citywide LED streetlight replacement project, including detailed conversations on the expected timing and Act 129 rebate potential for the project. When project construction began, it became clear that PECO had not budgeted for this major project in its streetlighting rate class for Phase IV. This omission required corrective action by the Commission to ensure rebate dollars were available for this Act 129-eligible project without significantly increasing the costs of other streetlighting customers in the

region. It created substantial uncertainty in the availability of Act 129 rebates that were planned, with PECO's knowledge, to cover debt payments on the bonds issued to finance the project.

It is PEA's view that PECO, and all Electric Distribution Companies (EDCs) under the Commission's jurisdiction, should be actively planning for an energy transition away from fossil fuels as contemplated by Pennsylvania's Climate Action Plan, which makes decarbonization of the grid its largest single priority.[10] In pursuing this goal, PEA suggests that the Commission require PECO to keep a record of all energy transition projects (including, energy efficiency, renewable energy, and electrification projects) for which governmental entities request assistance in the form of financial support, interconnection or planning assistance, and report publicly to the Commission on the timing of PECO's response and the outcome of the collaboration.

12. Q: YOU STATED EARLIER THAT PEA'S MANDATE IS TO BUILD A ROBUST, EQUITABLE CLEAN ENERGY ECONOMY FOR PHILADELPHIA, THROUGH ITS PHILADELPHIA ENERGY CAMPAIGN. HOW ELSE CAN PECO BETTER ASSIST THE CUSTOMERS AND COMMUNITIES IN ITS SERVICE TERRITORY WHO ARE WORKING TO TRANSITION TO A CLEAN ENERGY ECONOMY?

A: Pennsylvania has a goal to lower its greenhouse gas emissions 80% from 2005 levels by 2050. The IPCC's Sixth Assessment reports that a more ambitious plan – net zero greenhouse gas emissions by 2050 – is needed to keep the earth from warming beyond 2ºC and crossing critical climate change thresholds. PECO proposes as part of its rate

[10] PA 2021 Climate Action Plan at 34-35, *available at*, https://www.dep.pa.gov/Citizens/climate/Pages/PA-Climate-Action-Plan.aspx.

increase a new Storm Reserve Account to address greater and more volatile costs from storms but does not address how PECO can support decarbonization to lessen climate change.

As mentioned in City witness Dominic G. McGraw's direct testimony, in its interrogatories to PECO, PEA asked for a copy of PECO's climate action plan addressing its direct operations emissions (which it describes on its website) and for any plan that PECO has to reduce the GHG emissions from the electricity that it provides to its customers (which is not described on its website). PECO's only response[11] was to give us a link to their website.[12] A website, of course, is not an actionable administrative program with carefully articulated goals and performance metrics. In other responses to our interrogatories, PECO does indicate that it is active in planning for vehicle charging infrastructure, but gives no indication that it is planning for building electrification or a clean energy transition.

We note, for example, that PECO's most recent default supply procurement plan repeats its limited commitment to purchase just enough renewable energy to meet the AEPS requirements.[13] Given that the lifetime cost of energy for wind and solar are now lower than most fossil energy according to the US EIA,[14] it is surprising that PECO can't improve on this plan. PECO can address this issue by proactively preparing and implementing a decarbonization plan that reduces its delivery of fossil fuel-based energy, and increasing the share of power sourced from GHG-free and renewable energy sources

[11] See City/PEA Exhibit DGM-1.
[12] https://www.peco.com/safety-community/environment/our-path-to-clean.
[13] PECO Connection, *What to Know About PECO's Default Service Plan,* https://www.pecoconnection.com/2024/04/16/peco-default-service-plan/.
[14] U.S. E.I.A. *Levelized Costs of New Generation Resources in the Annual Energy Outlook 2023,* at 6, available at, https://www.eia.gov.

such as wind, solar, nuclear, green hydrogen, and hydroelectric power.

13. Q: ARE THERE BENEFITS TO PECO AND ITS RATEPAYERS TO ENGAGING IN PROACTIVE PLANNING FOR THE CLEAN ENERGY TRANSITION?

A: To achieve Pennsylvania's climate goals, the state must not only produce more renewable energy and implement passive building energy efficiency but must also electrify building loads that currently use fossil fuel, electrify light duty vehicle transportation and deploy smart energy management not only for the benefit of customers but for the benefit of the grid.[15] PEA expects to support all of these avenues through expansion of its existing programs and to take advantage of Inflation Reduction Act programs to do so. As an example, PEA expects to incorporate the Home Energy and Appliance Rebates ("HEAR") into its existing program work. The HEAR program, administered by the Pennsylvania Department of Environmental Protection, will deploy $159 million in high efficiency electrification rebates statewide between 2025 and 2032.

PECO's planning efforts should encompass all of these avenues including the increased electricity consumption that they will entail. Deploying more solar on customer premises will reduce the future capacity needs of the system and will speed the transition to clean energy through customer investment and third-party investment on customers' behalf. By contrast, PECO's purchase of power for delivery to customers (other than on a spot market basis) will necessarily involve covering the long-term cost of the generation as a part of the purchase price. Customer generation also decreases the need for increased transmission and distribution to deliver the additional power (and the resulting line losses).

[15] *Supra* at n. 9.

A second major potential benefit to PECO ratepayers will come from the capability of smart building management, battery storage, and smart EV charging to reduce peak and ramping loads on the system. To this end, PEA is working to develop a virtual power plant (VPP) that will integrate with its Solarize and Built to Last programs as well as other installers to generate wholesale electric market revenues to offset the costs of installing building upgrades and energy systems.

PEA expects that its VPP will take the form of a platform that allows competition at several levels. First, the VPP would assist residents and businesses with installing both VPP-eligible resources and other energy efficiency measures, and also provide guidance, implementation, and financing for all customers, as well as subsidies for low-income customers. Second, PEA also supports appliance and technology choices for customers. Third, PEA seeks to expand business opportunities for smaller, diverse, Philadelphia-based businesses to participate in the energy efficiency space.

In their filing in response to the Commission's recent ANOPR on aggregation of DER,[16] PEA and the City encouraged the Commission to move towards a new view of the role of the grid. EDCs should not just deliver power to passive consumers, but should collaborate with their customers to assure the collective adequacy of supply. EDCs should not simply plan their grid for the peak, but rather, plan with the understanding that the peak is within their control. Their job is to support customers whether the customer obtains power through the utility, from an electric generation supplier, from customer self-supply, through community supply, or some combination. In turn, the customers will support the grid. This is not an abstract vision of the future; it is currently

[16] Advance Notice of Proposed Rulemaking Order, *Distributed Energy Resources Participation in Wholesale Markets*, Pa. PUC Docket No. L-203-3044115 (February 22, 2024).

in action in a diversity of places around the globe. In England, automated demand response uptake by customers exceeded all expectations.[17] In California, Southern California Edison's pilot has been extremely successful.[18] The ability of motivated customers and communities to invest or mobilize third-party investment in renewable energy, in turn, will make a timely transition to a decarbonized grid possible. We suggest that PECO planning should embrace this broader EDC role.

IV. CONCLUSION

14. Q: WHAT DO YOU SUGGEST THE COMMISSION DO ABOUT YOUR CONCERNS IN THE CONTEXT OF THIS PROCEEDING?

A: In PEA's experience, PECO is not monitoring its own performance or setting goals for its interactions with governmental authorities that will allow it to manage its operations or support customers and communities in its service territory to reduce the risks of climate change and transition to a clean energy economy. We suggest that the Commission require PECO to improve its recordkeeping and reporting as described in PEA's testimony. We further suggest that after the Commission determines the rate of return that is appropriate for PECO in this proceeding, the Commission condition PECO's ability to earn that rate of return on demonstrated improvement in its support for customers' and communities' efforts to achieve a clean energy transition.

[17] Jemma Green, *Why No One Saw The Success of Demand Response Coming,* Forbes, January 27, 2023, https://www.forbes.com/sites/jemmagreen/2023/01/27/why-no-one-saw-the-success-of-demand-response-coming/?sh=498a8b8e3700.

[18] *Real-time pricing, new rates and enabling technologies target demand flexibility to ease California outages,* Utility Dive (September 13, 2022), https://www.utilitydive.com/news/real-time-pricing-new-rates-and-enabling-technologies-target-demand-flexib/631002/.

15. Q: DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A: Yes, for now.

VERIFICATION

I, Emily Schapira, hereby declare that that the facts set forth in the foregoing direct testimony are true to the best of my knowledge, information and belief, and that I make this verification subject to the penalties of 18 Pa. C.S. §4904 pertaining to false statements to authorities.

Emily Schapira (Jun 14, 2024 11:01 EDT)

Emily Schapira

DATE: June 17, 2024

EAS
EXHIBITS

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
The Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania
& The Tenant Union Representative Network
CAUSE-PA Set I

Response Date: May 28, 2024

CAUSE-PA-I-29

Of the jobs indicated in response to CAUSE-PA-I-26, disaggregated by year and nine-digit zip code, how many LIURP jobs were coordinated with external home repair or weatherization programs?

RESPONSE:

Of the jobs indicated in response to CAUSE-PA-I-26, there were none that were coordinated with external home repair or weatherization programs.

PECO has worked with organizations such as the Philadelphia Energy Authority's "Built-To Last" program pilot implemented in 2021 that ended in 2022. However, there were no jobs coordinated due to program guideline requirements not aligning.

Responsible Witness: Jacqueline F. Golden

CITY AND PEA
STATEMENT NO. 3-SR

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v. PECO ENERGY COMPANY – ELECTRIC DIVISION
DOCKET NO. R-2024-3046931

SURREBUTTAL TESTIMONY

WITNESS: EMILY A. SCHAPIRA

DATE: August 2, 2024

SURREBUTTAL TESTIMONY

OF

EMILY A. SCHAPIRA

INTRODUCTION

1. Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A: My name is Emily A. Schapira. My business address is 1400 John F Kennedy Boulevard, Room 566, Philadelphia, PA 19107.

2. Q: HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A: Yes, I submitted my direct testimony, City and PEA Statement No. 3, on June 17th, 2024.

3. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A: My purpose is to respond to the rebuttal testimonies of PECO witnesses Golden and LeVine, dated July 16, 2024.

SURREBUTTAL

4. Q: PECO WITNESS GOLDEN STATED, "PECO CUSTOMERS MAY SIMULTANEOUSLY PARTICIPATE IN CAP AND "SOLAR FOR ALL." PECO HAS BEEN ACTIVELY COLLABORATING WITH PEA AND OTHERS ON THE IMPLEMENTATION OF THIS PROGRAM, INCLUDING COORDINATING THE PROGRAM WITH PECO'S UNIVERSAL SERVICE PROGRAMS. IF A CAP CUSTOMER PARTICIPATES IN "SOLAR FOR ALL," AND EITHER OWNS OR LEASES SOLAR PANELS ON THEIR PREMISE, THEY WILL RECEIVE AN OFFSET IN THEIR BILLED USAGE AND WILL PAY THE LESSER OF THEIR PIPP BILL AMOUNT OR THE ACTUAL USAGE AMOUNT, SUBJECT TO A MINIMUM BILL

AMOUNT. THE USAGE OFFSET WILL BENEFIT THE CAP CUSTOMER BY REDUCING THE PIPP CREDITS APPLIED EACH MONTH AND SLOWING THE CUSTOMERS UTILIZATION OF THEIR MAXIMUM ANNUAL CAP CREDIT ALLOTMENT." DO YOU AGREE WITH THIS STATEMENT?

A: To date, there have been two meetings where PEA has briefed PECO on high level program goals and cursory implementation plans related to Solar for All, along with informal exchanges in the context of other topics. PEA cannot speak to any collaboration that may have occurred between PECO and others on Solar for All implementation.

We believe that it is accurate to say that a CAP customer can participate in PECO's net metering tariff (though Ms. Golden does not confirm that), but if the interaction operates as Ms. Golden describes, it defeats the purpose of the CAP program and will certainly not be consistent with Solar for All ("SFA"). PEA operates an existing Solarize program and will soon collaborate on the Solar for All program with its affiliate Philadelphia Green Capital Corp. ("PGCC"), which was a co-applicant with the Pennsylvania Energy Development Authority ("PEDA") for the Pennsylvania SFA grant. PGCC will operate the SFA program in Philadelphia and its four surrounding counties (almost entirely in PECO's service territory). Solar for All grants are targeted exclusively to residents earning less than 80% Area Median Income or residing in Low Income and Disadvantaged Community census tracts (LIDAC), as defined by the U.S. Department of Energy, and are required by law to result in 20 percent electric bill savings for customers.

PEA's Solarize program has grown rapidly in the last two years with the introduction of a solar lease product. Earlier this year Solarize added solar to its 3,000th home; half of these homes went solar in just the last 12 months. And, forty-five percent of

that growth has come from low-income customers, who are attracted by energy savings with no money down. If a CAP customer enters into a solar lease, the customer's electric bill will be sharply reduced, but the customer incurs a lease obligation. The net effect on its energy cost (lease plus Billed amount) will be a reduction but not to the billed metered amount. If the CAP program calculates eligibility from the billed metered amount alone, the customer may actually be worse off. Participation in net metering simply exaggerates this calculation; the billed savings will be greater, but the negative effect on CAP eligibility will be as well.

The situation becomes more complicated and worse with SFA. PGCC and PEA expect to operate SFA as a lease program with a subsidy that reduces the lease payment to assure that the customer achieves at least the required 20 percent electric bill savings inclusive of any lease payment. (EPA is still considering exactly how this calculation should be made.) If the CAP calculation reduces the achieved savings to less than 20 percent, it will violate the terms of the grant. Moreover, federal dollars intended for the poorest customers could actually result in savings to PECO that benefit its shareholders, likely an issue for federal auditors.

PEA has previously suggested that any solar lease payment made by a CAP customer be deducted from its income for purposes of calculating the customer's PIPP amount. However, a more direct expedient would simply be for PECO to assure that the customer's monthly payment for its lease (if not reduced to zero by subsidy) plus its actual payment after CAP is 20 percent less than its prior payment (even if less than the current minimum).

Whether a particular solar CAP customer is benefitted as Ms. Golden suggests,

depends on whether the customer will actually reach its maximum at all. That is not a foregone conclusion and cannot be relied upon to meet the requirements of the SFA program. The alternative will be to exclude CAP customers from the SFA program entirely. We hope that is not PECO's position.

5. Q: IN THE REBUTTAL TESTIMONY OF MS. LEVINE (P. 22) SHE STATES: "MS. SCHAPIRA'S ASSERTION THAT OUR PLANS FOR REDUCTIONS IN PECO'S OWN GREENHOUSE GAS EMISSIONS ARE ONLY "A WEBSITE" IS ENTIRELY WRONG. AS I HAVE NOTED, PECO, AS PART OF EXELON, HAS DEVELOPED A DETAILED PATH TO CLEAN FOR REDUCTION OF ITS GREENHOUSE GAS EMISSIONS AND THAT IS DETAILED IN OUR LATEST SUSTAINABILITY REPORT." DO YOU AGREE WITH THIS STATEMENT?

A: PEA's first interrogatory requested a copy of PECO's clean energy transition plan. PECO sent nothing but a link to their website. Emily Schapira's testimony was based on PECO's response. She did not assume that PECO had deliberately withheld the requested information. We reiterated our request that we be provided with a copy of the actual plan in our most recent set of interrogatories.

Ms. Levine's testimony did include a link to the 2022 Exelon Sustainability Report. A review of that report reveals that PECO generally has the poorest energy transition record of any Exelon affiliate. For example:

- Customer solar installations: PEPCO Holdings has 5 percent of its customers subscribed to its solar program, and BG&E has over 3.4 percent of customers subscribed. PECO and Com Ed are each under 1 percent, and PECO is the lowest below even Com Ed (p. 60).

- Aggregate solar installed: BGE has 465 MW, Com Ed, has 769MW, PEPCO Holdings has 1,695 MW and PECO trails with 160 MW (allowing for ComEd's larger customer base PECO has only about two thirds of what Com ED has on a per customer basis. PECO, in other words, is the poor stepchild of the Exelon system).
- BGE and ComEd have done decarbonization studies (p. 46); there is no indication that PECO has.
- PECO has achieved comparatively low energy savings per customer (p.76).
- PECO's system delivers a total of three percent solar energy (p.60), less than the statewide average (which is 5th worst in the country).

In general, the report states (p. 59):

> "For our utility business model. where we receive grid supply for our deliveries, we can best drive toward reduction of these emissions via advocacy for policies and market-rules that drive cost effective emissions reductions of electric generation more broadly. For that reason, these emissions are addressed through our commitment to support our customers and communities in achieving their clean energy goals but are not the subject of a quantitative reduction goal."

We are not aware of any recent efforts by PECO to influence Pennsylvania legislation or Public Utility Commission rules and regulations that would drive emission reductions. We are aware of multiple instances in which PECO uses rules and regulations to insist that it can't do anything to support its customers. While we understand, for example, that PECO is required by statute to conduct a least cost procurement for default service power, PECO

has not suggested that it has done any analysis to determine that procuring a higher proportion of renewable energy would raise its costs.

In its response to PEA's most recent interrogatories, PECO has still not provided a copy of a plan, only references to "information about the plan." It has provided no reason that it has not produced the documentation which it insists exists. It also states, "The Company has not conducted analysis on the impacts of building electrification on future electric demand." and "The Company does not use customer energy management capabilities in managing peak and ramping demands on its system." PEA has discussed with PECO PEA's efforts to establish a virtual power plant in Philadelphia on several occasions, but apparently PECO has given it no further thought. Customer demand reduction and load shaping is by far the least cost way to meet PECO's future load demands, and thus the course that is best for its customers as well as for the environment.

6. Q: IN HER REBUTTAL TESTIMONY, MS. LEVINE STATED (P. 18) THAT "WE HAVE STREAMLINED OUR PROCESSES FOR INTERCONNECTION OF SOLAR FACILITIES, DEVELOPED AN INTERACTIVE VIABILITY MAP TO FACILITATE SOLAR APPLICATIONS AND SOLAR INTERCONNECTIONS, AND AUTOMATED THE TECHNICAL ANALYSIS FOR THE MAJORITY OF LEVEL 1 AND SMALLER LEVEL 2 SOLAR APPLICATIONS. MORE BROADLY, WE ARE ENGAGED IN AN EXTENSIVE PROGRAM TO CONVERT DISTRIBUTION FACILITIES TO OPERATE AT HIGHER VOLTAGES TO FACILITATE MORE INTERCONNECTION OF CUSTOMER-OWNED DISTRIBUTED GENERATION." IS THIS STATEMENT CONSISTENT WITH YOUR EXPERIENCE?

A: We welcome these developments, but as yet we have not experienced substantial

improvement. Over the last few years, PECO's interconnection team has been short staffed, and we understand that they are now at their budgeted complement. We have no assurance that the current staffing levels are adequate to meet the anticipated increase in the volume of applications. As discussed elsewhere in my testimony, participation in PEA's Solarize program has been increasing substantially in the last 2 years. From 2017-2021 roughly 1,000 homes added onsite solar through Solarize Philly (an average of 200 per year). In 2022, around 500 homes added solar, more than doubling the prior year averages. And in 2023, nearly 1,500 solar contracts were signed, tripling the prior year. More than 80% of these new solar projects relied on the introduction of a lease product, like the one we expect to use with a subsidy in our Solar for All program. PGCC will have nearly $70 million dollars to deploy lease subsidies for low-income customers throughout PECO's service territory, which could result in as many as 6,500 additional low-income solar leases.

Ms. Levine states that they have reduced their average time for interconnection by 72 days but fails to note that it is still 18 weeks, and that PECO's time for Permission to Operate inspections is twice what Commission regulations permit. The average time is longer than PECO's Exelon affiliates which average between two and eight weeks. For a while PECO provided us with information about the progress of Solarize projects, but then ceased this collaboration.

Ms. Levine speaks highly of their interactive map, but it compares poorly, for example with the map provided by its affiliate Delmarva Power (https://exelonutilities.maps.arcgis.com/apps/dashboards/abe9ee736f814d1692334627066f426b), which gives detailed circuit maps that can be zoomed in on, and bears no resemblance, for example, to a map provided by Puget Sound Energy

(https://pugetsoundenergy.maps.arcgis.com/apps/webappviewer/index.html?id=980fc190ffd648489a492f8363a1d2cc), which not only provides a detailed map of restricted circuits, but also includes overlays reflecting things like summer loadings, impact areas, and areas with a concentration of low-income customers. We asked for comparable information from PECO but have not received it.

We welcome efforts to upgrade PECOs distribution system, but we would expect this to be part of PECO's planning that they could share with us. As PEA indicated in response to a prior question, PECO indicates that they have not studied this issue.

CONCLUSION

7. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A: Yes.

VERIFICATION

I, Emily Schapira, hereby declare that that the facts set forth in the foregoing testimony are true to the best of my knowledge, information and belief, and that I make this verification subject to the penalties of 18 Pa. C.S. §4904 pertaining to false statements to authorities.

Signature: 

Print Name: Emily Schapira

Title: President and CEO

Organization: Philadelphia Energy Auth.

Address: 1400 John F. Kennedy Blvd.
Room 566
Philadelphia, PA 19107

DATE: August 2, 2024

EA Statement No. 1

Direct Testimony of Rhiannon Davis

ELECTRIFY AMERICA, LLC
STATEMENT NO. 1
Date: June 17, 2024

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v.
PECO ENERGY COMPANY – ELECTRIC DIVISION

DOCKET NO. R-2024-3046931

DIRECT TESTIMONY

WITNESS: RHIANNON DAVIS

SUBJECTS: OVERVIEW OF PENNSYLVANIA'S ACTIONS TO SUPPORT TRANSPORTATION ELECTRIFICATION AND; DESCRIPTION OF ELECTRIFY AMERICA, LLC'S GENERAL SUPPORT FOR PECO'S ELECTRIC VEHICLE DCFC PILOT RIDER

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II. Pennsylvania's Overall EV and Transportation Electrification Policy Goals and Initiatives **3**

III. Alignment of PECO's EV-FC Rider with Pennsylvania's Overall TE Policy **5**

DIRECT TESTIMONY
OF
RHIANNON DAVIS

I. QUALIFICATIONS AND DIRECT TESTIMONY OF RHIANNON DAVIS

Q1. Please state your name, business address, and by whom you are employed.

A1. My name is Rhiannon Davis. My business address is 1500 Opportunity Way, Suite 1500, Reston, Virginia 20190. I am employed by Electrify America, LLC ("Electrify America") as the Director of Government Affairs.

Q2. On whose behalf are you testifying?

A2. I am testifying on behalf of Electrify America. To date, Electrify America has built a coast-to-coast network of Direct Current ("DC") Fast Charging ("DCFC") stations across over 900 locations and with over 4,000 individual DC fast chargers in total, including 21 locations with 86 individual DC fast chargers in Pennsylvania. Within PECO's service territory, Electrify America currently operates 9 stations with 38 individual DC fast chargers. The chargers range from 150 kW to 360 kW of power based on anticipated needs and use cases, as well as available real estate and power. The ultra-fast 360 kW chargers are the most powerful public chargers on the market today, capable of recharging speeds close to gasoline fueling.

Q3. Please state your educational background and professional experience.

A3. I attended Barnard College of Columbia University and earned a B.A. in Economics. I also attended Georgetown University, where I earned an M.S. in Foreign Service, with a concentration in Global Commerce & Finance. Prior to Electrify America, I worked at San Diego Gas & Electric (SDG&E) for six years, where I was a Policy Manager for the utility's

clean transportation program and its state government affairs office. I worked with government representatives, coordinated with industry stakeholders, and advised senior SDG&E leadership on state policy regarding a range of utility issues, including transportation electrification, distribution system planning, energy storage, renewable energy generation, and energy efficiency. Prior to that, I served at the U.S. Department of Energy ("DOE") for nine years, where I held roles of increasing responsibly in the Office of International Affairs, including Director (Acting) of American Affairs. I led policy development for DOE's engagement in the Western Hemisphere and worked with companies, foreign governments, and other federal agencies to advance U.S. energy and climate policy in the region. In my current role as Director of Government Affairs, I lead Electrify America's advocacy efforts across local, state and federal governments, including on legislative, regulatory, and utility policy.

Q4. What is the purpose of your testimony?

A4. My testimony will express Electrify America's general support for PECO Energy Company's ("PECO" or the "Company") proposed Electric Vehicle ("EV") Fast Charging Pilot Rider (the "EV-FC Rider") and highlight its alignment with Pennsylvania's overall EV policy goals.

Q5. Please introduce the witnesses providing testimony on behalf of Electrify America in this proceeding.

A5. In addition to myself, Jigar Shah is providing testimony on behalf of Electrify America in this proceeding. Mr. Shah's testimony will focus specifically on the proposed modifications to the EV-FC Rider, and will provide an overview of Electrify America's position with

respect to these proposed modifications to the EV-FC Rider. Mr. Shah's direct testimony is presented as Electrify America Statement No. 2.

Q6. Are you sponsoring any exhibits in this case?

A6. No, I am not.

II. PENNSYLVANIA'S OVERALL EV AND TRANSPORTATION ELECTRIFICATION POLICY GOALS AND INITATIVES

Q7. Describe the steps Pennsylvania has taken to encourage EV adoption, ownership, and infrastructure investment in the Commonwealth.

A7. Pennsylvania has taken a number of steps to encourage EV adoption and transportation electrification ("TE") within the Commonwealth. In 2021, the Pennsylvania Department of Environmental Protection ("DEP") issued its updated Pennsylvania Electric Vehicle Roadmap ("2021 EV Roadmap"), which provided an overview of EV penetration within the Commonwealth, as well as recommendations for the public, local governments, the Pennsylvania Public Utility Commission ("Commission") and business owners, on the benefits of and steps to take to support EV adoption.[1] Since then, the DEP worked with the Commission and other stakeholders to develop an EV Rate Design Study, which provided ratemaking recommendations to the Commission and the legislature on best practices with respect to the development of EV rates.[2] The DEP is also working with the Drive Electric PA Coalition and PA EV stakeholders to develop the Zero Emissions Roadmap 2.0, which is

[1] Pennsylvania Department of Environmental Protection, *Pennsylvania Electric Vehicle Roadmap: 2021 Update*, available at: https://files.dep.state.pa.us/Energy/OfficeofPollutionPrevention/StateEnergyProgram/PAElectricVehRoadmapBookletDEP5334.pdf.

[2] Synapse Energy Economics, Inc., *Maximizing the Benefits of Transportation Electrification in Pennsylvania – The Role of Rate Design*, February 9, 2023 (available at: https://files.dep.state.pa.us/Energy/OfficeofPollutionPrevention/StateEnergyProgram/EV-RATE-STUDY-FINAL_3-9-22.pdf

an update to the 2021 Pennsylvania Electric Vehicle Roadmap and is aimed at providing a wholistic and actionable set of strategies that maximize the benefits of TE in Pennsylvania. Importantly, as noted by PECO Witness Steven J. DeMott, "[a]dvancing TE is a policy priority of both the Biden administration and the Shapiro administration because TE is a critical component in reducing greenhouse gas emissions,"[3] and "the movement toward TE in Pennsylvania is already in progress."

Q8. Has the Commission taken any other actions to encourage transportation electrification, whether through rates or other programs?

A8. Yes. The Commission's most recent action was its issuance of its Proposed Policy Statement for Electric Utility Rate Design for Electric Vehicle Charging[4] ("Policy Statement"), which provided clear guidance to Pennsylvania utilities for the development of EV rates, and made "clear the value of offering ongoing EV-specific tariff options."[5] The Commission likewise approved PECO's EV charging pilot as part of a comprehensive settlement of PECO's most recent electric base rate case in 2021.[6] Before that, the Commission approved the EV-FC Rider as part of a comprehensive settlement of PECO's

[3] PECO Energy Company Statement No. 9, Direct Testimony of Steven J. Demott at page 12, lines 2-5, *citing* Biden-Harris Administration Announces Latest Steps to Deliver a National Network of Convenient, Reliable, Made-in-America Electric Vehicle Chargers, U.S. Department of Transportation, "…President Biden [has] goals for America to lead the world in EV manufacturing and adoption." https://www.transportation.gov/briefing-room/biden-harris-administration-announces-latest-steps-delivernational-network; FACT SHEET: President Biden's Economic Plan Drives America's Electric Vehicle Manufacturing Boom, The White House, "Since his first day in office, President Biden's auto vision and leadership has positioned the United States to lead the EV future…." https://www.whitehouse.gov/briefingroom/statements-releases/2022/09/14/fact-sheet-president-bidens-economic-plan-drives-americas-electricvehicle-manufacturing-boom/"; Shapiro Administration, U.S. Senator Casey, Federal Highway Administration, And Labor Partners Announce Federal Electric Vehicle Charging Infrastructure Funding For 54 Projects In 35 Counties, "…National Electric Vehicle Infrastructure (NEVI) funding... awards further the Shapiro Administration's work to address climate change, grow the Commonwealth's economy and ensure that the future of Pennsylvania transportation is on track to be cleaner, safer, more affordable, and more reliable than ever before." www.media.pa.gov/pages/PENNDOT-details.aspx?newsid=806.

[4] Electric Utility Rate Design for Electric Vehicle Charging, Docket No. M-2023-3040755 (Proposed Policy Statement Order entered Nov. 15, 2023).

[5] PECO Energy Company Statement No. 9, Direct Testimony of Steven J. DeMott at page 22, lines 8-9.

[6] *Id.* at page 3, lines 8-12 and page 4, lines 1-3 *citing* Docket No. R-2021-3024601 (Order entered, Nov. 18, 2021).

2018 electric base rate proceeding in Docket No. R-2018-3000164[7], and in 2023 the Commission approved PECO's request to extend the EV-FC Rider through December 31, 2025.[8]

III. ALIGNMENT OF PECO'S EV-FC RIDER WITH PENNSYLVANIA'S OVERALL TE POLICY

Q9. Do PECO's proposed modifications to its EV-FC Rider align with Pennsylvania's overall EV policy?

A9. For the most part, they do. While my colleague, Jigar Shah, will go through the specifics of PECO's proposed modifications to the EV-FC Rider and Electrify America's specific recommendations on how the EV-FC Rider can better support DCFC development and operation in PECO's service territory in his testimony, generally PECO's proposed modifications align with Pennsylvania's overall TE strategy. Electrify America likewise generally agrees that PECO's extension of the EV-FC Rider and its proposed modifications thereto align with the sections of the Policy Statement referenced by PECO Witness DeMott in his testimony.[9] Additionally, PECO's proposed EV-FC Rider is in sync with Pennsylvania's overall support for TE, and specifically, Pennsylvania's acknowledgment that beneficial rate structures are a necessary tool to encourage EV adoption and infrastructure development.[10] However, the proposed EV-FC Rider can be clarified and improved upon, and Electrify America's recommendations will be put forth in Electrify America Statement No. 2.

[7] Docket No. R-2018-3000164 (Order entered, Dec. 20, 2018).
[8] PECO Energy Company Statement No. 9, Direct Testimony of Steven J. DeMott at page 20, lines 1-2 *citing* Docket No. P-2023-3039439 (Order entered Sept. 21, 2023).
[9] *Id*. at page 30, lines 4-24; page 31, lines 1-6.
[10] 2021 EV Roadmap at 9.

Q10. Does that conclude your testimony?

A10. Yes, it does.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2024-3046931**
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Rhiannon Davis, hereby state that the facts set forth above in my Direct Testimony 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 17, 2024

Signature: */s/Rhiannon Davis*
Rhiannon Davis

Address: 1950 Opportunity Way
Suite 1500
Reston, VA 20190

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

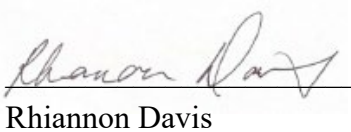
Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2024-3046931**
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Rhiannon Davis, hereby state that I am the Director of Government Affairs for Electrify America, LLC, that I am authorized to and do make this verification; and that the facts set forth in the exhibit listed below 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).

- EA Statement No. 1

Dated: August 7, 2024

Signature: 

Rhiannon Davis

Address: 1950 Opportunity Way
Suite 1500
Reston, VA 20190

EA Statement No. 2

Direct Testimony of Jigar Shah

ELECTRIFY AMERICA, LLC
STATEMENT NO. 2
Date: June 17, 2024

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v.
PECO ENERGY COMPANY – ELECTRIC DIVISION

DOCKET NO. R-2024-3046931

DIRECT TESTIMONY

WITNESS: JIGAR SHAH

SUBJECTS: OVERVIEW OF PECO ENERGY COMPANY'S PROPOSED MODIFICATIONS TO PECO'S ELECTRIC VEHICLE DCFC PILOT RIDER; PROVIDING ELECTRIFY AMERICA'S SPECIFIC RECOMMENDATIONS TO BETTER SUPPORT DIRECT CURRENT FAST CHARGING OWNERSHIP AND OPERATION

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III. Electrify America's Positions on PECO's Proposed EV-FC Rider Modifications **4**

DIRECT TESTIMONY
OF
JIGAR SHAH

I. QUALIFICATIONS AND DIRECT TESTIMONY OF JIGAR SHAH

Q1. Please state your name, business address, and by whom you are employed.

A1. My name is Jigar Shah. My business address is 1500 Opportunity Way, Suite 1500, Reston, Virginia 20190. I am employed by Electrify America, LLC ("Electrify America") as the Director of Energy Services.

Q2. On whose behalf are you testifying?

A2. I am testifying on behalf of Electrify America.

Q3. Please state your educational background and professional experience.

A3. As the Director of Energy Services, I am responsible for optimizing Electrify America's energy portfolio. I have a Bachelor of Science degree in Electrical and Computer Engineering, with a minor in Business, from Cornell University, and a Master of Engineering degree in Electrical Engineering from Princeton University. Prior to my role at Electrify America, I was a Principal Consultant at West Monroe Partners, advising utility clients on smart grid modernization topics, rate structures, and energy storage. Previously, I was a Senior Researcher at Envision Energy focused on wind farm (plant level) controls and analytics, and an Edison Engineer at General Electric Global Research focused on wind turbine control systems and distributed energy resource controls, including for electric vehicle fleet charging to minimize demand charge costs. I have journal publications and issued patents in the fields of electric vehicle charging, vehicle-grid integration, and renewable energy.

Q4. What is the purpose of your testimony?

A4. The purpose of my testimony is to provide an overview of PECO Energy Company's ("PECO" or the "Company") proposed modifications to its Electric Vehicle ("EV") Fast Charging Pilot Rider (the "EV-FC Rider"), and set forth Electrify America's additional recommendations on the EV-FC Rider for the Commission's consideration.

Q5. Please describe the EV-FC Rider.

A5. As described by PECO Witness Steven J. DeMott, the EV-FC Rider is a "pilot designed to support [transportation electrification] by encouraging the build out of publicly available (or workplace fleet and public transit) fast charging through reduced demand charges."[1] The EV-FC Rider applies a demand (kW) credit equal to 50% of the nameplate capacity of all qualifying DCFCs behind the site's meter, as long as the customer is taking service under PECO Rates GS, PD, or HT.[2] Importantly, PECO notes that under the current tariff structure it "reserves the right to reduce the demand credit based on a comparison of the customer's peak demands before and after installation of the DCFC."[3] For the purposes of the EV-FC Rider, minimum demand is defined as 40% of the maximum contract demand for most DCFC operators.[4]

II. PECO'S PROPOSED CHANGES TO ITS EV-FC RIDER

Q6. Describe the proposed changes to the EV-FC Rider.

A6. PECO Witness DeMott outlines PECO's proposed changes to the EV-FC Rider. First,

[1] PECO Energy Company Statement No. 9, Direct Testimony of Steven J. DeMott at page 19, lines 9-11.
[2] *Id*. at page 19, lines 11-13.
[3] *Id*. at page 19, lines 15-17.
[4] *Id.* at page 19, lines 17-20.

PECO proposes to extend the EV-FC Rider by five years through December 31, 2030.[5] Second, PECO proposes to eliminate the requirement that DCFCs be publicly available.[6] Third, PECO proposes to limit the applicability of the EV-FC rider to a "service that is dedicated exclusively to EV charging and that includes at least one permanently connected DCFC served under Rates GS, PD, or HT installed on or after July 1, 2019."[7] Fourth, PECO proposes to allow ancillary loads such as illuminated signage, safety lighting, communication equipment, and load management technologies to be included in the demand credit calculation under the EV-FC Rider.[8] Fifth, PECO proposes to allow for customers to be concurrently enrolled in the EV-FC Rider and the Night Service Rider, with the demand credit to be applied to the customer's off-peak demand.[9] Finally, PECO proposes to modify the minimum demand calculation, modify the calculation of the demand credit, and delete the sentence giving PECO the right to reduce the demand credit.[10]

Q7. When does PECO propose these changes to take effect?

A7. PECO proposes to delay the majority of its proposed changes until January 1, 2026 to eliminate the risk of adverse customer impacts.[11] The only exceptions are PECO's proposed additions to the Other Riders section of the EV-FC Rider, which are proposed to be effective on January 1, 2025.[12]

[5] *Id*. at page 21, lines 12-13
[6] *Id.* at page 21, lines 13-14.
[7] *Id*. at page 21, lines 14-17.
[8] *Id*. at page 27, lines 18-24.
[9] *Id*. at page 28, lines 4-12.
[10] *Id.* at page 21, lines 24-26.
[11] *Id*. at page 29, lines 10-18.
[12] *Id*. at page 29, lines 19-22.

III. ELECTRIFY AMERICA'S POSITION ON PECO'S PROPOSED EV-FC RIDER MODIFICATIONS

Q8. Can you provide more detail on PECO's proposed modifications to the minimum demand calculation?

A8. Yes. PECO proposes to shift away from calculating minimum demand based on the rules of each customer's applicable base rate, which for most rates is 40% of contract maximum demand.[13] Instead, PECO seeks to calculate minimum demand as 30% of contract maximum demand, or 15 kilowatts ("kW") if there is no contract maximum demand.[14] As stated in its proposed revisions to the EV-FC Rider, "[f]or services where the minimum demand would be calculated under the applicable base as 40% of the maximum contract demand, the Company shall instead calculate minimum demand as 30% of the maximum contract demand. Otherwise, the minimum demand shall be 15 kW."[15]

Q9. What is Electrify America's position on PECO's proposed modifications to the minimum demand calculation?

A9. While PECO's review of the EV-FC Rider and its acknowledgment that the minimum demand calculation required modification is notable, Electrify America is not supportive of any minimum billing demand provisions in the EV-FC Rider, even if they are reduced as PECO proposes. Electrify America has noted, as PECO recognizes, that at times it was not receiving any demand charge benefit from the EV-FC Rider due to measured demand at some of its sites being less than its minimum demand.[16] However, it is unclear that PECO's proposed modifications to minimum demand will have the intended benefits for customers

[13] *Id*. at page 3.
[14] *Id.*
[15] Exhibit JAB-2, Tariff Electric PA. P.U.C. No. 8, Original Page No. 86a.
[16] *Id*. at page 23, lines 1-15.

utilizing the EV-FC Rider. Therefore, as I discuss in more detail later in my testimony, there is a need to remove this minimum demand calculation entirely in the updated EV-FC Rider.

Q10. Can you explain PECO's proposed changes to the calculation of the EV-FC Rider's demand credit?

A10. Yes. PECO proposes to change the basis of its demand credit calculation from the combined maximum nameplate capacity rating of a customer's DCFCs to the monthly measured demand.[17] Thus, instead of the demand credit being equal to 50% of a customer's nameplate charging capacity, PECO proposes that it be calculated as 20% of measured demand.[18]

Q11. Please share Electrify America's perspective on PECO's proposed changes to its calculation of the demand credit under the EV-FC Rider.

A11. Electrify America is mainly supportive of the proposed language in the EV-FC Rider, which obligates PECO to calculate the demand credit based on 20% of a customer's measured demand.[19] However, this support is contingent on the removal of the minimum billing demand provisions in the EV-FC Rider, as I discussed previously in my testimony. With any minimum billing demand provision in place, a demand credit based on the 20% of measured demand may be substantially lower for customers enrolling in the EV-FC Rider as compared to a demand credit calculated based on 50% of a customer's nameplate capacity. Therefore, Electrify America is supportive of PECO's proposed modification to its demand charge credit calculation only if PECO removes any minimum demand provisions in the EV-FC Rider.

[17] PECO Energy Company Statement No. 9, Direct Testimony of Steven J. Demott at page 23, lines 2-13.
[18] *Id.* at page 3, Chart Depicting Proposed Changes to EV-FC Rider.
[19] Exhibit JAB-2, Tariff Electric PA. P.U.C. No. 8, Original Page No. 86a.

Electrify America is supportive of PECO's inclusion of the word "shall" in its proposed language in the EV-FC Rider, as removing any discretion on the part of PECO in the calculation of the rate is crucial to customers enrolling in the EV-FC Rider. Previously, the EV-FC Rider stated that PECO "reserved the right to reduce the demand credit based on a comparison of the customer's peak demands before and after installation of the DCFC."[20] Even if not used frequently, unexpected and unpredictable changes to the demand credit are untenable for operators of DCFC sites. As PECO recognizes, rates are a critical part of investment decisions for Electrify America, and providing predictable, easily calculated, and easily forecasted demand credits are crucial to operators of DCFC sites.[21] Therefore, Electrify America is strongly supportive of PECO's proposed removal of any language in the EV-FC Rider that reserves any right to reduce, in its own discretion, the demand credit to be paid to customers utilizing the EV-FC Rider.

Q12. Explain PECO's proposed allowance of ancillary loads in the EV-FC Rider.

A12. PECO proposes to allow up to one percent of a customer's DCFC nameplate capacity to be made up of ancillary loads, "such as illuminated signage, safety lighting, communication equipment, and load management technologies."[22] PECO proposes to make this allowance to avoid the additional costs that would be borne by both the Company and the customer to separately meter such load, while recognizing that such loads will often be less than the one percent threshold included in the EV-FC Rider.[23]

[20] *Id.*
[21] *See* PECO Energy Company Statement No. 9, Direct Testimony of Steven J. DeMott at page 22, lines 8-19.
[22] *Id*. at page 27, lines 18-24.
[23] *Id*.

Q13. Is Electrify America supportive of such a change?

A13. Yes. Electrify America strongly supports PECO's recognition that ancillary loads should be accounted for in the EV-FC Rider, as such a change reasonably balances the overall costs to separately meter and bill an EV-FC customer for such loads.

Q14. Does PECO propose an end date for its proposed EV-FC Rider?

A14. Yes, much like the previous version of the EV-FC Rider, PECO proposes to offer the demand credit for "no more than 36 months from the date of enrollment or until the conclusion of the date of the pilot, whichever comes first."[24] PECO explains that this 36 months term is designed to align with the PennDOT National Electric Vehicle Infrastructure ("NEVI"), "which offers multiple rounds of funding for DCFC sites to be constructed through 2027."[25]

Q15. Is Electrify America supportive of the 36-month term?

A15. No. While Electrify America is encouraged by PECO's effort to provide some certainty to customers enrolling in the EV-FC Rider, Electrify America is not supportive of a brief, 36-month term for the demand credit. Given the timelines associated with DCFC site development and investment justification, which are often over a 10-year or longer period, 36 months is not long enough to provide enough cost certainty to Electrify America when it is making investment decisions in PECO's service territory. Therefore, Electrify America suggests that the term of the demand credit provided by the EV-FC Rider be extended through December 31, 2030. Such a modification would provide much greater certainty to Electrify America and others enrolling in the credit, and would help inform longer term

[24] Exhibit JAB-2, Tariff Electric PA. P.U.C. No. 8, Original Page No. 86a.
[25] *See* PECO Energy Company Statement No. 9, Direct Testimony of Steven J. Demott at page 22, lines 15-19.

investment decisions in PECO's service territory.

Q16. Are there any other tariff provisions that should be clarified to provide certainty to EV-FC Rider customers?

A16. Yes. Currently, PECO's tariff includes rules for designation of procurement class.[26] In Section 22.1(f), PECO's tariff states that a "new customer in a new facility shall be assigned to a procurement class based upon an engineering estimate of the customer's diversified peak demand."[27] PECO uses nameplate capacity as a proxy for the "engineering estimate" referenced in Section 22.1(f), a practice it "intends to maintain" in the future.[28] While administratively efficient, this does not reflect the reality that not all DCFCs will be in use and utilizing their full nameplate capacity during the limited PJM coincident peak hours. Diversified peak demand is customarily not equal to the combined equipment nameplates of customer equipment at any commercial site. Indeed, PECO's practice serves to unnecessarily inflate the procurement class designation of DCFC sites, and typically results in increases to the site's minimum billing demand. As stated earlier, the calculation of minimum billing demand has a significant impact on the demand credit provided under the EV-FC Rider. This utility practice of basing the procurement class designation on the combined nameplate capacity of all DCFCs at a given site is not conducive to private investment planning in PECO's service area, and customers such as Electrify America have had no reasonable recourse when this practice has resulted in past adverse financial impacts compared to expected operating economics under the existing EV-FC Rider. Therefore, Electrify America requests that the Commission clarify that the procurement class

[26] Exhibit JAB-2, Tariff Electric PA. P.U.C. No. 8, Original Page No. 32.
[27] *Id*.
[28] PECO's Response to Electrify America-I-3.

designation for customers enrolling in the EV-FC Rider should be based on an engineering estimate of a site's actual peak demand, rather than PECO's current practice of basing a customer's procurement class designation on combined nameplate capacity.

Q17. Please elaborate on your concerns with the use of nameplate capacity in the implementation of the EV-FC Rider?

A17. In PECO's discovery response to Electrify America-I-1, PECO affirms that it "intends to maintain the Company's current approach of calculating the maximum contract demand for electric vehicle supply equipment (EVSE) as the sum of the nameplate capacities of those EVSE."[29] Electrify America has existing DCFC locations in other jurisdictions with combined nameplate capacities well in excess of the utility capacity or switchboard capacity at the location. It is unreasonable that the contract demand or procurement class designation would be based on a demand that is not possible from a technical perspective. Therefore, the Commission should clarify that PECO may not use nameplate capacity for the purposes of determining maximum contract demand or procurement class designation for DCFC sites.

Q18. What is Electrify America's recommended modification to the EV-FC Rider that can address these procurement class and contract demand issues?

A18. Electrify America recommends that the EV-FC Rider be revised to clearly state that for customers enrolling in the EV-FC Rider, any minimum billing demand provisions do not apply to those customers, whether based on that customer's contract demand or procurement class designation. This approach would provide certainty on the economics around investing in PECO's service area due to PECO's proposed change to the demand charge benefit

[29] PECO's Response to Electrify America-I-1.

calculation. Without such language, Electrify America is concerned that the benefits PECO is seeking to provide to customers through its proposed modifications to the EV-FC Rider may rarely materialize, if the Commission approves them as proposed.

Q19. Does that conclude your testimony?

A19. Yes, it does.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2024-3046931**
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Jigar Shah, hereby state that the facts set forth above in my Direct Testimony 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 17, 2024

Signature: */s/Jigar J. Shah*_____
Jigar J. Shah

Address: 1950 Opportunity Way
Suite 1500
Reston, VA 20190

EA Statement No. 2-SR

Surrebuttal Testimony of Jigar J. Shah

ELECTRIFY AMERICA, LLC
STATEMENT NO. 2-SR
Date: August 2, 2024

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v.
PECO ENERGY COMPANY – ELECTRIC DIVISION

DOCKET NO. R-2024-3046931

SURREBUTTAL TESTIMONY

WITNESS: JIGAR J. SHAH

SUBJECTS: RESPONSE TO PECO'S REBUTTAL TESTIMONY
REGARDING THE EV-FC RIDER

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II. Electrify America's Response to PECO's Rebuttal Testimony Regarding the EV-FC Rider **2**

DIRECT TESTIMONY
OF
JIGAR J. SHAH

I. QUALIFICATIONS AND SURREBUTTAL TESTIMONY OF JIGAR J. SHAH

Q1. Please state your name, business address, and by whom you are employed.

A1. My name is Jigar J. Shah. My business address is 1500 Opportunity Way, Suite 1500, Reston, Virginia 20190. I am employed by Electrify America, LLC ("Electrify America") as the Director of Energy Services.

Q2. On whose behalf are you testifying?

A2. I am testifying on behalf of Electrify America.

Q3. Have you previously provided testimony in this proceeding?

A3. Yes, on June 17, 2024, I submitted my direct testimony labeled EA Statement No. 2. Electrify America did not submit rebuttal testimony.

Q4. Have you reviewed the rebuttal testimony submitted by other parties submitted in this proceeding?

A4. Yes.

Q5. What is the purpose of your testimony?

A5. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony submitted by PECO Energy Company ("PECO") Witness Steven J. DeMott.[1]

[1] PECO Energy Company Statement No. 9-R, Rebuttal Testimony of Steven J. DeMott.

II. ELECTRIFY AMERICA'S RESPONSE TO PECO'S REBUTTAL TESTIMONY REGARDING THE EV-FC RIDER

Q6. Please restate Electrify America's recommendations with respect to the Electric Vehicle ("EV") Fast Charging Pilot Rider (the "EV-FC Rider").

A6. The recommendations put forth in my direct testimony were as follows:

- The Commission should approve PECO's proposed modification to its demand charge credit calculation only if PECO removes any minimum demand provision in the EV-FC Rider;
- PECO should extend the term of the demand credit offered under the EV-FC Rider through December 31, 2030; and
- The Commission should clarify that PECO may not use nameplate capacity for the purposes of determining maximum contract demand or procurement class designation for DCFC sites.[2]

Q7. How did PECO Witness DeMott respond to these recommendations?

A7. Mr. DeMott was not supportive of Electrify America's recommendations.[3] PECO opposed extending the rider beyond the proposed 36-month term, stating that the "36-month limit on enrollment in the EV-FC Rider is essential to the Rider's consistency with cost-of-service principles for rate design."[4] Moreover, according to Mr. DeMott, the duration of the demand credit improves the short-term business case for new DCFC sites while ensuring DCFC customers pay their proportionate costs of constructing and maintaining the distribution system.[5]

[2] *See* EA Statement No. 2 at pages 5-10.
[3] PECO Energy Company Statement No. 9-R, pages 11-14.
[4] *Id*. at page 12, lines 4-11.
[5] *Id*.

In response to Electrify America's recommendations regarding eliminating the minimum demand provision from the EV-FC Rider, PECO was not supportive of such a change, as it would "substantially increase the revenue credits awarded under the EV-FC Pilot" without a factual basis in the record establishing a "compelling need for such a substantial increase in the average demand credit."[6] Mr. DeMott similarly opposed Electrify America's recommendations regarding discontinuing use of nameplate capacity to set maximum contract demand and procurement class designation.[7]

Q8. Did PECO Witness DeMott provide any additional insight into why an increase in demand credits under the EV-FC Rider would be problematic for PECO in this proceeding?

A8. Yes. In support of his argument that eliminating minimum demand provisions would substantially increase the value of demand credits, Mr. DeMott states that "[c]ompletely eliminating minimum demand would increase the value of demand credits by more than 50%, to $940 per billing month."[8] While it is unclear how this $940 number was calculated, Mr. DeMott, both in his rebuttal testimony[9] and in response to discovery[10], has made clear that PECO has not made any adjustments to its revenue requirement or cost of service model in this proceeding. Moreover, because the demand credits provided by the EV-FC Rider result in foregone revenue for PECO, Mr. DeMott has opposed significant changes to the credit value to customers that enroll in the EV-FC Rider to maintain "cost-of-service principles for rate design."[11] As stated above, Mr. DeMott also argues that there is no

[6] *Id*. at page 13, lines 1-12.
[7] *Id*. at pages 13-14.
[8] *Id*. at page 13, lines 4-5.
[9] *Id*. at page 12, lines 1-3.
[10] PECO Response to OCA 13-4.
[11] PECO Energy Company Statement No. 9-R at page 12, lines 1-3.

factual basis for a substantial increase in the average demand credit offered by the EV-FC Rider.[12]

Q9. Do you agree with Mr. DeMott's reasoning?

A9. Partially. While it is logical that significant changes to demand credits under the EV-FC Rider cannot be made when not accompanied by proposed modification to PECO's revenue requirement or cost of service model, Mr. DeMott's testimony misses the "factual basis" put forth in my direct testimony for why some modification to the demand credit must take place. If the Commission were to approve PECO's proposed changes to the calculation of the demand credit of the EV-FC Rider and provide the credit based on 20% of measured demand instead of 50% of a customer's nameplate capacity and maintain the minimum demand provision, this will lower the demand credits provided to Electrify America's DCFC sites.[13] Because billed demand cannot exceed nameplate capacity, the proposed modification to the EV-FC Rider must at least be an increase to billed demand amounting to 30% of nameplate capacity, disregarding any minimum demand provisions. Mr. DeMott's rebuttal testimony focuses on the average demand credits provided under the EV-FC Rider but ignores what Electrify America has stated plainly – the proposed modifications made will result in a significantly reduced financial benefit to customers enrolling in the EV-FC Rider, including Electrify America.

Q10. Does PECO have any justification in the record to make modest changes to the proposed EV-FC Rider to provide greater financial benefit to customers enrolling in the EV-FC Rider?

[12] *Id*. at page 13, lines 10-12.
[13] *See* EA Statement No. 2 at page 5, lines 16-19.

A10. Yes. As Mr. DeMott stated in his direct testimony, PECO made its modifications to the EV-FC Rider to ideally provide every service enrolled in the EV-FC Rider with some benefit.[14] Electrify America has testified that PECO's proposed modifications to the EV-FC Rider will result in a lower demand credit for its DCFC stations, and this reduced financial benefit may have unintended financial consequences for other customers enrolled in the EV-FC Rider, as well. As such, Electrify America recommends that PECO reconsider its proposed changes to the EV-FC Rider if it is against removing the minimum billing demand provision. Given that PECO has expressed a concern regarding significant increases in the demand credit value under the EV-FC Rider, and their related impact on PECO's proposed revenue requirement[15], Electrify America suggests that it could a) maintain the proposed change to the minimum billing demand provision and b) withdraw its proposed modification to the demand credit calculation and continue to calculate the credit as 50% of nameplate capacity.

Q11. Does that conclude your testimony?

A11. Yes, it does.

[14] PECO Energy Company Statement No. 9, Direct Testimony of Steven J. DeMott at page 23, lines 4-6.
[15] *Id.* at page 12, lines 1-3.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2024-3046931**
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Jigar J. Shah, hereby state that the facts set forth above in my Surrebuttal Testimony 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 2, 2024

Signature: */s/Jigar J. Shah*
Jigar J. Shah

Address: 1950 Opportunity Way
Suite 1500
Reston, VA 20190

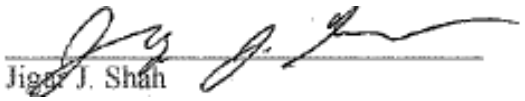
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2024-3046931**
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Jigar J. Shah, hereby state I am the Director of Energy Services for Electrify America, LLC, that I am authorized to and do make this verification; and that the facts set forth in the exhibits listed below 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).

- EA Statement No. 2
- EA Statement No. 2-SR

Dated: August 7, 2024 Signature: 

Jigar J. Shah

Address: 1950 Opportunity Way
Suite 1500
Reston, VA 20190

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931, *et al.***
PECO Energy Company – Electric Division	**:**	

TESTIMONY OF EVGO SERVICES LLC
TO BE ADMITTED INTO THE EVIDENTIARY RECORD

EVgo Services LLC ("EVgo") intends to admit the following testimony as evidence into the record at the Evidentiary Hearings scheduled in the above-captioned proceeding.

- Direct Testimony of Lindsey R. Stegall;
- Exhibit LRS-1
- Rebuttal Testimony of Lindsey R. Stegall;
- Surrebuttal Testimony of Lindsey R. Stegall;
- Lindsey R. Stegall's signed Verification of her Direct and Rebuttal Testimony; and
- Lindsey R. Stegall's signed Verification of her Surrebuttal Testimony.

Dated: August 16, 2024

EVGO SERVICES LLC
STATEMENT NO. 1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v.
PECO ENERGY COMPANY – ELECTRIC DIVISION

DOCKET NO. R-2024-3046931, *et al.*

DIRECT TESTIMONY

WITNESS: LINDSEY R. STEGALL

SUBJECTS: PECO'S ELECTRIC VEHICLE DCFC PILOT RIDER

DATED: JUNE 17, 2024

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DIRECT TESTIMONY
OF
LINDSEY R. STEGALL

I. INTRODUCTION AND PURPOSE OF TESTIMONY

Q. Please state your name, title and business address.

A. My name is Lindsey R. Stegall. I am a Senior Manager of Market Development and Public Policy at EVgo Services, LLC ("EVgo"). My business address is 11835 W. Olympic Blvd. Suite 900E Los Angeles, CA 90064.

Q. Have you prepared a statement of your experience and qualifications?

A. Yes. My qualifications are included as Exhibit LRS-1.

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

A. I am appearing on behalf of EVgo. EVgo is a leader in charging solutions, building and operating the infrastructure and tools needed to expedite the mass adoption of electric vehicles for individual drivers, rideshare and commercial fleets, and businesses. EVgo is one of the nation's largest public fast charging providers, featuring over 1,000 fast charging locations across more than 35 states, including stations built through EVgo eXtend™, its white label service offering. EVgo is accelerating transportation electrification through partnerships with automakers, fleet and rideshare operators, retail hosts such as grocery stores, shopping centers, and gas stations, policy leaders, and other organizations.

Under its owner-operator business model, EVgo develops, finances, owns, and operates its fast-charging network. EVgo works with site host partners across the country to deploy EV charging solutions at retail locations that are already part of customers' daily routines. EVgo installs the public direct current fast chargers ("DCFC") at no cost

to the site host partner. EVgo also maintains the customer relationship with the EV driver, providing a call center that is available to customers 24/7, and is responsible for operations and maintenance of its EV charging network. Today, nearly 40% of EVgo's fast charging stalls are powered by a 350kW charger – almost double the percentage a year ago – to best serve vehicle models with the most advanced battery technology.

Q. What is EVgo's interest in this proceeding?

A: EVgo is an active participant in the competitive market for DCFC in Pennsylvania, currently owning and operating over 90 fast-charging stalls in the state with plans for expansion. EVgo considers several factors when identifying markets in which to develop DCFC including state policies and regulations, utility make-ready and incentive programs, the competitive landscape, tariff designs, state and federal funding programs, and a number of other factors. As this proceeding includes modifications to the Company's electric vehicle ("EV") charging pilot, the outcome of this proceeding will have a substantial impact on the nature, growth, and economics of the competitive market for DCFC in Pennsylvania. EVgo is also an electric commercial retail customer of PECO Energy Company (PECO or "the Company"), taking service under the Company's GS tariff schedule and EV-FC Pilot Rider ("the Rider").

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide the Commission, the utility, and stakeholders with the unique perspective of an established owner-operator of EV charging infrastructure with experience in more than 35 states, including Pennsylvania. My testimony supports the Company's proposed extension and modifications of the EV-FC Pilot Rider and addresses the issue of a permanent EV rate.

Q. Please summarize your recommendations to the Commission in this proceeding.

A. EVgo recommends the Commission:

1. Approve the proposed extension and modifications to the EV-FC pilot rider.
2. Direct the Company to conduct an evaluation of the modified Rider and put forth a proposal for a permanent EV rate in its next rate case with stakeholder feedback.
    a. In its evaluation, EVgo recommends the Company assess the 36-month duration of the credit and whether a longer duration credit would be appropriate in a permanent rider to provide greater certainty to the market, thereby driving increased private investment in DCFC infrastructure.

II. ELECTRIC VEHICLE DCFC PILOT RIDER

Q. What is the purpose of this section of your testimony?

A. In this section of my testimony, I address the Company's proposal to extend and modify its EV-FC Pilot Rider.

Q. Please explain the existing EV-FC Pilot Rider.

A. The Company implemented the EV-FC Pilot Rider beginning on July 1, 2019, to encourage the build out of public and workplace fleet fast charging through reduced demand charges. Under the Rider, the Company applies a demand (kW) credit equal to 50% of a DCFC's nameplate capacity rate for customers installing a qualifying public DCFC served under Rates GS, PD, or HT. The demand credit is available for a 36-month term or until the pilot concludes on December 31, 2025,[1] whichever comes first. The

[1] The Commission approved the EV-FC Pilot Rider in the Company's 2018 electric base rate proceeding at Docket No. R-201821-3000164 ("2018 Settlement") as a five-year pilot beginning on July 1, 2019, and ending on June 30, 2024. On September 21, 2023, the Commission approved PECO's request to extend the DCFC Pilot Rider by 18 months through December 31, 2025.

Company also reserves the right to reduce the demand credit based on a comparison of the customer's peak demands before and after installation of the DCFC. The rider does not waive minimum demand, which is 40% of the maximum contract demand for most DCFC operators, except for customers served under Rate GS with maximum potential demand of 500 kilowatts (kW) or less, for which the minimum demand is 1.2 kW.

Q. Please explain the Company's proposal regarding the EV-FC rider in this proceeding.

A. The Company proposes the following change to be effective January 1, 2025:

- Modify other Riders to specify how the demand credit will be applied to a service that is also served under a Night Service Rider and specify that the EV-FC Rider will not be applied in conjunction with the Economic Development Rider.

Additionally, the Company proposes the following changes effective January 1, 2026:

- Extend the Rider by five years through December 31, 2030, eliminate the requirement that DCFCs be publicly available, and limit the applicability to a service that is dedicated exclusively to EV charging and that includes at least one permanently connected DCFC served under Rates GS, PD, or HT installed on or after July 1, 2019.
- Specify that to be high-powered, the DCFC must have a nameplate charging capacity of at least 50 kW per charging port.
- Modify the Miscellaneous General Provisions to remove the reference to DCFCs that are not separately metered and to remove the requirement for the customer to provide usage and demand data for such DCFCs.

- Modify the Rate Impact to add an adjustment to the minimum demand calculation, modify the demand credit and delete the sentence referencing the Company's right to reduce the demand credit.
- Modify the Term of Contract to delete the sentence that references extended participation.

Q. Does EVgo support the Company's proposed extension of the Rider?

A. Yes. EVgo supports the Company's proposal to extend demand charge relief. Effective commercial rate design is critical to enabling transportation electrification. Public DCFC infrastructure has a unique load profile that makes it distinct from other commercial customers. The demand charge component of traditional commercial rates can lead to disproportionately high effective dollar per kilowatt-hour (kWh) costs to operate DCFC, which creates a significant barrier to third-party investment in charging infrastructure.[2] The availability of commercial EV rates that account for the unique loads of fast charging stations at this nascent stage of EV adoption is essential to achieve transportation electrification at scale.

The Rider has been in effect for nearly five years and PECO's proposal would extend it another five years. EVgo supports this extension as it will support further third-party investments in DCFC stations. In addition, the Company states that the extension of the Rider will enable "NEVI applicants/recipients in [its] service territory with confidence that the EV-FC Rider provisions will be in force long enough to enable them to receive a full 36 months of benefits."[3] Therefore, the extension of the Rider for another

[2] *See* EVgo, May 18, 2020, "The Costs of EV Fast Charging Infrastructure and Economic Benefits to Rapid Scale-Up," Jonathan Levy, et al., p. 11, available at: https://site-assets.evgo.com/f/78437/x/f28386ed92/2020-05-18_evgo-whitepaper_dcfc-cost-and-policy.pdf.

[3] PECO Statement No. 9: Direct Testimony of Steven J. DeMott at 22.

five years is critical for ensuring new customers beyond 2025 can enroll in the Rider and receive the benefits.

Q. Please explain why the Company proposed an extension rather than proposing to make the Rider permanent.

A. Due to the substantive modifications to the structure of the rider in this proposal the Company "believes that it is appropriate to evaluate the effectiveness of those modifications within an extended pilot before making those provisions permanent."[4]

Q. Does EVgo support the Company's proposal to evaluate the modifications to this extended pilot before proposing to make the rider permanent?

A. Yes. EVgo supports the evaluation of the Rider and supports the Company making the Rider permanent in the future.

Q. Does EVgo support the Company's proposed modifications to the Rider?

A. EVgo supports the majority of the Company's proposed modifications. In particular, EVgo supports the removal of the provision referencing the Company's right to reduce the demand credit: "[t]he Company reserves the right to reduce the demand credit based on a comparison of the customer's peak demands before and after installation of the DCFC."[5] The elimination of this provision will provide significantly more certainty to charging operators regarding their electricity costs.

Q. Does EVgo have any concerns related to the pilot?

A. While EVgo supports the proposed extension of the Rider, I am concerned that the Rider's provision that this credit shall not be provided for more than 36 months from the date of enrollment fails to provide substantial certainty to charging operators to improve

[4] *Id.*
[5] *See* Tariff Electric Pa. P.U.C. No. 8 Original Page No. 86

the longer-term economics of developing DCFCs. The extension of the availability of the Rider ensures a greater *number* of customers benefit from this demand charge relief but does not provide greater *benefits per customer*. As it is, each customer would only have 36 months of relief from disproportionately high demand charges. However, EV charging rates that are long duration in nature, such as ten years or more, are necessary to provide DCFC customers with substantial certainty in the delivery rates that they will pay. For DCFC customers, it is unlikely that load factors will increase to levels typical of other commercial loads to mitigate the impact of demand charges on DCFC stations in the Company's service territory. Thus, while the Rider may provide a temporary solution, it will not address demand charges for DCFC customers over the long term.

Q. Does EVgo have any further recommendations related to the modified Rider?

A. Yes. EVgo recommends the Commission direct the Company, prior to its next rate case, to conduct an evaluation of the modified Rider, share findings from the evaluation, collect stakeholder feedback, and put forth a proposal for a permanent EV rate in its next rate case. In its evaluation, EVgo also recommends the Commission direct the Company to assess the 36-month duration of the credit and whether a longer duration credit would be appropriate in a permanent rider to provide greater certainty to the market, thereby driving increased private investment in DCFC infrastructure.

III. CONCLUSION

Q. Please summarize your recommendations to the Commission.

A. I recommend that the Commission:

1. Approve the proposed extension and modifications to the EV-FC Pilot Rider.

2. Direct the Company to conduct an evaluation of the modified Rider and put forth a proposal for a permanent EV rate in its next rate case with stakeholder feedback.
    a. In its evaluation, EVgo recommends the Company assess the 36-month duration of the credit and whether a longer duration credit would be appropriate in a permanent rider to provide greater certainty to the market, thereby driving increased private investment in DCFC infrastructure.

Q: Does this conclude your direct testimony?

A. Yes.

Experience & Qualifications: Lindsey R. Stegall

Ms. Stegall serves as Senior Manager of Market Development and Public Policy at EVgo, where she leads the company's policy and regulatory engagement across the central U.S. In this role, Ms. Stegall works with public utilities commissions, state legislatures, state agencies, and other stakeholders to develop and support policies and programs that help accelerate TE.

Within the last three years, Ms. Stegall served as an expert witness in two Massachusetts proceedings related to the Electric Sector Modernization Plans of Eversource Energy (D.P.U. 24-10) and National Grid (D.P.U. 24-11); a DTE rate case proceeding in Michigan (Case No. U-21297); a Colorado Proceeding related to Public Service Company of Colorado's (PSCo) second Transportation Electrification Plan (Proceeding No. 23A-0242E); an Arizona Public Service (APS) rate case proceeding (Docket No. E-01345A-22-0144); a Nevada proceeding related to NV Energy's Transportation Electrification Plan (Docket No. 21-09006); and a Colorado proceeding related to Public Service Company of Colorado's (PSCo) commercial rates for EV charging (Proceeding No. 21AL-0494E). She also managed EVgo's regulatory engagement in an Oncor Electric rate case in Texas (Docket No. 53601), and transportation electrification plan cases filed by Northern States Power in Minnesota (Docket No. E002/M-22-432), APS in Arizona (Docket No. E01345A-22-0067), NV

Energy in Nevada (Docket No. 21-09004), and Rocky Mountain Power in Utah (Docket No. 20-035-34).

Ms. Stegall has more than a decade of experience in the clean energy sector and has been working on transportation electrification policy since 2018. Prior to joining EVgo in 2021, Ms. Stegall served as Manager of Policy and Regulatory Affairs at the Colorado Energy Office (CEO), where she was employed for six years. During that time, Ms. Stegall managed CEO's engagement in energy regulatory proceedings before the Colorado Public Utilities Commission, including several related to transportation electrification and rate design.

Ms. Stegall holds a Master of Business Administration degree in Sustainable Management from Presidio Graduate School and a Bachelor of Arts degree from the University of Colorado.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931, *et al.***
PECO Energy Company – Electric Division	**:**	

REBUTTAL TESTIMONY OF LINDSEY R. STEGALL

ON BEHALF OF EVGO

JULY 16, 2024

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REBUTTAL TESTIMONY
OF
LINDSEY R. STEGALL

I. INTRODUCTION AND PURPOSE OF TESTIMONY

Q. Please state your name, title and business address.

A. My name is Lindsey R. Stegall. I am a Senior Manager of Market Development and Public Policy at EVgo Services, LLC ("EVgo"). My business address is 11835 W. Olympic Blvd. Suite 900E Los Angeles, CA 90064.

Q. Are you the same Lindsey Stegall that submitted direct testimony on behalf of EVgo in this proceeding?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to certain issues discussed and recommendations made in the Direct Testimony of Pennsylvania Office of Consumer Advocate ("OCA") witness Ron Nelson and Direct Testimony of Electrify America witness Jigar Shah in this proceeding.

Q. Please summarize your recommendations to the Commission in this proceeding.

A. In response to recommendations by OCA witness Nelson and Electrify America witness Shah, I make the following clarifications and modifications to my initial recommendations.

1. Approve the Company's proposed extension and modifications to the EV-FC Pilot Rider with the following modifications:
    a. Modify the duration of the credit term to extend throughout the entire pilot period.

b. Eliminate the minimum billing demand provision for EV-FC Pilot Rider customers.

2. Direct the Company to conduct an evaluation of the modified EV-FC Pilot Rider and put forth a proposal for a long-duration successor EV rate in its next rate case after incorporating stakeholder feedback. The utility shall ensure this EV charging rate is available prior to the expiration of the EV-FC Pilot Rider.

II. ELECTRIC VEHICLE DCFC PILOT RIDER SHOULD BE APPROVED WITH MODIFICATIONS

Q. Please summarize EVgo's recommendations from its Direct Testimony regarding the EV-FC Pilot Rider.

A. In its initial testimony, EVgo recommended the Commission approve the extension and proposed modifications to the EV-FC Pilot Rider.

EVgo also recommended the Commission direct the Company to conduct an evaluation of the modified EV-FC Pilot Rider and put forth a proposal for a permanent EV rate in its next rate case with stakeholder feedback. In its evaluation, EVgo recommended the Company assess the 36-month duration of the credit and whether a longer duration credit would be appropriate in a permanent rider to provide greater certainty to the market, thereby driving increased private investment in DCFC infrastructure.

Q. Does EVgo have any clarifications with regard to its previous recommendations?

A. Yes, I want to clarify that what is meant by "permanent EV rate" in my Direct Testimony is a successor rate to the EV-FC Pilot Rider that will be available for a long duration, such as 10 years. Moving forward I will refer to this as a "long-duration successor EV rate."

Q. Did EVgo have any concerns with the EV-FC Pilot Rider's provisions?

A. As discussed in my Direct Testimony, I am concerned with the rider's provision that the credit shall not be provided for more than 36 months from the date of enrollment.

As I explained, this duration provides limited relief from disproportionately high demand charges, failing to provide DCFC operators with substantial certainty that the economics will be beneficial in the long-term. As a result, the credit may be inadequate to induce private investment in further DCFC infrastructure in the Company's service territory.

Q. Do other parties share EVgo's concerns with the credit duration?

A. Electrify America's witness Jigar Shah states that "[g]iven the timelines associated with DCFC site development and investment justification, which are often over a 10-year or longer period, 36 months is not long enough to provide enough cost certainty to Electrify America when it is making investment decisions in PECO's service territory."[1]

Q. What does Mr. Shah recommend with regard to the credit duration?

A. Mr. Shah recommends that the term of the demand credit be extended through December 31, 2030.

Q. Does EVgo support this recommendation?

A. In Direct Testimony, I recommended that the Company conduct an evaluation of the 36-month duration of the credit prior to its next rate case. However, I support modifying the 36-month credit duration in this proposal to provide a longer duration of demand charge relief to new DCFC customers in the near-term, as this will further accelerate private investment in DCFC infrastructure, for example, because it is consistent with the longer

[1] EA Statement No. 2 Shah at 7-8.

useful life of a charger. Thus, I recommend the Commission direct the Company to modify the duration of the credit term to extend throughout the entire pilot period.

Q. Please summarize Mr. Shah's recommendation related to the proposed minimum billing demand provisions for the EV-FC Pilot Rider.

A. Mr. Shah recommends the EV-FC Pilot Rider be revised to clearly state that any minimum billing demand provisions do not apply to customers enrolling in the EV-FC Pilot Rider.

Q. Does EVgo support this recommendation?

A. Yes, EVgo supports the recommendation to eliminate the minimum billing demand provision for EV-FC Pilot Rider customers. While EVgo appreciates the Company proposing to reduce minimum demand from the current provision of 40% of the maximum contract demand to 30% to "ensure that a greater number of enrolled accounts will receive some benefits from the rider,"[2] EVgo agrees with Mr. Shah that the proposed minimum demand reduction may not have the intended benefits for customers using the rider. The proposed minimum demand level may continue to preclude many stations from reaping the benefits of the rider and subsequently provide little to no demand charge relief for those stations. For instance, stations located in rural areas or other less dense areas will experience lower utilization rates, resulting in stations that may not achieve the minimum demand required to receive the benefit of the rider. Additionally, by tethering the minimum demand to station nameplate capacity, PECO reduces the incentive for managing peak demand at stations where this clause would go into effect as station operators would have no ability to influence the contract demand and thus the demand at

[2] PECO Statement No. 9, Steven DeMott, at 23.

which they are billed. Thus, mandating a minimum demand defined as any amount of contract maximum demand not determined by the station operator may not be adequate to incent equitable distribution of public DCFC stations across the Company's service territory as well as limits station operators' incentives to manage station peak demand and thus reduce impact on the grid during peak periods.

Q. Please summarize OCA witness Nelson's recommendation regarding the EV-FC Pilot Rider's extension.

A. Mr. Nelson recommends that the pilot only be extended to May 31, 2029, instead of the Company proposed date of December 31, 2030, "so that they conclude in line with the timing of PECO's default service plan period to permit congruent evaluations of the impacts and outcomes of the EV pilot and the default service plan to better inform future decisions."[3]

Q. Does EVgo support Mr. Nelson's recommendation?

A. EVgo is not opposed to Mr. Nelson's recommendation, however, if the Commission extends the pilot only to May 31, 2029, per Mr. Nelson's recommendation, EVgo still recommends that the Commission direct the Company to ensure that a long-duration successor rate (i.e., ten years) to encourage EV fast charging is available to customers prior to the expiration of the EV-FC Pilot Rider, as Mr. Nelson also recommends.

Q. Please explain why a long-duration successor EV rate is necessary.

A. In its initial filing, Company Witness DeMott states "[t]he EV-FC Rider is a pilot designed to support TE by encouraging the build out of publicly available (or workplace

[3] OCA Statement 6, Nelson, p. 21.

fleet and public transit) fast charging through reduced demand charges"[4] and that "there are many localities in the Company's territory that do not yet have convenient access to DCFCs."[5] However, a longer duration (e.g. 10 years) EV rate that will be available following the conclusion of the EV-FC Pilot Rider is necessary to provide the long-term certainty necessary to grow EV charging deployments, as PECO intends. As Mr. Shah notes, EV charging stations have a much longer operational timeline than PECO's proposal contends, and as such, longer term certainty is needed. Thus, while EVgo appreciates the EV-FC Pilot Rider's demand charge relief, a temporary solution will not provide DCFC customers with substantial certainty in the delivery rates that they will pay over the long term. Instead, longer term certainty is necessary to accelerate the deployment of EV charging infrastructure and EV adoption in the Company's service territory.

Q. Are there other long-duration EV rates across the country that serve as examples of best practices?

A. Yes. Regulators across the country have approved long duration rates supportive of commercial EV charging in recent years, such as a 10-year EV rate in NV Energy in Nevada,[6] Arizona Public Service in Arizona,[7] and National Grid and Eversource

[4] DeMott at 19.

[5] *Id.* at 20.

[6] *See* https://www.nvenergy.com/publish/content/dam/nvenergy/brochures_arch/about-nvenergy/rates-regulatory/electric-schedules-south/EVCCR-TOU_South.pdf.

[7] Arizona Corporation Commission, Docket No. E-01345A-19-0236, Decision No. 78317 (Nov. 9, 2021), p. 441 https://docket.images.azcc.gov/0000205236.pdf?i=1721141884616.

territories in Massachusetts.[8] Other examples include a 10-year duration EV charging-specific delivery class in Commonwealth Edison territory in Illinois,[9] an EV rate without a statutory expiration date in Pacific Gas and Electric territory in California,[10] a permanent technology neutral low-load factor rate in Dominion Energy territory in Virginia,[11] and many others.

III. CONCLUSION

Q. Please restate your recommendations to the Commission.

A. I recommend that the Commission:

1. Approve the Company's proposed extension and modifications to the EV-FC Pilot Rider.
    a. Modify the duration of the credit term to extend throughout the entire pilot period.
    b. Eliminate the minimum billing demand provision for EV-FC Pilot Rider customers
2. Direct the Company to conduct an evaluation of the modified EV-FC Pilot Rider and put forth a proposal for a long-duration successor EV rate in its next rate case after incorporating stakeholder feedback. The utility shall ensure that a long-duration

[8] Massachusetts Department of Public Utilities (DPU) Order, Docket D.P.U. 21-90; D.P.U. 21-91; D.P.U. 21-92, dated December 30, 2022, pp. 247 – 250, 271, https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/16827695.

[9] Illinois Commerce Commission, Docket No. 22-0432, Order (March 23, 2023), pp. 249 - 250 https://www.icc.illinois.gov/docket/P2022-0432/documents/349478/files/610872.pdf.

[10] *See* https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_BEV.pdf.

[11] *See* https://www.dominionenergy.com/-/media/pdfs/virginia/business-rates/schedule-gs2.pdf?rev=81ebd0ea0e414c3fb7105666404be6f9.

successor rate to encourage EV fast charging is available to customers prior to the expiration of the EV-FC Pilot Rider.

Q: Does this conclude your testimony?

A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931, *et al.***
PECO Energy Company – Electric Division	**:**	

VERIFICATION

I, Lindsey Stegall, hereby state that the facts set forth in my Direct Testimony (Statement No. 1) and my Rebuttal Testimony 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.§ 4909 (relating to unsworn falsification to authorities).



Date: August 6, 2024

Lindsey Stegall

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931, *et al.***
PECO Energy Company – Electric Division	**:**	

SURREBUTTAL TESTIMONY OF LINDSEY R. STEGALL

ON BEHALF OF EVGO

AUGUST 2, 2024

SURREBUTTAL TESTIMONY
OF
LINDSEY R. STEGALL

I. INTRODUCTION AND PURPOSE OF TESTIMONY

Q. Please state your name, title and business address.

A. My name is Lindsey R. Stegall. I am a Senior Manager of Market Development and Public Policy at EVgo Services, LLC ("EVgo"). My business address is 11835 W. Olympic Blvd., Suite 900E, Los Angeles, CA 90064.

Q. Are you the same Lindsey Stegall that submitted direct testimony and rebuttal testimony on behalf of EVgo in this proceeding?

A. Yes.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to certain issues discussed by Company Witness Steven J. DeMott in his rebuttal testimony filed in this docket on July 16, 2024.

Q. How does Mr. DeMott respond to your direct testimony?

A. In his rebuttal testimony, Mr. DeMott disagrees with my recommendation that the Company be required to put forth a proposal for a permanent EV rate in its next rate case because "[i]t is unclear at this time whether a permanent demand forgiveness rate will be necessary to stimulate development of DCFC infrastructure to serve a growing transportation electrification market."[1]

Q. What is EVgo's response to this?

[1] PECO Statement 9-R DeMott at 15: 11-14.

A. As I clarified in my rebuttal testimony, I recommend the Company be required to propose a successor rate to the EV-FC Pilot Rider that will be available for a long duration, such as 10 years, and I recommend this rate be available to customers upon expiration of the Pilot Rider.[2] I am open to this rate not being permanent. As I clarified in my rebuttal testimony, longer term EV rates are increasingly common across the United States to support commercial EV charging. As I've noted, I support PECO's extension of the EV-FC Pilot Rider and suggest PECO continue offering a long term rate support following the expiration of the rider. This is in line with best practices for EV rates across the U.S., as utilities and public utilities commissions have recognized the need for long-term certainty to encourage investments in charging infrastructure.[3]

I recommend a long duration successor rate because public DCFC infrastructure has a unique load profile that makes it distinct from other commercial customers. Even as EV adoption increases, public DCFC stations will rarely achieve a load factor similar to other commercial use cases for which traditional commercial rates are designed. For this reason, there will almost always be a disproportionately high effective dollar per kilowatt-hour (kWh) cost to operate DCFC under traditional rate designs with high demand charges. However, demand charge alternative rates can provide a different structure to achieve the same, or similar, utility cost recovery as traditional rates. In other words, a properly designed rate structure that serves as an alternative to traditional demand-based structure does not necessarily negatively impact other utility ratepayers or act as a subsidy. When these rates are designed to be in effect for a longer term, it provides stability and predictability in the delivery rates charging operators will pay. This

[2] Stegall Rebuttal at 2.
[3] Stegall Rebuttal at 6-7.

in turn drives private investment in charging infrastructure in the state. Thus, contrary to Mr. DeMott's statement, some form of demand charge alternative rate provided for a long duration following the expiration of the pilot rider will be necessary to support sustained investments in DCFC infrastructure, and ultimately support EV adoption. Broader EV adoption leads to benefits for all ratepayers, as increased EV charging increases electric load and thereby spreads system costs over a greater volume of customers, causing downward pressure on future rates. In fact, a 2024 study by Synapse Economics found that across all regions in the United States, EVs have increased utility revenues more than they have increased utility costs, leading to downward pressure on electric rates for EV-owners and non-EV owners alike. Notably, between 2011 and 2021, Synapse estimates that EV drivers across the country have contributed $3.12 billion more in revenues than associated costs, driving rates down for all customers.[4]

Q. Is there any other aspect of Mr. DeMott's rebuttal testimony to which you wish to respond?

A. Yes. The Company suggests, "that as EV market penetration grows, well-sited and managed DCFC sites should be able to take advantage of that growth to achieve increasing capacity factors that enable them to be profitable without electric rate subsidies,"[5] pointing to three sites that have achieved monthly load factors of 40% or higher, repeatedly.[6] However, the Company does not provide data to support these claims nor do they define "well-sited or well-managed." Further, the Company does not

[4] Synapse Energy Economics, *Electric Vehicles Are Driving Rates Down for All Customers* (January 2024), https://www.synapse-energy.com/sites/default/files/Electric%20Vehicles%20Are%20Driving%20Rates%20Down%20for%20All%20Customer%20Update%20Jan%202024%2021-032.pdf at 3.
[5] PECO Statement 9-R DeMott at 12:14-16.
[6] *Id* at 12:17-21.

recognize the impact that higher usage has on customer experience as a higher load factor could mean that customers may have to wait in line to charge their vehicles.[7] As such, it is in the interest of drivers that EV charging operators seek to keep load factors at a reasonable level in order to optimize customer experience. This means EV charging operators may not always seek to maintain linear growth in load factors in order to minimize demand charges. If utilization grows too high, it results in insufficient charging options for drivers, and a need for more charging infrastructure to minimize customer queuing. Charging network operators can and should respond to market signals (e.g., high utilization) by building incremental infrastructure to meet growing consumer demand rather than optimizing demand charge avoidance alone. Otherwise, queuing would create customer inconvenience that could discourage EV adoption in the long-term.

Q: Does this conclude your surrebuttal testimony?

A. Yes.

[7] See., e.g., SCE Opening Comments, p. 4., https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M346/K822/346822212.PDF.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931, *et al.***
PECO Energy Company – Electric Division	**:**	

VERIFICATION

I, Lindsey Stegall, hereby state that the facts above set forth in my Surrrebuttal Testimony 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.§ 4909 (relating to unsworn falsification to authorities).



Date: August 2, 2024

Lindsey Stegall

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company - Electric Division	:	

LIST OF EVIDENCE TO BE ADMITTED INTO THE EVIDENTIARY RECORD BY THE OFFICE OF CONSUMER ADVOCATE

The Office of Consumer Advocate (OCA) intends to submit the following evidence into the evidentiary record in the above captioned proceedings at the evidentiary hearings scheduled for August 7, 8, 12 and 13, 2024.

DIRECT TESTIMONY

OCA Statement 1:	Public Version of Direct Testimony of John Defever consisting of 43 pages of testimony, Appendix I consisting of 6 pages, and Exhibit JD-E-1 consisting of Schedules A through C-20 and Exhibit JD-E-2 along with a signed verification of John Defever.
OCA Statement 1:	Confidential Version of Direct Testimony of John Defever consisting of 43 pages of testimony, Appendix I consisting of 6 pages, and Exhibit JD-E-1 consisting of Schedules A through C-20 and Exhibit JD-E-2 along with a signed verification of John Defever.
OCA Statement 2:	Direct Testimony of David J. Garrett consisting of 63 pages of testimony, Exhibits DJG-1 through DJG-16 and Appendices A-B along with a signed verification of David J. Garrett
OCA Statement 3:	Direct Testimony of Clarence L. Johnson consisting of 31 pages of testimony, Attachment A and Exhibit CJ-1 through CJ-3with a signed verification of Clarence L. Johnson.
OCA Statement 4:	Direct Testimony of Roger Colton consisting of 99 pages of testimony and Exhibits RDC-1 through RDC-10 with a signed verification of Roger Colton.
OCA Statement 5:	Public Version of Direct Testimony of Nicholas A. DeMarco consisting of 24 pages of testimony and Exhibits NAD-1 through NAD-2 with a signed verification of Nicholas A. DeMarco.

OCA Statement 5:	Confidential Version of Direct Testimony of Nicholas A. DeMarco consisting of 24 pages of testimony and Exhibits NAD-1 through NAD-2 with a signed verification of Nicholas A. DeMarco.
OCA Statement 6:	Public Version of Direct Testimony of Ron Nelson consisting of 31 pages of testimony and Exhibits RN-1 through RN-8 with a signed verification of Ron Nelson.
OCA Statement 6:	Confidential Version of Direct Testimony of Ron Nelson consisting of 31 pages of testimony and Exhibits RN-1 through RN-8 with a signed verification of Ron Nelson.

SUPPLEMENTAL DIRECT TESTIMONY

OCA Statement 5 Supp:	Supplemental Direct Testimony of Nicholas A. DeMarco consisting of 3 pages of testimony and Exhibit NAD-1-SD along with a signed verification of Nicholas A. DeMarco.

REBUTTAL TESTIMONY

OCA Statement 2R:	Rebuttal Testimony of David J. Garrett consisting of 2 pages of testimony and a signed verification of David J. Garrett
OCA Statement 3R:	Rebuttal Testimony of Clarence L. Johnson consisting of 11 pages of testimony, Exhibit CJ-1R and a signed verification of Clarence L. Johnson
OCA Statement 6R:	Rebuttal Testimony of Ron Nelson consisting of 4 pages of testimony with a signed verification of Ron Nelson.

SURREBUTTAL TESTIMONY

OCA Statement 1SR:	Surrebuttal Testimony of John Defever consisting of 20 pages of testimony along with a signed verification of John Defever.
OCA Statement 2SR:	Surrebuttal Testimony of David J. Garrett consisting of 9 pages of testimony along with a signed verification of David J. Garrett.
OCA Statement 3SR:	Surrebuttal Testimony of Clarence L. Johnson consisting of 13 pages of testimony and Exhibit CJ-1S along with a signed verification of Clarence L. Johnson.
OCA Statement 4SR:	Surrebuttal Testimony of Roger Colton consisting of 18 pages of testimony with a signed verification of Roger Colton.

OCA Statement 5SR:	Surrebuttal Testimony of Nicholas A. DeMarco consisting of 19 pages of testimony with a signed verification of Nicholas A. DeMarco.
OCA Statement 6SR:	Surrebuttal Testimony of Ron Nelson consisting of 14 pages of testimony and Exhibit RN-1-SR along with a signed verification of Ron Nelson.

ADDITIONAL EVIDENCE

OCA Hearing Exh. 1:	List of Evidence to be Admitted into the Evidentiary Record by the Office of Consumer Advocate
OCA Hearing Exh. 2:	PECO responses to Interrogatories OCA-22-1 through OCA-22-5, including Attachments OCA-22-1 (a-b) and OCA-22-2 (a-b)

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 22

Response Date: July 30, 2024

OCA-22-1

Please reference page 50 of Company Witness Golden's Rebuttal testimony. She states that "If PECO were to include these third-party processing vendor fees in its revenue requirement, this could potentially increase the revenue requirement by a minimum of five million dollars ($5,000,000) annually for residential payments".

a. Please provide the computation and methods used to estimate this number.
b. Please provide the calculations in a live excel spreadsheet.
c. Please identify the source for each individual input used in the computation, including a reference to the Company's rate filing, testimony, exhibits, or discovery replies as applicable.

RESPONSE:

a. The computation utilizes the volume of 2023 customer payments (i.e. residential eCheck pay as guest, debit and credit cards) multiplied by the payment fee amount. Refer to Attachment OCA-22-1(a-b).
b. Refer to Attachment OCA-22-1(a-b).
c. Not applicable.

Responsible Witness: Jacqueline F. Golden

Attachment OCA-22-1(a-b)

Total Fee Based Payments for Residential eCheck Pay as Guest, Credit Cards, and Debit Cards -2023

Volume of Payments	Payment Fee	Total Fee Amount
3,198,066	$1.75	$5,596,616

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 22

Response Date: July 30, 2024

OCA-22-2

Please reference page 50 of Company Witness Golden's Rebuttal testimony. Ms. Golden states "fees assessed for payments made outside of PECO's no-fee payment options are primarily associated with the processing of debit and credit card payments and are collected by the third-party processing vendor."

a. For the most recent 24 months available, provide:
    i. The monthly number of residential payments by credit card and the fee charged per transaction;
    ii. The monthly number of residential payments by debit card and the fee charged per transaction.
b. Please explain what other residential payment transactions result in fees assessed, other than payment by credit card or payment by debit card.
    i. For the most recent 24 months available, provide a monthly break-out for each other type of residential payment transaction and the associated fee assessed per transaction.

RESPONSE:

a. Refer to Attachment OCA-22-2(a). Payment fees are not disaggregated by electric and gas.
b. Residential payment transactions resulting in fees assessed, other than payment by credit card or payment by debit card include eCheck pay as guest and walk in

payment transaction fees at authorized payment locations, which are subsequently credited to the customer's account by PECO. Refer to Attachment OCA-22-2(b).

Responsible Witness: Jacqueline F. Golden

Credit Card Volume

Month	22-Jul	22-Aug	22-Sep	22-Oct	22-Nov	22-Dec	23-Jan	23-Feb	23-Mar	23-Apr	23-May	23-Jun	23-Jul	23-Aug	23-Sep	23-Oct	23-Nov	23-Dec	24-Jan	24-Feb	24-Mar	24-Apr	24-May	24-Jun	Total
Volume	251,929	293,691	278,134	276,807	253,378	228,761	235,001	231,700	262,345	252,442	298,845	288,719	279,931	297,988	283,692	302,598	264,583	226,962	282,990	362,775	247,188	269,742	261,938	234,287	6,466,426
Fee	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75
Total	$440,875.75	$513,959.25	$486,734.50	$484,412.25	$443,411.50	$400,331.75	$411,251.75	$405,475.00	$459,103.75	$441,773.50	$522,978.75	$505,258.25	$489,879.25	$521,479.00	$496,461.00	$529,546.50	$463,020.25	$397,183.50	$495,232.50	$634,856.25	$432,579.00	$472,048.50	$458,391.50	$410,002.25	$11,316,245.50

Debit Card Volume

Month	22-Jul	22-Aug	22-Sep	22-Oct	22-Nov	22-Dec	23-Jan	23-Feb	23-Mar	23-Apr	23-May	23-Jun	23-Jul	23-Aug	23-Sep	23-Oct	23-Nov	23-Dec	24-Jan	24-Feb	24-Mar	24-Apr	24-May	24-Jun	Total
Volume	33,982	44,664	44,338	44,105	39,046	47,595	47,629	46,238	46,599	44,691	47,212	46,787	45,630	47,077	43,950	47,040	39,243	35,742	39,968	44,854	51,068	49,494	50,019	45,136	1,072,107
Fee	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75
Total	$59,468.50	$78,162.00	$77,591.50	$77,183.75	$68,330.50	$83,291.25	$83,350.75	$80,916.50	$81,548.25	$78,209.25	$82,621.00	$81,877.25	$79,852.50	$82,384.75	$76,912.50	$82,320.00	$68,675.25	$62,548.50	$69,944.00	$78,494.50	$89,369.00	$86,614.50	$87,533.25	$78,988.00	$1,876,187.25

Walk-In Payments

Month	22-Jul	22-Aug	22-Sep	22-Oct	22-Nov	22-Dec	23-Jan	23-Feb	23-Mar	23-Apr	23-May	23-Jun	23-Jul	23-Aug	23-Sep	23-Oct	23-Nov	23-Dec	24-Jan	24-Feb	24-Mar	24-Apr	24-May	24-Jun	Total
Volume	22,748	28,372	24,544	24,629	22,993	21,818	21,848	20,955	22,496	19,965	23,851	21,990	21,496	22,682	20,733	22,825	20,658	18,517	19,848	18,181	18,219	21,801	20,242	18,193	519,604
Fee	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00
Total	$45,496.00	$56,744.00	$49,088.00	$49,258.00	$45,986.00	$43,636.00	$43,696.00	$41,910.00	$44,992.00	$39,930.00	$47,702.00	$43,980.00	$42,992.00	$45,364.00	$41,466.00	$45,650.00	$41,316.00	$37,034.00	$39,696.00	$36,362.00	$36,438.00	$43,602.00	$40,484.00	$36,386.00	$1,039,208.00

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 22

Response Date: July 30, 2024

OCA-22-3

When was the last time PECO negotiated the fees collected by third-party processing vendors for credit and debit cards?

RESPONSE:

The fees collected by third-party processing vendors for credit and debit cards was last negotiated by PECO in Q1 2024.

Responsible Witness: Jacqueline F. Golden

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 22

Response Date: July 30, 2024

OCA-22-4

Reference page 49 of Company Witness Golden's Rebuttal testimony, where Ms. Golden states "Additionally, while a payment fee initially is charged to customers who make payments at authorized bill payment locations (e.g., large retail stores and drug stores) via check, cash, or credit card, payment fees collected are reimbursed to 15 the customer on their next bill." Why has PECO not arranged for these authorized bill payment locations to direct bill PECO for the fees assessed? Please explain.

RESPONSE:

PECO has not conducted an analysis to determine if functionality exists and, if so, what process, IT, and administrative changes and associated costs would be required to implement direct billing to the Company by the authorized bill payment locations for fees assessed.

Responsible Witness: Jacqueline F. Golden

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 22

Response Date: July 30, 2024

OCA-22-5

When was the last time PECO negotiated the arrangement with authorized bill payment locations for in-person payments, including the level of fees collected by those locations?

RESPONSE:

The last time PECO negotiated the arrangement with authorized bill payment locations for in-person payments was Q1 2022.

Responsible Witness: Jacqueline F. Golden

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	)	
	)	
v.	)	Docket No. R-2024-3046931
	)	
PECO Energy Company - Electric Division	)	

DIRECT TESTIMONY OF
JOHN DEFEVER, CPA

ON BEHALF OF

THE OFFICE OF CONSUMER ADVOCATE

JUNE 17, 2024

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APPENDIX:

Appendix I, Experience and Qualifications

EXHIBITS:

JD-E-1, Schedules showing Revenue Requirement, Rate Base, Net Operating Income and Adjustments

JD-E-2, Schedules showing alternative rate of return and revenue requirement impact calculations that OCA requested be performed

INTRODUCTION

Q. WHAT IS YOUR NAME, OCCUPATION AND BUSINESS ADDRESS?

A. My name is John Defever. I am a Certified Public Accountant, licensed in the State of Michigan. I am a senior regulatory consultant in the firm of Larkin & Associates, PLLC, with offices at 15728 Farmington Road, Livonia, Michigan.

Q. PLEASE DESCRIBE THE FIRM LARKIN & ASSOCIATES, PLLC.

A. Larkin & Associates, PLLC is a Certified Public Accounting and Regulatory Consulting Firm. The firm performs independent regulatory consulting primarily for public service/utility commission staffs and consumer interest groups (public counsels, public advocates, consumer counsels, attorneys general, etc.). Larkin & Associates, PLLC, has extensive experience in the utility regulatory field as expert witnesses in over 600 regulatory proceedings including numerous electric, gas, water and sewer, and telephone utilities.

Q. HAVE YOU PREPARED AN EXHIBIT DESCRIBING YOUR QUALIFICATIONS AND EXPERIENCE?

A. Yes. I have attached Appendix I, which summarizes my experience and qualifications.

Q. ON WHOSE BEHALF ARE YOU APPEARING?

A. Larkin & Associates, PLLC was retained by the Office of Consumer Advocate ("OCA") to conduct a review of PECO Energy Company – Electric Division's ("PECO Electric") or ("Company") proposed revenue requirement. Accordingly, I am appearing on behalf of the OCA.

Q. PLEASE SUMMARIZE THE TESTIMONY OF THE OCA'S OTHER EXPERTS IN THIS PROCEEDING.

A. OCA's witness touch on most all aspects of the Company's rate case.

- Mr. David J. Garrett, OCA Statement 2, addresses the appropriate capital structure for ratemaking, the return on equity, and PECO's request for an additional 15 basis points for "superior" management performance. He recommends a market-based return on equity of 9.2% based on the analytical methods he used. Mr. Garrett also proposes a capital structure of 50% debt and 50% equity, as more reasonable and between the Company's equity-rich capital structure and average debt and equity ratio of the proxy group companies used to assess PECO's cost of equity. His adjustments reduce the revenue requirement impact by $148.209 million per year. (Exhibit JD-E-2, p. 4)
- Mr. Clarence Johnson, OCA Statement 3, is the OCA's expert witness on cost-of-service studies, revenue allocation, rate structure and rate design. Mr. Johnson provides adjustments to the Company's cost of service, which reveal that residential customers are being allocated a disproportionate share of costs under PECO's proposed cost of service study. He further provides recommendations regarding proposed rate designs to reduce inter-class cost shifting onto residential customers while promoting energy efficiency and affordability.
- Mr. Roger Colton, OCA Statement 4, addresses the impact of the Company's existing and proposed rates on low-income customers. He recommends changes in the Company's procedures and processes to address PECO's under-enrollment of CAP customers, high number of unsuccessful payment arrangements, and other concerns pertaining to affordability. Mr. Colton also demonstrates that the customer charge proposals will disproportionately harm low-income customers. He also addresses PECO's performance in key areas that impact customers.

- Mr. Nicholas DeMarco, OCA Statement 5, provides an analysis and recommendations regarding customer-service issues, including certain provisions of the Company's tariffs and management performance.

- Mr. Ron Nelson, OCA Statement 6, addresses PECO Electric's proposals to both modify and extend its existing Electric Vehicle (EV) Pilot Programs. Mr. Nelson provides a comprehensive analysis of PECO's existing EV Pilot Program to better inform the impact of PECO's modification and extension proposals. Mr. Nelson makes recommendations that are necessary to both protect consumers and to ensure that PECO's EV programming is consistent with its goals. These goals include gaining a better understanding of commercial and industrial load profile for Level 2 EV charging and informing future rate design and distribution system planning for PECO.

ORGANIZATION

Q. HOW WILL YOUR TESTIMONY BE ORGANIZED?

A. The testimony is organized as follows: Introduction, Overall Financial Summary, and Operating Income.

OVERALL FINANCIAL SUMMARY

Q. HAVE YOU PREPARED ANY EXHIBITS IN SUPPORT OF YOUR TESTIMONY?

A. Yes. I have prepared Exhibit JD-E-1, consisting of Schedules A, B, C, and D with supporting Schedules B-1 and C-1 through C-20.

Q. HAVE YOU INCORPORATED THE RECOMMENDATIONS OF OTHER OCA WITNESSES IN YOUR SUMMARY SCHEDULES?

A. Yes, I have incorporated the capital structure and rate of return recommendations of OCA witness David Garrett, set forth in OCA Statement 2.

Q. PLEASE DISCUSS SCHEDULE A OF EXHIBIT JD-E-1, WHICH IS ENTITLED "OVERALL FINANCIAL SUMMARY."

A. Schedule A presents the overall financial summary for the Fully Projected Future Test Year ("FPFTY") (December 2025) giving effect to all the adjustments I recommend in my testimony, and the rate of return sponsored by Mr. Garrett.

The rate base and operating income amounts for the FPFTY are taken from Schedules B and C, respectively. The overall rate of return of 6.89%, for the FPFTY as presented in the pre-filed testimony of OCA Witness David Garrett, is provided on Schedule D for convenience. The income deficiency shown on line 5 is obtained by subtracting the achieved operating income on line 3 (adjusted operating income) from the required operating income on line 4. The income deficiency is then grossed up by the Gross Revenue Conversation Factor (line 6)[1] to calculate the recommended revenue increase on line 7.

[1] The calculation of the gross revenue conversion factor is shown on Exhibit JD-E-1, Schedule A-1 GRCF.

Q. PLEASE DISCUSS SCHEDULE B, WHICH SUMMARIZES RATE BASE, AS ADJUSTED.

A. Adjusted rate base amounts are taken from PECO Electric's Schedule A-1. The adjustment I recommend to the FPFTY rate base amount is illustrated on Schedule B.

Q. PLEASE DISCUSS SCHEDULE C, WHICH SUMMARIZES NET OPERATING INCOME, AS ADJUSTED.

A. My recommended adjustments to PECO's Electric's expenses for the FPFTY that are presented in this testimony are provided on Schedule C. Schedules C-1 through C-20 provide further support and calculations for the adjustments I recommend.

Q. BASED ON THE OCA'S REVIEW OF PECO ELECTRIC'S FILING, WHAT CHANGE IN REVENUE REQUIREMENT IS THE OCA RECOMMENDING AT THIS TIME?

A. Based on the adjustments that have been quantified to date, coupled with the OCA's recommended overall rate of return of 6.89%, and adjusted ratemaking capital structure of 50% debt and 50% equity, the result is a revenue increase of $271,294,000 for the FPFTY (twelve months ended December 31, 2025). (Exhibit JD-E-1, Schedule A). I am accepting PECO's proposed one-time credit of $64 million, resulting in a net electric rate increase of $207,294,000 in 2025.

Q. DID YOU PERFORM ADDITIONAL CALCULATIONS WITH REGARD TO PECO'S CAPITAL STRUCTURE AND RETURN ON EQUITY ("ROE") AT OCA'S REQUEST?

A. Yes. I was requested by OCA to perform additional calculations with regard to PECO's requested capital structure and ROE. Specifically, OCA requested I perform the following calculations:

- Calculate the revenue requirement impact of 15 basis points ROE change using PECO's rate base and capital structure.

  Calculate the revenue requirement impact of comparing the difference between PECO's proposed capital structure and OCA's recommended capital structure using PECO's rate base.

- Calculate the revenue requirement impact of comparing the difference between PECO's proposed ROE of 10.95 percent and OCA's recommended ROE of 9.2 percent using PECO's rate base.

- Calculate the revenue requirement impact of comparing the difference between PECO's proposed capital structure and ROE and OCA's recommended capital structure and ROE using PECO's rate base.

Q. WHAT IS THE IMPACT ON THE REVENUE REQUIREMENT OF ADOPTING THE COMPANY'S PERFORMANCE-BASED ADDER TO ROE OF 15 BASIS POINTS?

A. As shown on Exhibit JD-E-2, page 1, the impact of a 15-basis points ROE change, at PECO's claimed rate base and proposed capital structure, is approximately $10.471 million.

Q. WHAT IS THE IMPACT ON THE REVENUE REQUIREMENT OF ADOPTING THE OCA'S RECOMMENDED CAPITAL STRUCTURE OVER PECO'S PROPOSED CAPITAL STRUCTURE?

A. As shown on Exhibit JD-E-2, page 2, line 14, the impact on the revenue requirement of adopting the OCA's recommended capital structure over PECO's proposed capital structure, at PECO's claimed rate base and at PECO's proposed ROE of 10.95 percent, is a reduction of approximately $33.166 million.

Q. WHAT IS THE IMPACT ON THE REVENUE REQUIREMENT OF ADOPTING THE OCA'S RECOMMENDED 9.2 PERCENT ROE OVER PECO'S PROPOSED ROE OF 10.95 PERCENT?

A. As shown on Exhibit JD-E-2, page 3, line 12, the revenue requirement impact of adopting the OCA's recommended 9.2 percent ROE over PECO's proposed 10.95 percent ROE is a reduction of approximately $122.886 million.

Q. WHAT IS THE IMPACT ON THE REVENUE REQUIREMENT OF ADOPTING OCA'S RECOMMENDED CAPITAL STRUCTURE AND ROE?

A. As shown on Exhibit JD-E-2, page 4, line 14, the impact of OCA's versus PECO's proposed capital structure and ROE using PECO's rate base,

reduces PECO's proposed revenue deficiency by approximately $148.209 million.

Q. PLEASE DESCRIBE THE COMPANY'S REQUEST.

A. On March 28, 2024, PECO Electric filed a base rate case with the Pennsylvania Public Utility Commission ("Commission") requesting an overall increase in rates for its electric distribution service of approximately $464 million or 29.2% above current operating revenue. In addition, PECO proposes a one-time credit of $64 million, which results in a net electric rate increase of $399 million in 2025. (Nicole Levine Direct Testimony, page 5; PECO Exhibit JAB-1). PECO Electric last filed for a rate increase in 2021.

OPERATING INCOME

Payroll

Q. WHAT AMOUNTS HAS THE COMPANY INCLUDED IN THE FPFTY FOR PAYROLL?

A. The Company has included $173,658,000 in the FPFTY. (MJT-1 Schedule D-6)

Q. DO YOU AGREE WITH THE COMPANY'S REQUEST?

A. No. In my opinion, the Company's request is overstated based on the historical record. The chart below compares the Company's budgeted to actual Full Time Equivalent employees ("FTEs"). (OCA-V-16(b))

Budgeted to Actual FTEs 2019-2023

	2019			2020			2021			2022			2023		
	Actual	Budget	Vacancies	Actual	Budget	Vacancies	Actual	Budget	Vacancies	Actual	Budget	Vacancies	Actual	Budget	Vacancies
Jan	1,907	2,000	(93)	1,963	2,060	(97)	1,998	2,064	(66)	2,042	2,117	(75)	2,103	2,184	(81)
Feb	1,913	2,016	(103)	1,987	2,064	(77)	1,995	2,059	(64)	2,053	2,120	(67)	2,108	2,197	(89)
Mar	1,903	2,003	(100)	1,976	2,060	(84)	1,984	2,062	(78)	2,046	2,128	(82)	2,129	2,204	(75)
Apr	1,925	2,028	(103)	1,982	2,065	(83)	1,975	2,062	(87)	2,016	2,140	(124)	2,137	2,212	(75)
May	1,921	2,052	(131)	1,976	2,058	(82)	1,967	2,057	(90)	2,033	2,149	(116)	2,137	2,213	(76)
Jun	1,918	2,051	(133)	1,987	2,084	(97)	2,023	2,103	(80)	2,027	2,166	(139)	2,141	2,220	(79)
Jul	2,018	2,135	(117)	2,022	2,103	(81)	1,980	2,120	(140)	2,037	2,166	(129)	2,145	2,229	(84)
Aug	2,010	2,124	(114)	2,034	2,101	(67)	1,987	2,117	(130)	2,043	2,176	(133)	2,165	2,230	(65)
Sep	2,021	2,136	(115)	2,029	2,118	(89)	2,023	2,158	(135)	2,076	2,189	(113)	2,229	2,244	(15)
Oct	2,013	2,125	(112)	2,020	2,112	(92)	2,026	2,155	(129)	2,070	2,195	(125)	2,218	2,246	(28)
Nov	2,007	2,121	(114)	2,021	2,108	(87)	2,033	2,153	(120)	2,087	2,189	(102)	2,215	2,247	(32)
Dec	1,998	2,118	(120)	2,023	2,105	(82)	2,030	2,162	(132)	2,086	2,188	(102)	2,213	2,246	(33)
Avg Vacancies		(94.4)													
Avg Budgeted		2,130.2													
Vacancy %		4.43%													

As shown, over the last five years the Company has averaged 94.4 vacancies.

Q. DID THE COMPANY EMPLOY A VACANCY FACTOR IN ITS CALCULATION?

A. Yes, the Company used a vacancy factor of 2%. (OCA-V-17). However, based on the historical record, this factor is too low as the Company actually averaged a vacancy level of 4.4%.

Q. WHY IS THE CORRECT VACANCY FACTOR IMPORTANT?

A. Vacancies represent costs for payroll, benefits and taxes recovered from ratepayers for employees that have not been hired or have not been

retained. Ratepayers should not be responsible for costs related to nonexistent employees.

Q. WHAT DO YOU RECOMMEND?

A. I recommend the use of a vacancy factor of 4.4% instead of the proposed 2%. This is a reduction to payroll of $4,164,000 as shown on Exhibit JD-E-1 Schedule C-1.[2] This adjustment also results in reductions to payroll tax and benefits, as discussed below.

Incentive Compensation

Q. HAS THE COMPANY INCLUDED INCENTIVE COMPENSATION IN THE FPFTY?

A. The Company has included $17,042,000 in the FPFTY for incentive compensation expense. (OCA-IV-52)

Q. DO YOU HAVE ANY CONCERNS WITH THE COMPANY'S INCENTIVE COMPENSATION?

A. Yes. The incentive compensation plan, as designed, appears to provide insufficient motivation. If employees are not motivated by the plan, ratepayers are not benefited.

[2] Note I have excluded the union ratification payment from my payroll adjustment as I am making a separate adjustment for this which is discussed later in my testimony.

Q. IN WHAT MANNER DOES THE INCENTIVE COMPENSATION PLAN PROVIDE INSUFFICIENT MOTIVATION?

A. By definition, an incentive compensation plan should provide employees with an incentive to greater achievement. The plan should provide awards for employees that reach certain goals that benefit customers to inspire extra effort while underperforming employees would not receive an award. The Company's plan, however, rewards every eligible employee. The Company's response to OCA-IV-44 states the following:

> There were incentive payments made to all eligible employees in the plan years 2018 through 2023.

PECO has made no showing that every employee is exceeding expectations, and it is not reasonable to expect that is the case, which means the plan also rewards employees that are only meeting or even failing to meet expectations. Ratepayers should not be responsible for additional awards provided for standard or less than standard performance.

Although the Company has identified goals tied to customer benefits, to the extent that an employee can assume that a bonus will be received, the motivational factor is diminished and ratepayers do not receive the intended benefit. Such a plan can also result in a disincentive to overperforming employees that know that their underperforming coworkers will also receive a bonus.

Q. DOES THE COMPANY HAVE ANY STUDIES OR ANALYSES THAT DEMONSTRATE THAT RATEPAYERS BENEFIT FROM THE PLAN?

A. No, the Company states that it does not have any such studies. (OCA-IV-46). This is another basis for denial of PECO's incentive compensation expense claim.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT?

A. Arguably, based on the insufficient motivation provided by the plan and the lack of evidence provided by the Company; it could be recommended that all incentive compensation be denied rate recovery. However, I recommend a more moderate approach of sharing incentive compensation costs between shareholders (50%) and ratepayers (50%), resulting in a reduction of 50% of the costs imposed on ratepayers. This results in a reduction of $8,521,000 to the FPFTY which is shown on Exhibit JD-E-1, Schedule C-2. I consider this to be a conservative adjustment because, as stated, the plan has not been demonstrated to motivate better performance by employees.

Employee Recognition/Service Awards

Q. DOES THE COMPANY REQUEST RECOVERY OF EMPLOYEE RECOGNITION/SERVICE AWARDS IN THE FPFTY?

A. Yes, the Company requests recovery of $115,490 for employee recognition/service awards in the FPFTY. (OCA-IV-34)

Q. WHAT IS INCLUDED IN THESE COSTS?

A. These costs include pins and small gifts for years of service. (Id.)

Q. ARE THESE AWARDS NECESSARY FOR THE PROVISION OF SERVICE?

A. No.

Q. DO RATEPAYERS BENEFIT FROM SUCH AWARDS?

A. Such awards have not been demonstrated by the Company to benefit ratepayers.

Q. WHAT DO YOU RECOMMEND?

A. If the Company wants to provide such awards it should be at shareholder, not ratepayer expense. I recommend disallowance of this expense, a reduction of $115,490 to the FPFTY as shown on Exhibit JD-E-1, Schedule C-3.

Supplemental Executive Retirement Plan

Q. WHAT AMOUNT HAS THE COMPANY INCLUDED FOR SUPPLEMENTAL EXECUTIVE RETIREMENT PLAN ("SERP") EXPENSE?

A. The Company has included $289,259 for SERP in the FPFTY. (OCA-V-38)

Q. PLEASE PROVIDE A GENERAL DESCRIPTION OF SERP.

A. In general, SERP is an additional retirement benefit for a select few highly compensated executives exceeding IRS limits for qualified pension plans. It is not based upon performance criteria, but upon employment.

Q. DO RATEPAYERS BENEFIT FROM THIS EXPENSE?

A. No. The Company has not demonstrated that the SERP has any connection to any metrics regarding the provision of utility service. In addition, [redacted] (OCA-V-40 Confidential)

Q. SHOULD RATEPAYERS BE RESPONSIBLE FOR THE COSTS OF THIS EXPENSE?

A. No. If the Company wants to provide this generous benefit to employees, the costs should be borne by the Company's shareholders, not

ratepayers. These costs benefit top executives rather than benefit ratepayers. The issue is not whether the utility may provide compensation to select executives in excess of the retirement limits allowed by the IRS, but if the Company chooses to do so, then shareholders rather than ratepayers should be responsible for the retirement benefits afforded only to those executives.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT?

A. I the disallowance of all SERP costs, a reduction of $289,259 in the FPFTY. This adjustment is shown on Exhibit JD-E-1, Schedule C-4.

Q. IS THIS ADJUSTMENT CONSISTENT WITH DECISIONS IN PENNSYLVANIA?

A. Yes. In a recent Aqua Pennsylvania, Inc. base rate case, the Pennsylvania Public Utility Commission disallowed that utility's entire claim, based on its agreement with the OCA that customers "who receive no benefit from and have no ties to the SERP, should not be required to fund these costs."[3]

[3] *Pennsylvania Public Utility Commission v. Aqua Pennsylvania, Inc.*, Docket No. R-2021-3027385, May 16, 2022 Opinion and Order, at 101-105.

Q. IS THIS ADJUSTMENT CONSISTENT WITH DECISIONS IN OTHER JURSIDICTIONS?

A. Yes, in Docket No. 13-02-20 in Connecticut, the Authority disallowed SERP expense (Final Decision dated September 24, 2013, pp. 66-67). I am aware that recovery of SERP has been disallowed in other states.[4]

Severance

Q. WHAT AMOUNT HAS THE COMPANY REQUESTED FOR SEVERANCE EXPENSE?

A. The Company has requested severance expense of $510,000. (OCA-V-42)

Q. SHOULD RATEPAYERS BE RESPONSIBLE FOR THESE COSTS?

A. No. This expense is more appropriately borne by the Company's shareholders. Ratepayers should not be responsible for costs for these employees that are no longer providing utility service. The Company may choose to spend these amounts, but shareholders should be responsible for the costs that are not necessary for the provision of utility service. It should also be noted that the Company states that it has no plans to

[4] *See, e.g.*, *Pacificorp, d/b/a Rocky Mountain Power*, Idaho Public Utilities Commission Case No. PAC-E-10-07, at 20-21 (2011); *Potomac Electric Power Company*, District of Columbia Public Service Commission Formal Case No. 939, at 122-128 (1995); *UNS Electric, Inc.,* Arizona Corporation Commission Docket No. E-04204A-09-0206, at 30-31 (2010); *Potomac Electric Power Company*, Maryland Public Service Commission Case No. 9311, at 59-61 (2013).

terminate employees in the Future Test Year ("FTY") or FPFTY. (OCA-V-42). Since ratemaking is prospective, this is all the more reason to disallow this expense.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT?

A. I recommend disallowance of this expense, a reduction of $510,000 in the FPFTY as shown on Exhibit JD-E-1, Schedule C-5.

Employee Cafeteria

Q. WHAT AMOUNT HAS THE COMPANY INCLUDED FOR THE EMPLOYEE CAFETERIA?

A. The Company requests $121,810 for the employee cafeteria. (OCA-IV-39)

Q. WHAT IS INCLUDED IN THESE COSTS?

A. These costs include preventative and corrective maintenance, consumable materials, kitchen equipment service vendors to maintain cafeteria machines, and a monthly expense for a third-party cafeteria operator. (OCA-9-7)

Q. SHOULD THE COMPANY'S CUSTOMERS BE RESPONSIBLE FOR THESE COSTS?

A. No. Ratepayers should not be responsible for these costs related to providing meals to employees. These costs are not related to, or necessary for, the safe or reliable provision of service nor do ratepayers benefit from them. In addition, the cafeteria is located in PECO's main office building on Market Street in Center City, Philadelphia, and PECO acknowledges there are nearby restaurants and stores offering food and drink within walking distance. (OCA-9-7)

Q. WHAT DO YOU RECOMMEND?

A. I recommend disallowing this entire expense from the FPFTY. This is a reduction of $121,810 as shown on Exhibit JD-E-1, Schedule C-6.

Board of Directors

Q. HAS THE COMPANY INCLUDED COSTS FOR BOARD OF DIRECTORS EXPENSE?

A. Yes. The Company has included $921,000 in the FPFTY. (OCA-IV-4)

Q. SHOULD BOARD OF DIRECTORS COSTS BE RECOVERABLE FROM RATEPAYERS?

A. Not entirely. The Board of Directors serves the interests of the Company's shareholders. As such, the Company's shareholders are the primary beneficiaries of these costs and should bear the lion's share of the costs.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the costs be shared 75/25 by shareholders and ratepayers, respectively. However, the board of directors expense includes costs for corporate air travel, which I address below. To avoid removing the same expense twice, I have removed the corporate air travel component from my calculation of my board of directors adjustment. This results in a reduction of $534,000 to the FPFTY as shown on Exhibit JD-E-1, Schedule C-7.

Directors and Officers Liability Insurance

Q. WHAT AMOUNT HAS THE COMPANY REQUESTED FOR DIRECTORS AND OFFICERS LIABILITY INSURANCE ("D&O").

A. The Company requests $1.167 million for D&O in FPFTY. (OCA-IV-25)

Q. WHAT IS THE PURPOSE OF D&O?

A. D&O protects the Company and its officers from lawsuits that arise as a result of their decisions and actions. Such lawsuits are often brought by the Company's shareholders.

Q. SHOULD RATEPAYERS BE SOLELY RESPONSIBLE FOR THESE COSTS?

A. No. Because the Company and its shareholders are the primary beneficiaries of this insurance, they should be responsible for a larger portion of the costs.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT?

A. The recommended adjustment is a 75/25 sharing of D&O costs between shareholders and ratepayers, respectively. This is a reduction of $875,250 ($1.167 million x 75%) FPFTY, as shown on Exhibit JD-E-1, Schedule C-8.

Storm Expense

Q. PLEASE ADDRESS PECO'S CLAIMS REGARDING STORM EXPENSE IN THIS PROCEEDING.

A. PECO proposes to establish a new Storm Reserve Account in this case. I address the reasons why that proposal should be denied, later in my

testimony. Here, I address the Company's normalized storm damage expense claim and my recommended adjustments.

Q. PLEASE DISCUSS THE COMPANY'S REQUEST FOR STORM EXPENSE COSTS.

A. The Company included $68,921,000 in the FPFTY for storm expense. (Exhibit MJT-1 Schedule D-13). The Company calculated a five-year average from April 1, 2019 through March 31, 2024. The Company acknowledged that it used costs outside the test year to reflect the impact of a major storm event that occurred January 2024. (IE-I – RE-31)

Q. DO YOU AGREE WITH THIS METHODOLOGY?

A. I do not. The Company's use of a period outside of the test year to include a specific storm constitutes cherry-picking and is inappropriate.

Q. DO YOU HAVE ANY OTHER CONCERNS WITH THE COMPANY'S CALCULATION OF STORM EXPENSE?

A. Yes. The Company also used an inflation factor in its calculation. (Exhibit MJT-1, Schedule D-13)

Q. WHY IS THIS OF CONCERN?

A. Assumed inflation is inappropriate. Not all costs can be assumed to increase. The following chart shows the storm expense for the prior 5 calendar years. (IE-I-RE-32)

Storm Expense	
2019	$35,910,797
2020	$114,915,918
2021	$53,653,927
2022	$22,260,241
2023	$41,173,459
AVG	$53,582,868

As shown, this cost fluctuates significantly from year to year. As such, assumed inflation is unwarranted.

Also, the Company's inflation adjustments are not known and measurable, as they do not reflect the true cost of the expense. Inflation adjustments are typically blanket adjustments or increases/decreases which do not directly relate to actual costs expected to be incurred by the Company in the period in which new rates are to be set. Cost should be based upon evidence or documentation that supports the Company's adjustments.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend the use of a five-year average using the test year and the four prior calendar years, without an inflation factor. This method results in

storm expense of $53,582,868, a reduction of $15,338,132 in FPFTY. This adjustment is shown on Exhibit JD-E-1, Schedule C-9.

Non-Industry Dues

Q. WHAT AMOUNT HAS THE COMPANY REQUESTED FOR NON-INDUSTRY DUES?

A. In the FPFTY, the Company requests $258,829 for non-industry dues including $136,455 not related to chambers of commerce. (OCA-IV-27 revised)

Q. DID THE COMPANY IDENTIFY THE NON-INDUSTRY ORGANIZATIONS TO WHICH IT PAYS DUES?

A. Yes. The Company includes dues to such organizations as chambers of commerce, Wildlife Habitat Council, and the Pennsylvania Economy League Southeastern Pa. (Id.)

Q. SHOULD RATEPAYERS FUND THESE DUES?

A. No. These non-industry membership dues do not appear to provide specific benefits to ratepayers. When the Company was asked to provide documentation for benefits to ratepayers provided by such memberships the Company stated the following:

> …non-Industry memberships provide PECO engagement with organizations that promote commerce, the interests of PECO's

> commercial and industrial customers, and the residents of PECOs service territory overall. Membership in these organizations benefits customers by engaging with diverse interests in the business community and promoting socially responsible partnerships to help grow the local economy. (Id.)

The Company's description of the *possibility* of such generic benefits does not justify passing the costs onto ratepayers.

Also, these expenses relate primarily to societal, economic, and civic issues, which I believe do not directly benefit ratepayers in the provision of utility services. The memberships are purely discretionary costs on the part of the Company and, if the Company wants to provide this funding, the Company's shareholders should pay for these costs, and not expect ratepayers to fund its choices.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT?

A. Due to Commission precedent allowing chambers of commerce expense, I recommend the disallowance of all non-industry dues expense not related to chambers of commerce, a reduction of $136,455 to the FYFTY as shown on Exhibit JD-E-1, Schedule C-10.

Q. IS THIS ADJUSTMENT CONSISTENT WITH DECISIONS IN PENNSYLVANIA?

A. The Commission has frequently held that expenses that do not provide direct benefits to ratepayers cannot be included in rates. This has included

lobbying expenses and expenses for employee entertainment and gifts, because they are not necessary to the provision of quality service or provide a direct benefit to ratepayers. Membership dues for civic, societal and economic issues are similar to lobbying expenses in that both expenses are not necessary in the provision of utility service and do not provide direct benefit to ratepayers. Also, the memberships are purely discretionary costs on the part of the Company and, if the Company wants to provide this funding, the Company's shareholders should pay for these costs, and not expect ratepayers to fund its choices.

While the purpose of some of these groups may be commendable, that does not make them recoverable through rates. This is consistent with Commission decisions holding that charitable contributions are not permitted to be recovered from ratepayers.

Industry Dues

Q. HAS THE COMPANY INCLUDED INDUSTRY DUES IN THE FPFTY?

A. Yes. The Company has included $1,761,580 for industry dues in the FPFTY. (OCA-IV-26(a) Revised). The Company projects increases to industry dues in 2024 and 2025 over the Historic Test Year ("HTY") level. (Id.)

Q. DO YOU HAVE ANY CONCERNS WITH THE COMPANY'S REQUEST?

A. Yes, I discuss my concerns below.

Q. WHAT IS YOUR FIRST CONCERN?

A. My first concern is the Company's projection of increases for these costs. As the chart below shows, industry dues costs have fluctuated from 2018-2023 rather than continuously increasing.

Industry Organization	2018 Actuals	2019 Actuals	2020 Actuals	2021 Actuals	2022 Actuals	2023 Actuals	2024 Budget	2025 Budget
Arizona State University				$ 4,233				
Association of Energy Services				$ 25,000	$ 21,250	$ 21,250		
Centre for Energy Advancement through Technological Innovation	$ 7,890	$ 37,838	$ 12,541	$ 9,551	$ 17,353	$ 7,242	$ 53,929	$ 55,277
Certified Utility Safety Professional				$ -			$ 2,361	
Distributed Energy Financial Group				$ 7,750	$ 11,655			
Edison Electric Insitute	$ 405,691	$ 429,265	$ 415,988	$ 407,321	$ 598,895	$ 487,679	$ 523,027	$ 501,719
Electrical Association of Philadelphia	$ 62,175		$ 63,075		$ 126,000	$ 63,225		
Energy Association of Pennsylvania	$ 181,626	$ 205,881	$ 207,984	$ 195,219	$ 198,685	$ 203,834	$ 232,881	$ 236,374
Electric Power Research Insitute	$ 343,319	$ 279,615	$ 376,797	$ 383,471	$ 339,343	$ 330,900	$ 617,633	$ 633,074
Georgia Tech Research Group	$ 18,458	$ 19,380	$ 19,968	$ 14,471	$ 14,540	$ 28,305	$ 31,453	$ 32,239
National Energy & Utility Afforability Coalition							$ 11,625	$ 11,625
Power Systems Engineering Research Center	$ 4,120	$ 4,120	$ 4,245					
R&D Memberships	$ 4,889	$ 8,570	$ 11,404				$ 284,164	$ 291,271
Smart Electric Power Alliance				$ 6,250				
Southeastern Electric Exchange				$ 10,297	$ 9,910	$ 9,834		
Sphera					$ 1,224			
	$ 1,028,168	$ 984,669	$ 1,112,002	$ 1,063,562	$ 1,338,856	$ 1,152,268	$ 1,757,073	$ 1,761,580

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Q. DID THE COMPANY SUPPORT ITS INCREASE TO THE FPFTY WITH INVOICES?

A. No, while the Company did provide some invoices for the FTY (2024) amounts, the response to OCA-9-5 stated that invoices for the FPFTY

amounts had not been received. As the chart shows, the Company included a large amount for R&D memberships in the FTY and FPFTY. However, the Company did not provide invoices for R&D memberships. The response to OCA 9-5 stated the following:

> R&D Memberships amounts for FTY and FPFTY are budgeted for additional R&D memberships the Company may be pursuing. (emphasis added)

Further, as shown above, from 2021 to 2023 the Company did not use any funds for R&D memberships. As such, amounts requested for the R&D memberships may not occur and have not been supported.

Q. WHAT IS YOUR NEXT CONCERN?

A. The Company has not demonstrated that memberships in these specific organizations benefit ratepayers.

Q. WAS THE COMPANY ASKED FOR SUPPORT FOR RATEPATER BENEFITS OF THESE ORGANIZATIONS?

A. Yes. However, when asked for documentation supporting the benefits to ratepayers, the Company provided only vague descriptions as follows:

> As detailed for each Industry Organization listed in Revised Attachment OCA-IV-26(b), Industry memberships provide PECO with access to current information on a wide array of topics impacting utility business stakeholders. Membership in these organizations benefits customers by ensuring that PECO is leveraging industry best practices and fostering innovations that enhance reliability and customer experience, while maintaining affordability and promoting sustainability. (OCA-IV-26 Revised)

In addition, OCA-VI-26(b) lists the purpose of each of the industry organizations.

Q. WHAT DO YOU RECOMMEND?

A. As the Company has not supported its projected increases in dues with invoices, not demonstrated that membership in any of the industry organizations directly benefits ratepayers, and it did not support its claim for R&D membership amounts, I recommend disallowance of 50% of the industry dues from the FPFTY. This is a reduction of $880,790 which is shown on Exhibit JD-E-1, Schedule C-11.

Q. ARE THERE ANY STATUTES BEARING ON RECOVERY OF INDUSTRY DUES IN PENNSYLVANIA?

A. There is a Pennsylvania statute that, with limited exceptions, prohibits recovery of political advertising, which is defined to include lobbying. 66 Pa. C.S. § 1316.

Gains on Sales of Utility Property

Q. DID THE COMPANY HAVE ANY GAINS ON SALES OF UTILITY PROPERTY IN RECENT YEARS?

A. Yes, as illustrated below, the Company had $1,007,413 in gains on sales of utility property from 2019-2023. (OCA-IV-41)

2019	2020	2021	2022	2023	Total	Average
$558,969	$365,362	$29,089	$53,993	$0	$1,007,413	$201,483

Q. DID THE COMPANY REFLECT ANY GAINS ON DISPOSITION OF UTILITY PROPERTY IN THE CURRENT CASE?

A. No, the Company stated that it "did not propose to return gains to ratepayers associated with sales of utility property." (OCA-9-8)

Q. DO YOU AGREE WITH THE COMPANY'S TREATMENT OF THESE GAINS FOR RATEMAKING PURPOSES?

A. No. Ratepayers are entitled to receive the benefit of gains on sales of utility property as ratepayers fund the return of and on utility property.

Q. WHAT DO YOU RECOMMEND?

A. As gains on the sale of utility property have been recurring, I recommend reflecting a five-year average of these proceeds as a reduction to costs in the FPFTY. A five-year average is appropriate as it is long enough to smooth out highs and lows but recent enough to be relevant. This reduction to costs of $201,483 is shown on Exhibit JD-E-1 Schedule C-12.

Corporate Aircraft

Q. HAS THE COMPANY REQUESTED RECOVERY OF CORPORATE AIRCRAFT COSTS IN THE FPFTY?

A. Yes, the Company requests recovery of $2,700,000 for corporate aircraft costs in the FPFTY. (OCA-IV-18)

Q. WAS THE COMPANY ASKED ABOUT RATEPAYER BENEFITS RESULTING FROM THE USE OF CORPORATE AIRCRAFT?

A. Yes. The Company was asked to explain the benefits of these costs to ratepayers in OCA-12-14. The response stated:

> Senior executives and members of the Board of Directors use the corporate aircraft due to the significant amount of travel required to represent the Company and fulfill their respective responsibilities. Such travel requirements often do not conform to traditional airline schedules. In addition, corporate air travel serves as a means of protecting the interests of both senior executives and the Company by minimizing unexpected delays which prevent the fulfillment of Company responsibilities. The ability for senior executives to avoid commercial travel allows them to spend greater amounts of time on company business, including on confidential matters that could not be discussed during commercial travel, to the benefit of the Company and customers.

Q. HAS THE COMPANY SUFFICIENTLY DEMONSTRATED THAT THIS COST BENEFITS RATEPAYERS?

A. No. The Company's explanation serves as a mere platitude about the convenience associated with corporate travel, it does not mean that customers paying their electric bill reasonably benefit from this convenience. Moreover, the Company stated in response to OCA-IV-18d

that the Company does not compare the costs of travel using the corporate aircraft to commercial flights. As such, the Company has not demonstrated that the use of corporate aircraft is beneficial to customers in comparison to commercial flights.

Q. HAVE YOU MADE AN ADJUSTMENT FOR THIS EXPENSE?

A. Yes. Because it is the Company's burden to demonstrate the benefit of this cost and that has not been done, I recommend the removal of these costs. This is a reduction of $2,700,000 in the FPFTY as shown on Exhibit JD-E-1 Schedule C-13.

Employee Volunteer Activities

Q. PLEASE DESCRIBE THE COMPANY'S EMPLOYEE VOLUNTEER ACTIVITIES.

A. The Company states the following: "if the volunteer activity occurs during work hours, and the employee is approved to participate, they are paid." (OCA-IV-33). PECO employees have almost 60,000 hours of volunteer work with community organizations. (PECO St. 1, Levine Direct, p. 46)

Q. SHOULD THIS COST BE RECOVERED FROM RATEPAYERS?

A. No. Charity and volunteer work should be below-the-line costs and not recovered from ratepayers. If the Company is interested in giving back to

the community or providing support to the community, it should do so at its own cost. If the Company recovers the costs from ratepayers, it is actually the ratepayers, not the Company, that is giving back to the community. Ratepayers should be free to give or not give to charities or community organizations as they see fit.

This is consistent with Commission decisions holding that charitable contributions are not permitted to be recovered from ratepayers.

Q. WHAT AMOUNT HAS THE COMPANY INCLUDED FOR EMPLOYEE VOLUNTEER ACTIVITIES?

A. I don't know. The Company was asked to provide that figure in OCA-IV-33 but the response stated the following:

> PECO does not track the amount of paid time off for employees to volunteer.

This is problematic. The response indicates that ratepayers are funding the Company's charitable activities but did not provide the amount so that it can be disallowed.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT FOR THIS EXPENSE?

A. As the Company did not identify the amount included in the FPFTY, I calculated an estimate based on each employee volunteering for 4 hours

annually. This is a reduction of $326,470 in the FPFTY as shown on schedule C-14. This adjustment can be considered conservative as the Company has stated that PECO employees have volunteered nearly 60,000 hours. (LeVine Direct at 46.)

I also recommend that the Commission direct the Company to track the costs of this program so that it can be removed from the revenue requirement in future rate cases.

Union Ratification Payment

Q. PLEASE DISCUSS THE COMPANY'S REQUEST TO INCLUDE A UNION CONTRACT RATIFICATION PAYMENT IN THE FPFTY.

A. The Company has included $168,000 in the FPFTY for a union contract ratification payment. (Exhibit MJT-1, Schedule D-6)

Q. HOW WAS THIS AMOUNT DERIVED?

A. The Company proposes to normalize the $1.010 million payment allocated to PECO Electric by six years. (Id.)

Q. WHAT IS THE COMPANY'S BASIS FOR INCLUDING THE UNION PAYMENT IN THE FPFTY?

A. The Company was asked if the union contract payment was a one-time payment and to explain and to provide supporting documentation for the cost. The Company's response stated:

> Pursuant to Exhibit M of the CBA dated April 13, 2021 (provided as Confidential Attachment IE-I-RE-29(a)), the Company agreed to pay a one-time ratification bonus of $1,000 to each Local 614 employee of PECO who is actively working (including employees on STD) as of the date of ratification in connection with the new CBA. (IE-I-RE-29(B))

Q. SHOULD THIS COST BE INCLUDED IN THE FPFTY?

A. No, the Company stated this was a one-time payment. It cannot be assumed that such a payment will occur again or what the amount would be if it were to occur. As such, it should not be included in the FPFTY. In addition, as this cost occurred in 2021 and the FPFTY is 2025, this constitutes retroactive ratemaking.

Q. WHAT DO YOU RECOMMEND?

A. I recommend removing the entire amount of $168,000 from the FPFTY. This is shown on Exhibit JD-E-1, Schedule C-15.

Q. IS YOUR ADJUSTMENT CONSISTENT WITH PRIOR PENNSYLVANIA ORDERS?

A. Yes, the Commission disallowed a union ratification bonus in a prior PECO rate case.[5]

Rate Case Expense Adjustment

Q. WHAT AMOUNT HAS THE COMPANY INCLUDED IN THE FPFTY FOR RATE CASE EXPENSE?

A. The Company has included $1.2 million in the FPFTY. (Exhibit MJT-1 Schedule D-7)

Q. HOW DID THE COMPANY CALCULATE THIS AMOUNT?

A. The Company estimates $2.4 million of rate case expenses and proposes to normalize this over two years. (Id.)

Q. WHAT IS THE COMPANY'S BASIS FOR USING A TWO-YEAR PERIOD?

A. The Company stated that "PECO anticipates that base rate filings for its electric distribution operations will be required every two to three years." (I&E-I-RE-19(c)).

[5] *Pennsylvania Public Utility Commission v. PECO Energy Company – Gas Division*, June 22, 2021 Opinion and Order, Docket No. R-2020-3018929, at 81.

Q. DO YOU AGREE WITH THE COMPANY'S APPROACH?

A. No. The use of historic filing frequency is more appropriate than the Company's anticipated future filing periods. This is supported by A Guide to Utility Ratemaking (2018 Edition) which states the following:

> The Commission's practice is to recognize all prudently-incurred rate case expense and set a normalization period based upon historic filing frequency. So, if Typical Utility's history in the 2018 filed case shows previous base case filings in 2013, 2008, and 2003, then the normalized rate case expense for a case costing Typical Utility a total of $100,000 would be $20,000 per year ($100,000/5 years).
> (Page 112, footnote omitted)

Further, in prior cases, the Commission has approved rate case expense based on historic filing frequency.[6]

Q. PLEASE DESCRIBE THE COMPANY'S HISTORIC FILING FREQUENCY.

A. PECO Electric filed cases in 2015, 2018, 2021 and 2024.[7] As such, the Company has averaged three years between rate cases.

[6] *See, e.g., Pennsylvania Public Utility Commission v. Columbia Water Company*, Docket No. R-2023-3040258, January 18, 2024 Opinion and Order, at 34; *Pennsylvania Public Utility Commission v. City of Lancaster – Bureau of Water*, Docket No. R-2010-2179103, July 14, 2011 Opinion and Order, at 38.
[7] Docket Nos. R-2015-2468981, R-2018-3000164, R-2021-3024601 and R-2024-3046931.

Q. WHAT DO YOU RECOMMEND?

A. Based on the Company's historic filing frequency, I recommend a three-year normalization. This reduces the Company's request by $400,000 which is shown on Exhibit JD-E-1, Schedule C-16.

Vegetation Management

Q. WHAT AMOUNT HAS THE COMPANY INCLUDED IN THE FPFTY FOR VEGETATION MANAGEMENT EXPENSE?

A. The Company has included $56,360,961 in the FPFTY. (OCA-V-53)

Q. CAN IT BE ASSUMED THAT THE COMPANY WILL SPEND ITS BUDGETED VEGETATION MANAGEMENT EXPENSE?

A. No. The historical records show that the Company has not consistently spent its budgeted amounts for vegetation expense. The chart below shows the budget-to-actual vegetation management expense over the years 2019-2023. (OCA-V-55)

Budget to Actual Vegetation Management Expense					
	2019	2020	2021	2022	2023
Budget	$47,504,496	$51,475,833	$48,693,552	$50,193,687	$46,681,386
Actual	$44,167,571	$52,150,191	$48,298,602	$52,103,714	$45,150,286
Difference	($3,336,925)	$674,358	($394,950)	$1,910,027	($1,531,100)
Average Actual	$48,374,073				
Total Underspend	($2,678,590)				

As the chart shows, over the past five years, the Company underspent its budgeted amount of $2,678,590. As such, it cannot be assumed that the Company will spend its requested amounts for this expense.

Q. WHAT ELSE DOES THE CHART DEMONSTRATE?

A. The chart shows that vegetation management expense has fluctuated over the prior five years.

Q. DO YOU HAVE ANY OTHER CONCERNS REGARDING THE COMPANY'S VEGETATION MANAGEMENT EXPENSE?

A. Yes. As the chart below shows, the Company has failed to trim the budgeted number of miles over the past 5 years. (OCA-V-56)

Budget to Actual Miles Trimmed						
	2019	2020	2021	2022	2023	Total
Budget	3,104	3,736	3,181	3,262	3,268	
Actual	2,662	3,689	2,926	3,262	2,968	
Difference	(442)	(47)	(255)	0	(300)	(1,044)

Q. HAVE YOU MADE AN ADJUSTMENT FOR THIS EXPENSE?

A. Yes. I recommend the use of a five-year average of vegetation management expense. The Company has averaged $48,374,073 for this expense. This is a reduction of $7.987 million as shown on Exhibit JD-E-1, Schedule C-17.

Storm Reserve

Q. PLEASE DESCRIBE PECO'S STORM RESERVE ACCOUNT PROPOSAL.

A. According to PECO witness Trzaska, PECO is asking for Commission permission to defer and record any amounts above or below the Company's base rate allowance for storm damage expense to a Storm Reserve Account. He states:

> Under the Storm Reserve Account proposed by PECO, the differences between the storm expenses included in the Company's rates and its actual storm expenses will be tracked and recorded in deferral accounts. The net balance in the accounts would represent a deferral – either as a regulatory liability or regulatory asset – that would be credited to, or recovered from, customers in a subsequent base rate case by means of an appropriate amortization. (Trzaska direct at 71-72)

More specifically, the Company proposes to compare its calculation of what is included in base rates for storm damage expense to its actual monthly expense, with the difference credited or debited for accounting purposes. PECO will "seek rate recognition of the net credit or debit balance in the Storm Reserve Account with interest, which will represent either a regulatory asset or regulatory liability as applicable, amortized over two years." (Trzaska direct at 73)

Q. DO YOU HAVE ANY CONCERNS ABOUT THIS PROPOSAL?

A. Yes. PECO provides a Table 1 that is supposed to show that if a Storm Reserve Account had been in place for 2016-2023, customers would have

received net credit $15 million and, since the Company's current rates became effective on January 1, 2022, PECO would have recorded a $39 million liability. (Trzaska direct at 74-75). PECO admits that its calculation is based on settled rate cases and PECO's claims in those cases. (Id. at 74). Also, the level claimed in those rate cases was challenged.[8] So the numbers in Table 1 have limited value. And PECO has control of when it chooses to file rate cases or make a request for extraordinary storm damages.

Q. DO YOU AGREE WITH THE COMPANY'S REQUEST TO ESTABLISH A STORM RESERVE?

A. No. The Company has not shown that the current approach has failed to function acceptably, and the establishment of a storm reserve has not been demonstrated to be necessary. As such, the OCA does not recommend the establishment of a storm reserve.

Q. WOULD THE REJECTION OF A STORM RESERVE DENY RECOVERY OF EXTRAORDINARY STORM EXPENSE?

A. No. As discussed above, a well-established mechanism is already in place for PECO to request approval to defer expense for extraordinary storm damage.

[8] *See, e.g.*, OCA St. 1 at 26-27, OCA St. 1SR at 20-21, Docket No. R-2021-3024601; OCA St. 1 at 29-32, OCA St. 1SR at 19-21, Docket No. R-2018-3000164.

It should also be noted that non-extraordinary storm expense is based on actual historical storm expenses, so if the actual expense trends upward, that trend will be captured in future base rate cases. In addition, the Company has the option to file a base rate case earlier than its anticipated 2 to 3-year cycle.

Q. DO YOU HAVE ANY RECOMMENDATIONS IF A STORM RESERVE ACCOUNT WERE TO BE ESTABLISHED?

A. Yes. The OCA opposes the implementation of a storm reserve account but if one were approved, PECO's proposal should not be adopted as-is. As proposed, it is not clear if costs from extraordinary storms would be included in the deferred amounts. Costs for extraordinary storms should still be treated as anomalies and not included in the actual storm expenses that are tracked and recorded in deferral accounts. For extraordinary storm damage expense, the Company should follow the traditional practice of petitioning the Commission for deferred accounting. In addition, PECO's proposal to fix a 2-year amortization period is premature and not supported. The appropriate amortization period should be decided in the rate case where the liability or asset is claimed.

O&M Flow Through Adjustments

Payroll Tax Expense

Q. PLEASE DISCUSS YOUR ADJUSTMENT TO PAYROLL TAX.

A. The adjustment is a flowthrough from the OCA's adjustment to payroll and incentive compensation. OCA's adjustment reduces payroll tax by $967,000 in the FPFTY, which is shown on Exhibit JD-1, Schedule C-18.

Benefits Expense

Q. PLEASE DISCUSS YOUR ADJUSTMENT TO BENEFITS EXPENSE.

A. The adjustment is a flow through from the OCA's adjustment to payroll. OCA's adjustment reduces benefits expense by $1.988 million in the FPFTY, which is shown on Exhibit JD-1, Schedule C-19.

Income Tax Expense

Q. PLEASE DISCUSS YOUR ADJUSTMENT TO INCOME TAX EXPENSE.

A. The adjustment is a flowthrough from the OCA's adjustment to O&M expenses. OCA's adjustment increases federal and state income taxes by $12.624 million, in the FPFTY, as shown on Exhibit JD-1, Schedule C-20.

Rate Base Flow Through Adjustments

Working Capital

Q. PLEASE DISCUSS YOUR FLOW THROUGH ADJUSTMENT TO WORKING CAPITAL.

A. The adjustment is a flow through from the OCA's adjustments to O&M expenses. My adjustment decreases working capital by $2.406 million, in the FPFTY, as shown on Exhibit JD-E-1, Schedule B.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes, at this time. I reserve the right to supplement my testimony following the receipt of additional information from the Company. Further, my silence on an issue should not be interpreted as agreement with the Company's position.

QUALIFICATIONS OF JOHN DEFEVER

John Defever, CPA is a senior regulatory consultant with Larkin & Associates. As such, Mr. Defever is responsible for the review and analysis of regulatory filings and the preparation of testimony, discovery requests, briefs, schedules, exhibits and reports. Mr. Defever also assists with the annual audit of a Michigan Railroad Company. Mr. Defever has been employed with the firm of Larkin and Associates since 2010.

Mr. Defever has performed work in the field of utility regulation on behalf of public service commission staffs, state attorney generals and consumer groups concerning regulatory matters before regulatory agencies in Alaska, California, Connecticut, District of Columbia, Florida, Hawaii, Iowa, Maine, Maryland, Massachusetts, Mississippi, Oregon, New Hampshire, and Vermont.

Mr. Defever received a Bachelor of Business Administration, Major: Accounting from Eastern Michigan University and an Associate in Applied Science at Schoolcraft College. Mr. Defever is a member of the Michigan Association of Certified Public Accountants and maintains continuing professional education in accounting, auditing, and taxation.

Partial list of utility cases participated in:

Docket No. 10-02-13	Aquarion Water Company of Connecticut Connecticut Department of Utility Control
Docket No. 10-70	Western Massachusetts Electric Company Massachusetts Department of Public Utilities
Docket No. 10-12-02	Yankee Gas Services Company Connecticut Department of Utility Control
Docket No. 11-01	Fitchburg Gas & Electric Light Company Massachusetts Department of Public Utilities
Case No. 9267	Washington Gas Light Company Maryland Public Service Commission

QUALIFICATIONS OF JOHN DEFEVER

Case No. 9286	Potomac Electric Power Company Maryland Public Service Commission
Docket No. 13-06-08	Connecticut Natural Gas Corporation Connecticut Public Utility Regulatory Authority
Docket No. 13-90	Fitchburg Gas & Electric Light Company Massachusetts Department of Public Utilities
Docket No. 8190	Green Mountain Power Company Before the Vermont Public Service Board
Docket No. 8191	Green Mountain Power Company Alternative Regulation Before the Vermont Public Service Board
Case No. 9354	Columbia Gas of Maryland, Inc. Maryland Public Service Commission
Docket No. 13-135	Western Massachusetts Electric Company Massachusetts Department of Public Utilities
Docket No. 14-05-06	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 13-85	Massachusetts Electric Company and Nantucket Electric Company D/B/A/ as National Grid Massachusetts Department of Public Utilities
Case No. 9390	Columbia Gas of Maryland, Inc. Maryland Public Service Commission
Docket No. 15-03-01	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 15-03-02	United Illuminating Company Connecticut Public Utilities Regulatory Authority
Docket No. 15-149	Western Massachusetts Electric Company Massachusetts Department of Public Utilities

QUALIFICATIONS OF JOHN DEFEVER

Docket No. 8710	Vermont Gas Systems Inc. Before the Vermont Public Service Board
Docket No. 8698	Vermont Gas Systems Inc. Alternative Regulation Before the Vermont Public Service Board
U-15-091 / U-15-092	College Utilities Corporation Golden Heart Utilities, Inc. Regulatory Commission of Alaska
Docket No.16-06-04	United Illuminating Company Connecticut Public Utilities Regulatory Authority
Docket No. 15-05-42	Southern Connecticut Gas Company Connecticut Public Utilities Regulatory Authority
Docket No. 20160251-EI	Florida Power & Light Company Florida Public Service Commission
Docket No. 20170141-SU	KW Resort Utilities Florida Public Service Commission
Application No. A.16-09-001	Southern California Edison California Public Utilities Commission
Case No. 18-0409-TF	Vermont Gas Systems, Inc. Vermont Public Utility Commission
Docket No. 17-10-46	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 2017-0105	Hawaii Gas Company Hawaii Public Utilities Commission
Docket No. 18-03-01	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 18-03-02	United Illuminating Company Connecticut Public Utilities Regulatory Authority

QUALIFICATIONS OF JOHN DEFEVER

Docket No. A.17-11-009	Pacific Gas & Electric California Public Utilities Commission
Docket No. 18-05-16	Connecticut Natural Gas Connecticut Public Utilities Regulatory Authority
Docket No. 18-05-10	Yankee Gas Connecticut Public Utilities Regulatory Authority
Docket No. 18-11-12	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 18-07-10	SJW Group and Connecticut Water Service Connecticut Public Utilities Regulatory Authority
Docket No. RPU-2019-0001	Interstate Power and Light Iowa Utilities Board
Docket No. 2018-0388	Kona Water Service Company Hawaii Public Utilities Commission
Docket No. DE 19-057	Public Service Company of New Hampshire New Hampshire Public Utilities Commission
Application No. A.19-08-013	Southern California Edison Public Utilities Commission
Docket No. D.P.U. 19-120	NSTAR Gas Company d/b/a Eversource Energy Massachusetts Department of Public Utilities
Docket No. 2019-00333	Maine Water Company – Skowhegan Division Public Utilities Commission
Docket No. D.P.U. 19-113	Massachusetts Electric Company & Nantucket Electric Company Each d/b/a National Grid Massachusetts Department of Public Utilities

QUALIFICATIONS OF JOHN DEFEVER

Docket No. 20-03-01	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 20-03-02	United Illuminating Company Connecticut Public Utilities Regulatory Authority
Docket No. 20-12-30	Connecticut Water Company Connecticut Public Utilities Regulatory Authority
Docket No. 20-08-03	The Connecticut Light and Power Company & The United Illuminating Company Connecticut Public Utilities Regulatory Authority
Docket No. 20-120	National Grid Massachusetts Department of Public Utilities
Docket No. 21-01-03	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 21-01-04	United Illuminating Company Connecticut Public Utilities Regulatory Authority
Case No. 21-887-EL-AIR	Duke Energy Ohio Public Utilities Commission of Ohio
Application No. 21-06-021	Pacific Gas & Electric 2023 GRC California Public Utilities Commission
Docket No. 22-07-01	Aquarion Water Company Connecticut Public Utilities Regulatory Authority
Docket No. 22-01-03	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 22-01-04	United Illuminating Company Connecticut Public Utilities Regulatory Authority
Docket No. 22-057-03	Dominion Energy Resources Utah Public Service Commission

QUALIFICATIONS OF JOHN DEFEVER

Docket No. 22-22	NSTAR Electric Massachusetts Department of Public Utilities
Docket No. 22-08-08	United Illuminating Company, Connecticut Public Utilities Regulatory Authority
Formal Case No. 1169	Washington Gas Light District of Columbia Public Service Commission
Case No. 22-900-EL-SSO	Dayton Power & Light, d/b/a AES Ohio Public Utilities Commission of Ohio
Docket No. 23-01-03	Connecticut Light & Power Company Connecticut Public Utilities Regulatory Authority
Docket No. 24-01-04	United Illuminating Company Connecticut Public Utilities Regulatory Authority

PECO Electric
FPFTY Ending December 2025
Docket No. R-2024-3046931

Exhibit JD-E-1
Accompanying the Direct Testimony of
John Defever, CPA

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PECO Electric
FPFTY Ending December 2025

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Overall Financial Summary
(000s of Dollars)

Line No.	Description	PECO Electric	Difference	OCA	Reference
		(A)	(B)	(C)	(D)
1	Rate Base	$ 8,855,637	$ (2,406)	$ 8,853,232	Schedule B
2	Earned Rate of Return/Requested Rate of Return	7.98%	-1.09%	6.89%	Schedule D
3	Actual Operating Income/Required Operating Income	$ 706,680	$ (96,692)	$ 609,988	(Ln 1 X Ln 2)
4	Less: Adjusted for Ratemaking Operating Income	$ 392,616	$ 33,598	$ 426,214	Schedule C
5	Income Deficiency / (Sufficiency)	$ 314,064	$ (130,290)	$ 183,774	(Ln 3 - Ln 4)
6	Gross Revenue Conversion Factor	1.476	0.000	1.476	Schedule A-1
7	Revenue Increase Requested	$ 463,632	$ (192,338)	$ 271,294	(Ln 5 X Ln 6)

Gross Revenue Conversion Factor

Line No.	Description		FPFTY
1	Gross Revenue Factor		1.000000
2	Forfeited Discounts Amount	$	12,224
3	Total Customer Revenue	$	2,949,296
4	Shopping Revenue	$	1,082,504
5	LPC Revenue		0.003032
6	Gross receipts tax		(0.059000)
7	Uncollectible Expenses		(0.009708)
8	PUC/OCA & SBA Assessment as a % of Revenue		(0.002397)
9	Net Revenues		0.931927
10	State Income Tax Rate		0.0799
11	State Income Tax Factor		(0.074461)
12	Factor After State Taxes		0.857466
13	Federal Income Tax Rate		21.000%
14	Federal Income Tax Factor		(0.180068)
15	Net Operating Income Factor		0.677398
16	Gross Revenue Conversion Factor		1.476236

Source:
Exhibit MJT-1 Schedule D-19

PECO Electric
FPFTY Ending December 2025

Docket No. R-2024-3046931
Exhibit JD-E-1
Schedule B

Rate Base Summary
(000s of Dollars)

Line No.		Per Company	OCA Adjustments	Per OCA
		(A)	(B)	(C)
1	Utility Plant	$ 11,242,906		$ 11,242,906
	Accumulated Depreciation	$ 2,253,728		$ 2,253,728
2	Common Plant Net of Accum Depr	$ 555,965		$ 555,965
3	Net Plant-In-Service	$ 9,545,143	$ -	$ 9,545,143
				$ -
4	Working Capital	$ 214,843	$ (2,406)	$ 212,437
5	Accum Deferred Income Taxes	$ (596,644)		$ (596,644)
6	Customer Deposits	$ (57,291)		$ (57,291)
7	Customer Advances for Construction	$ (2,889)		$ (2,889)
8	Materials and Supplies	$ 30,350		$ 30,350
9	Accum Deferred Income Taxes-Reg Liability	$ (277,875)		$ (277,875)
10	Total Rate Base	$ 8,855,637	$ (2,406)	$ 8,853,232

Source:
Exhibit MJT-1 Schedule A-1

Working Capital
(000s of Dollars)

Line No.	Description	Reference	PECO FPFTY Expenses	OCA Adjs	OCA FPFTY Expenses	(Lead)/Lag Days	Dollar-Days
1	Revenue Lag Days					51.95	
2	Expense Lag Days						
3	Payroll (Dist Only)		$ 173,658	$ (12,853)	$ 160,805	13.58	$ 2,184,274
4	Pension Expense		$ 3,216		$ 3,216	(167.00)	$ (537,107)
5	Commodity Purchased - [A]		$ 995,523		$ 995,523	35.71	$ 35,548,467
6	Commodity Purchased - [B]		$ 8,190		$ 8,190	12.50	$ 102,374
7	PJM Transmission Purchased - By-passable		$ 91,766		$ 91,766	12.50	$ 1,147,070
8	PJM Transmission Purchased - Non By-passable		$ 95,142		$ 95,142	12.50	$ 1,189,272
9	Other Expenses		$ 590,497	$ (32,403)	$ 558,094	40.07	$ 22,363,984
10	Sub-Total O&M	Sum L3 to L9	$ 1,957,991	$ (45,255)	$ 1,912,736		$ 61,998,335
11	Payment to Suppliers		$ 1,082,504		$ 1,082,504	37.88	$ 41,001,678
12	Total O&M and POR Payments	L10 + L11	$ 3,040,496		$ 2,995,240		$ 103,000,013
13	O&M Expense / POR Payment Lag Days					34.39	
14	Net Lead/(Lag) Days	L1 - L13				17.56	
15	Days in Current Year					365	
16	Operating Expenses Per Day		$ 8,206				
17	Working Capital for O&M Expense		$ 144,113				
18	Average Prepayments		$ 8,636				
19	Accrued Taxes		$ 80,039				
20	Interest Payments		$ (20,351)				
21	Total Working Capital Requirement per OCA	Sum L17 to L20	$ 212,437				
22	Pro Forma O&M Expense		$ 2,005,564				
23	Uncollectible Expense		$ 47,572				
24	Pro Forma Cash O&M Expense	L22 - L23	$ 1,957,991				

Adjusted Net Operating Income
(000s of Dollars)

Line No.	Description	FPFTY Company (A)	OCA Adjustments (B)	FPFTY OCA (C)
1	Operating Revenues	$ 2,908,189	$ -	$ 2,908,189
2	Operating Expenses	$ 2,533,736	$ (46,222)	$ 2,487,514
3	Net Operating Income Before Income Tax	$ 374,453	$ 46,222	$ 420,675
4	Income Taxes @ Eff Inc Tax Rate	$ 18,163	$ (12,624)	$ 5,539
5	Income Taxes @ Statutory Rates			
6	Net Operating Income	$ 392,616	$ 33,598	$ 426,214

Source:

Exhibit MJT-1 Schedule A-1

PECO Electric
FPFTY Ending December 2025

Docket No. R-2024-3046931
Exhibit JD-E-1
Schedule C

Adjusted Net Operating Income
Summary of Adjustments
(000s of Dollars)

Line No.	Schedule	Description	Operating Revenues	O&M Expenses	Depreciation & Amortization	Amortization of Regulatory Expense	Taxes Other Than Income Taxes Other	Income Taxes	Operating Income
1		Company Request	$ 2,908,189	$ 2,005,564	$ 336,287	$ (448)	$ 192,333	$ 18,163	$ 392,616
2		OCA Adjustments:							
3	C-1	Payroll Expense		$ (4,164)				$ 1,137	$ 3,027
4	C-2	Incentive Compensation		$ (8,521)				$ 2,327	$ 6,194
5	C-3	Employee Recognition/Service Awards		$ (115)				$ 31	$ 84
6	C-4	SERP		$ (289)				$ 79	$ 210
7	C-5	Severance Expense		$ (510)				$ 139	$ 371
8	C-6	Employee Cafeteria		$ (122)				$ 33	$ 89
9	C-7	Board of Directors Expense		$ (534)				$ 146	$ 388
10	C-8	Directors & Officers Liability Insurance		$ (875)				$ 239	$ 636
11	C-9	Storm Expense		$ (15,338)				$ 4,189	$ 11,149
12	C-10	Non-Industry Dues		$ (136)				$ 37	$ 99
13	C-11	Industry Dues		$ (881)				$ 241	$ 640
14	C-12	Gains on Sales of Utility Property		$ (201)				$ 55	$ 146
15	C-13	Corporate Aircraft		$ (2,700)				$ 737	$ 1,963
16	C-14	Employee Volunteer Activities		$ (326)				$ 89	$ 237
17	C-15	Union Ratification Payment		$ (168)				$ 46	$ 122
18	C-16	Rate Case Expense		$ (400)				$ 109	$ 291
19	C-17	Vegetation Management Expense		$ (7,987)				$ 2,181	$ 5,806
20	C-18	Payroll Tax					$ (967)	$ 264	$ 703
21	C-19	Benefits Expense		$ (1,988)				$ 543	$ 1,445
22		Total OCA Adjustments	$ -	$ (45,255)	$ -	$ -	$ (967)	$ 12,624	$ 33,598
23		Total NOI	$ 2,908,189	$ 2,050,819	$ 336,287	$ (448)	$ 193,300	$ 30,787	$ 426,214

Source:
Exhibit MJT-1 Schedules A-1, D-1

Payroll Expense
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	173,490	Line 4
2	OCA Recommended Amount	$	169,326	
3	OCA Adjustment	$	(4,164)	Line 6
4	Company Payroll excluding union payment	$	173,490	MJT-1 Schedule D-6
5	OCA % Recommended Reduction		-2.40%	
6	OCA Recommended Reduction	$	(4,164)	

PECO Electric
FPFTY Ending December 2025

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Exhibit JD-E-1
Schedule C-2
Page 1 of 1

Incentive Compensation
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Amount Per Company	$	17,042	OCA-IV-52
2	Percentage Allocated to Shareholders		-50%	
3	OCA Adjustment	$	(8,521)	Line 1 x Line 3

PECO Electric
FPFTY Ending December 2025

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Exhibit JD-E-1
Schedule C-3
Page 1 of 1

Employee Recognition/Service Awards
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	115	OCA-IV-34
2	OCA Recommended Amount	$	-	
3	OCA Adjustment	$	(115)	Line 2 - Line 1

SERP
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	289	OCA-V-38
2	OCA Recommended Amount	$	-	
3	OCA Adjustment	$	(289)	Line 2 - Line 1

PECO Electric
FPFTY Ending December 2025

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Exhibit JD-E-1
Schedule C-5
Page 1 of 1

Severance Expense
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	510	OCA-V-42
2	OCA Recommended Amount	$	-	
3	OCA Adjustment	$	(510)	Line 2 - Line 1

Employee Cafeteria
(000s of Dollars)

Line No.	Description	FPFTY	Reference
1	Company Amount	$ 122	OCA-IV-39
2	OCA Recommended Amount	$ -	
3	OCA Adjustment	$ (122)	Line 2 - Line 1

Board of Directors Expense
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	921	OCA-IV-4
2	OCA Recommended Amount	$	387	
3	OCA Adjustment	$	(534)	Line 8
4	BOD Expenses	$	921	OCA-IV-4
5	OCA Percent disallowance		-75%	
6	Amount disallowed	$	(691)	
7	Less BOD Corporate Air Travel	$	157	OCA 12-13(b)
8	OCA Disallowance	$	(534)	

Directors & Officers Liability Insurance
(000s of Dollars)

Line No.	Description	FPFTY	Reference
1	Company Amount	$ 1,167	OCA-IV-25
2	Percent Allocated to Shareholders	-75%	
3	OCA Adjustment	$ (875)	Line 1 x Line 2

Storm Expense
(000s of Dollars)

Line No.	Description			FPFTY	Reference
1	Company Amount		$	68,921	IE-I-RE-32
2	OCA Recommended Amount		$	53,583	Line 10
3	OCA Adjustment		$	(15,338)	Line 2 - Line 1
4	Storm Costs				
5		2019	$	35,910,797	
6		2020	$	114,915,918	
7		2021	$	53,653,927	
8		2022	$	22,260,241	
9		2023	$	41,173,459	
10		Average	$	53,582,868	

Non-Industry Dues
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	259	OCA-IV-27
2	OCA Recommended Amount	$	122	
3	OCA Adjustment	$	(136)	Line 2 - Line 1
4	Chamber of Commerce Dues			
5	Greater Philadelphia Chamber	$	81,375	
6	PA Chamber of Business and Industry Education Foundation	$	15,500	
7	Greater Philadelphia Hispanic Chamber of Commerce	$	11,625	
8	Main Line Chamber of Commerce	$	3,591	
9	Delaware County Chamber of Commerce	$	3,502	
10	Chester County Chamber Business and Industry	$	2,158	
11	Lower Bucks County Chamber of Commerce	$	1,295	
12	Montgomery County Chamber of Commerce	$	1,177	
13	Central Bucks Chamber of Commerce	$	1,083	
14	Greater Northeast Philadelphia Chamber of Commerce	$	1,067	
		$	122,373	

Industry Dues
(000s of Dollars)

Line No.	Description	FPFTY	Reference
1	Company Amount	$ 1,762	OCA-IV-26(a)
2	Recommended Disallowance	-50%	
3	OCA Adjustment	$ (881)	Line 1 X Line 2

Gains on Sales of Utility Property
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount		$ -	
2	OCA Recommended Amount		$ (201)	Line 10
3	OCA Adjustment		$ (201)	Line 2 - Line 1
4	Gains			
5		2019	$ 558,969	
6		2020	$ 365,362	
7		2021	$ 29,089	
8		2022	$ 53,993	
9		2023	$ -	
10		Average	$ 201,483	

Source:
OCA-IV-41

Corporate Aircraft
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	2,700	OCA-IV-18(a)
2	OCA Recommended Amount	$	-	
3	OCA Adjustment	$	(2,700)	Line 2 - Line 1

Employee Volunteer Activities
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	OCA Adjustment	$	(326)	
2	FPFTY Employees		2,373	Exhibit MJT-1 Schedule D-6
3	Annual Payroll per employee	$	73,000	Exhibit MJT-1 Schedule D-6
4	number of working days in a year		260	[a]
5	payroll per day	$	281	Line 3/Line 4
6	1/2 day volunteer time	$	140	Line 5 / 2
7	Volunteer time multiplied by OCA vacancy adjustment	$	138	Line 6 x 98%
		$	326,470	Line 2 x Line 7

Note [a]
https://hr.uiowa.edu/pay/payroll-services/payroll-calendars/working-day-payroll-calendar

Union Ratification Payment
(000s of Dollars)

Line No.	Description	FPFTY	Reference
1	Company Amount	$ 168	Exhibit MJT-1 Schedule D-6
2	OCA Recommended Amount	$ -	
3	OCA Adjustment	$ (168)	Line 2 - Line 1

Rate Case Expense
(000s of Dollars)

Line No.	Description		FPFTY	Reference
1	Company Amount	$	1,200	Line 4
2	OCA Recommended Amount	$	800	Line 6
3	OCA Adjustment	$	(400)	Line 2 - Line 1
				Exhibit MJT-1
4	Company projected rate case expense	$	2,400	Schedule D-7
5	OCA recommended normalization period		3	
6	OCA recommended annual expense	$	800	

Vegetation Management Expense
(000s of Dollars)

Line No.	Description			FPFTY	Reference
1	Company Amount		$	56,361	
2	OCA Recommended Amount		$	48,374	Line 10
3	OCA Adjustment		$	(7,987)	Line 2 - Line 1
4	Annual Expenses				
5		2019	$	44,167,571	
6		2020	$	52,150,191	
7		2021	$	48,298,602	
8		2022	$	52,103,714	
9		2023	$	45,150,286	
10		Average	$	48,374,073	

Source:
OCA-V-55

Payroll Tax
(000s of Dollars)

Line No.	Description	FPFTY	Reference
1	OCA Adjustments to Payroll, Incentive Compensation and Union Payment	$ (12,853)	Schedule C-1 & C-2
2	Payroll Tax Percentage	7.52%	Exhibit MJT-1 Schedule D-16
3	OCA Adjustment	$ (967)	Line 1 X Line 2

PECO Electric
FPFTY Ending December 2025

Docket No. R-2024-3046931
Exhibit JD-E-1
Schedule C-19

Benefits Expense
(000s of Dollars)

Line No.	Description	FPFTY	Reference
1	OCA Adjustments to Payroll, Incentive Compensation and Union Payment	$ (12,853)	Schedule C1-C2
2	Benefit Expense Ratio	15.47%	Line 6
3	OCA Adjustment to Benefits Expense	$ (1,988)	Line 1 X Line 2
4	Benefits Expense	$ 26,833	Exhibit MJT-1 Schedule D-8 & D-9
5	Payroll Expense	$ 173,490	Exhibit MJT-1 Schedule D-6
6	Benefit Expense Ratio	15.47%	Line 4/Line 5

Income Tax
(000s of Dollars)

Line No.	Description	FPFTY	Reference
1	OCA Operating Expense Adjustments	$ (46,222)	Schedule C-2
2	Combined Tax Rate	27.312%	Exhibit MJT-1 Schedule D-19
3	OCA Adjustment to Income Taxes	$ 12,624	Line 1 X Line 2

Rate of Return Summary

PECO

Line No.	Description	Capitalization	Capitalization Ratio	Embedded Cost	Return %
		(A)	(B)	(C)	(D)
1	Long Term Debt	6,583,898	46.60%	4.58%	2.13%
2	Common Equity	7,545,824	53.40%	10.95%	5.85%
3	Total	14,129,722	100.000%		7.98%

OCA

Line No.	Description	Capital Structure	Cost	Weighted Cost
		(A)	(B)	(C)
4	Debt	50.00%	4.58%	2.30%
5	Equity	50.00%	9.20%	4.60%
6	Total	100.000%		6.89%

Source:
Lines 1-3: Exhibit MJT-1 Schedule B-7
Lines 4-6: OCA Witness David Garrett

Fully Projected Future Test Year Ending December 2025
($000s)

Line No.	Description		PECO Electric
			(A)
	15 Basis Point ROE Impact		
1	Rate Base per PECO	$	8,855,637
2	Rate of return (15 basis points ROE change)		0.15%
3	Net operating income required	$	13,283
4	Weighted cost of equity in capital structure		53.40%
5	Net operating income deficiency	$	7,093
6	Gross revenue conversion factor		1.47624
7	Revenue deficiency	$	10,471

Notes and Source

Company Schedule A-1

Line No.	Description		Amount	Percent	Cost Rate	Weighted Cost
			(A)	(B)	(C)	(D)
	Per Company					
1	Long Term Debt	$	6,583,898	46.60%	4.58%	2.13%
2	Preferred Stock					
3	Common Equity	$	7,545,824	53.40%	10.95%	5.85%
4	Total Capital Structure	$	14,129,722	100.00%		7.98%
	Per OCA Using OCA Recommended Capital Structure					
5	Long-Term Debt	$	6,583,898	**50.00%**	4.58%	2.29%
6	Preferred Stock					
7	Common Equity	$	7,545,824	**50.00%**	10.95%	5.48%
8	Total Capital Structure	$	14,129,722	100.00%		7.77%
9	Difference					-0.21%

	RATE BASE REVENUE REQUIREMENT IMPACT				
10	Rate of Return Difference			-0.21%	Rev Req
11	GRCF			1.476236	Impact
12	Rate Base per PECO Electric's Filing ($000s)	$	8,855,637	-0.310%	$ (27,453)

	NOI REVENUE REQUIREMENT IMPACT Description	Net Operating Income Amount	GRCF	Rev Req Impact
13	Interest Synchronization	$ 3,870	1.476236	$ (5,713)
14			Combined Revenue Requirement Impa	$ (33,166)

	Interest Synchronization Calculation		Amount	
15	Adjusted Rate Base, per PECO Electric	$	8,855,637	
16	Difference in Weighted Cost of Debt		0.16%	(Col. D, line 5 - line 1)
17	Change in Interest Deduction for Tax Purposes	$	14,169	
18	State Income Tax Rate		7.99%	
19	Decrease to State Income Tax	$	(1,132)	
20	Change in Federal Taxable Income	$	13,037	
21	Federal Income Tax Rate		21.00%	
22	Decrease to Federal Income Tax Expense	$	(2,738)	
23	Overall Increase (Decrease) to Income Tax Expense	$	(3,870)	
24	Impact on Net Operating Income	$	3,870	(Col. A, line 13)

Line No.	Description		Amount	Percent	Cost Rate	Weighted Cost
			(A)	(B)	(C)	(D)
	Per Company					
1	Long Term Debt	$	6,583,898	46.60%	4.58%	2.13%
2	Preferred Stock					
3	Common Equity	$	7,545,824	53.40%	10.95%	5.85%
4	Total Capital Structure	$	14,129,722	100.00%		7.98%
	Per OCA Using OCA Recommended ROE					
5	Long-Term Debt	$	6,583,898	46.60%	4.58%	2.13%
6	Preferred Stock					
7	Common Equity	$	7,545,824	53.40%	**9.20%**	4.91%
8	Total Capital Structure	$	14,129,722	100.00%		7.04%
9	Difference					-0.94%
	RATE BASE REVENUE REQUIREMENT IMPACT					
10	Rate of Return Difference			-0.94%		Rev Req
11	GRCF			1.476236		Impact
12	Rate Base per PECO's Filing ($000s)	$	8,855,637	-1.388%		$ (122,886)

Line No.	Description		Amount	Percent	Cost Rate	Weighted Cost
			(A)	(B)	(C)	(D)
	Per Company					
1	Long Term Debt	$	6,583,898	46.60%	4.58%	2.13%
2	Preferred Stock					
3	Common Equity	$	7,545,824	53.40%	10.95%	5.85%
4	Total Capital Structure	$	14,129,722	100.00%		7.98%
	Per OCA Using OCA Recommended Capital Structure/ROE					
5	Long-Term Debt	$	6,583,898	**50.00%**	**4.58%**	**2.29%**
6	Preferred Stock					
7	Common Equity	$	7,545,824	**50.00%**	**9.20%**	**4.60%**
8	Total Capital Structure	$	14,129,722	100.00%		**6.89%**
9	Difference					-1.09%

	RATE BASE REVENUE REQUIREMENT IMPACT				
10	Rate of Return Difference			-1.09%	Rev Req
11	GRCF			1.476236	Impact
12	Rate Base per PECO Electric's Filing ($000s)	$	8,855,637	-1.609%	$ (142,496)

	NOI REVENUE REQUIREMENT IMPACT	Net Operating		Rev Req
	Description	Income Amount	GRCF	Impact
13	Interest Synchronization	$ 3,870	1.476236	$ (5,713)
14		Combined Revenue Requirement Impact		$ (148,209)

	Interest Synchronization Calculation		Amount	
15	Adjusted Rate Base, per PECO	$	8,855,637	
16	Difference in Weighted Cost of Debt		0.16%	(Col. D, line 5 - line 1)
17	Change in Interest Deduction for Tax Purposes	$	14,169	
18	State Income Tax Rate		7.99%	
19	Decrease to State Income Tax	$	(1,132)	
20	Change in Federal Taxable Income	$	13,037	
21	Federal Income Tax Rate		21.00%	
22	Decrease to Federal Income Tax Expense	$	(2,738)	
23	Overall Increase (Decrease) to Income Tax Expense	$	(3,870)	
24	Impact on Net Operating Income	$	3,870	

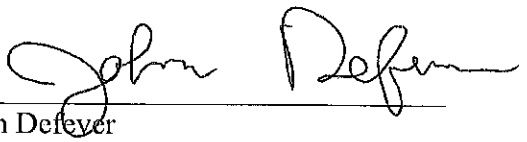
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R- 2024-3046931
PECO Energy Company – Electric Division	:	

VERIFICATION

I, John Defever, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 1, 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 17, 2024

Signature: 

John Defever

Address: Larkin & Associates, PLLC
15728 Farmington Road
Livonia, MI 48154

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	)	
	)	
v.	)	Docket No. R-2024-3046931
	)	
PECO Energy Company - Electric Division	)	

SURREBUTTAL TESTIMONY OF
JOHN DEFEVER, CPA

ON BEHALF OF

THE OFFICE OF CONSUMER ADVOCATE

AUGUST 2, 2024

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INTRODUCTION

Q. PLEASE STATE YOUR NAME.

My name is John Defever.

Q. ARE YOU THE SAME JOHN DEFEVER THAT SUBMITTED DIRECT TESTIMONY ON BEHALF OF THE OCA IN THIS PROCEEDING?

Yes, in OCA Statement 1.

Q. BASED ON YOUR REVIEW OF PECO GAS'S AND OTHER PARTIES' DIRECT AND REBUTTAL TESTIMONY, DID YOUR RECOMMENDATION FOR A REVENUE REQUIREMENT INCREASE CHANGE?

A. No. My exhibits are attached to my direct testimony in Exhibit JD-G-1 consisting of Schedules A, B, C, and D with supporting Schedules B-1 and C-1 through C-17.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. Schedule A of Exhibit JD-E-1 presents the overall financial summary for the Fully Projected Future Test Year ("FPFTY") ending December 31, 2025 giving effect to all the adjustments I recommend in my testimony, and the rate of return sponsored by Mr. Garrett. Based on the adjustments that have been quantified to date, coupled with the OCA's recommended overall rate of return of 6.89%, the result is a revenue increase of $271,294,000 for the FPFTY (twelve months ending December 31, 2025). This compares to the Company's requested revenue

increase of approximately $464 million per year. I am accepting PECO's proposed one-time credit of $64 million, resulting in a net electric rate increase of $207,294,000 in 2025.

Q. DO YOU HAVE ANY OTHER INITIAL COMMENTS?

A. Yes. The $464 million per year revenue increase is what was noticed to the PECO Electric customers and the amount that I (and the Bureau of Investigation & Enforcement ("BIE") witness used as the starting point for our recommended adjustments. However, that is not a complete view of the increase to revenue requirement that the Company is claiming. PECO Electric is currently recovering about $64 million in annual revenues through its Distribution System Improvement Charge ("DSIC") and PECO proposes for the revenues from base rates established in this proceeding to increase – in total – by $528 million ($464 million plus $64 million).[1]

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. My surrebuttal testimony responds to rebuttal testimony filed by PECO Energy Company - Electric Division ("PECO Electric" or "Company") and Local 614 of the International Brotherhood of Electrical Workers ("IBEW").

[1] The DSIC will be set at 0% when new base rates take effect. 66 Pa. C.S. § 1358(b)(1).

Payroll

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL TO YOUR TESTIMONY REGARDING PAYROLL.

A. The Company's rebuttal states that it was unreasonable to average the prior five years of vacancies to calculate my payroll adjustment due to the impact of the COVID-19 pandemic on hiring. (Humphrey, Statement No. 2-R at 2)

Q. DO YOU AGREE WITH THE COMPANY'S CLAIM?

A. No. The Company has not supported the claim that the pandemic was responsible for the level of vacancies and that claim is not supported by the historical record. In fact, in 2019, the Company had the highest vacancy level of the five years. In addition, in none of the years was the average vacancy as low as the Company's requested 2% vacancy factor.

Incentive Compensation

Q. DID THE COMPANY ADDRESS YOUR ADJUSTMENT TO INCENTIVE COMPENSATION?

A. Yes. The Company states that my conclusion that the Company's incentive compensation plan appears to provide insufficient motivation is mistaken and is contradicted by the testimony of Company witness Levine in PECO Statements No. 1 and 1-R. (Humphrey, Statement No. 2-R at 5) However, after reviewing those documents, I do not see where the Company has demonstrated that the incentive compensation plan has

caused increased motivation in employees. My conclusion is also supported by the response to OCA-IV-46 which states that the Company does not have any studies that demonstrate that ratepayers benefit from the Company's incentive compensation plan.

Q. THE REBUTTAL STATES THAT YOUR ASSERTION IS THAT INCENTIVE COMPENSATION SHOULD ONLY BE AWARDED TO EMPLOYEES THAT SHOW GREATER EFFORT. (HUMPHREY, STATEMENT NO. 2-R AT 5) IS THAT YOUR OPINION?

A. Yes. To be effective, incentive compensation should be awarded to those that provide extra effort. Employees that simply meet expectations or fail to meet expectations should not be rewarded. Instead, the Company's plan rewards all eligible employees regardless of performance.

Q. THE REBUTTAL STATES THAT THE PLAN PROVIDES THAT UNDERPERFORMERS MAY RECEIVE A REDUCED INCENTIVE PAYOUT COMPARED TO OVERPEFORMERS (HUMPHREY, STATEMENT NO. 2-R AT 8) WHY IS THAT NOT SATISFACTORY?

A. Again, my issue isn't with overperformers receiving incentive compensation, but instead that underperformers should receive any additional compensation. Ultimately, the Company's plan functions more like a year-end bonus program, where everyone gets a bonus but everyone doesn't get the same amount. Such a plan has less motivational impact.

As stated in my direct testimony, based on the insufficient motivation provided by the plan and the lack of evidence provided by the Company, it could be recommended that all incentive compensation be denied rate recovery. However, I recommend a more moderate approach of sharing incentive compensation costs between shareholders (50%) and ratepayers (50%), resulting in a reduction of 50% of the costs imposed on ratepayers. (See Exhibit JD-E-1, Schedule C-2.)

Employee Recognition

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL TO YOUR EMPLOYEE RECOGNITION ADJUSTMENT.

A. The Company's rebuttal claims that the employee recognition awards benefit ratepayers as they improve employee morale, productivity, engagement, and help attract and retain talent. (Levine, Statement No. 1-R at 8-9) However, none of these claims were supported by the Company and seem unlikely given the size of the awards. For example, it seems unlikely that anyone makes the decision to begin working for, or to stay with a Company, based on the possibility of receiving a pin or small gift after years of service.

I do not see a nexus between Company service awards and safe, adequate and reliable service to customers. If the Company wants to provide such awards it should be at shareholder, not ratepayer expense.

Supplemental Executive Retirement Plan

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL OF YOUR TESTIMONY REGARDING SERP.

A. The Company argues that SERP benefits customers because it supports employee retention. (Humphrey, Statement No. 2-R at 10)

Q. DO YOU AGREE WITH THAT ARGUMENT?

A. No. The Company has not demonstrated that SERP is necessary or even a factor in employee retention. It should be noted that it is the Company's burden to support the costs for which it seeks recovery. As the Company has not demonstrated any benefit to ratepayers, the costs should be disallowed.

Severance

Q. DID THE COMPANY'S REBUTTAL ADDRESS YOUR ADJUSTMENT TO SEVERANCE?

A. Yes. The Company argues that customers are benefitted because the Company utilizes Exelon Business Service Company ("EBSC") employees and EBSC includes a severance plan which aids in efficiently terminating low performers and upgrading talent. (Humphrey, Statement No. 2-R at 11-12)

Q. DO YOU AGREE WITH THIS POSITION?

A. No. My original adjustment was based on removing costs for employees that were terminated and no longer providing utility service. The

Company's rebuttal provides an additional reason to disallow the cost. Based on the rebuttal, the Company may be requesting ratepayers to pay severance expense for terminated low performing workers. Ratepayers should not be responsible for costs for these workers that are no longer providing utility service and especially those who were not performing satisfactorily when they were employed.

Q. PLEASE RESPOND TO IBEW'S REBUTTAL TESTIMONY REGARDING THIS ISSUE.

A. IBEW's rebuttal testimony recommends recovery for severance expense because it limits liability exposure and prevents legal fees related to defending lawsuits. (Anastasi, IBEW Rebuttal, at Q&A 10)

Q. DO YOU AGREE WITH IBEW'S REBUTTAL?

A. No. Ratepayers should not pay costs for workers that have been terminated as a form of insurance against lawsuits. It makes no sense for ratepayers to pay for these employees who are no longer providing services to ratepayers because they are no longer employed by the Company even with the alleged threat of lawsuits. There is no basis in the record to suggest that but for severance there would be a substantial number of lawsuits for wrongful termination as implied by IBEW. Moreover, it is not at all clear why ratepayers should pay severance to avoid litigation where PECO may be liable for malfeasance. Had the issue in the case been recovery of a liability for wrongful termination, it is incredibly likely that the OCA would contest ratepayers paying those costs

too. Paying to prevent those costs should not be the domain of ratepayers. This expense is more appropriately borne by the Company's shareholders.

Employee Cafeteria

Q. DID THE COMPANY'S REBUTTAL TO YOUR EMPLOYEE CAFETERIA ADJUSTMENT HAVE ANY IMPACT ON YOUR POSITION?

A. No. The rebuttal states that the cafeteria offers employees the ability to buy and eat their meals in allotted meal times. (Levine, Statement No. 1-R at 10) It also states that boxed lunches are provided for crews going off-system for mutual assistance support and catering services for employees working around the clock. It further states that it provides a quick option for breakfast and/or lunch. (Levine, Statement No. 1-R at 10)

Q. IS THIS ARGUMENT COMPELLING?

A. No. In some limited circumstances, it may make sense for the Company to provide meals for employees. However, there are a few problems with the Company's rebuttal. The Company has already acknowledged that there are food options within walking distance. (OCA-9-7) Food delivery options are widely available, and certainly within Center City, Philadelphia. As such, it isn't clear why employees can't get their food during a reasonable break period. Further, the Company doesn't explain why employees cannot eat breakfast at home instead of needing a breakfast option at the utility. Ultimately, the rebuttal doesn't satisfactorily make the case for ratepayers to be responsible for these costs.

Board of Directors

Q. DID YOU REVIEW THE COMPANY'S REBUTTAL TO YOUR BOARD OF DIRECTORS ADJUSTMENT?

A. Yes. The rebuttal stated that I ignored the importance to customers of the board of directors. (Humphrey, Statement No. 2-R at 13-14)

Q. DID YOU IGNORE THE IMPORTANCE OF THE BOARD OF DIRECTORS TO RATEPAYERS?

A. No. My disallowance was based on shareholders being the primary beneficiaries, not the only beneficiaries, of the efforts of the board of directors. This is why I recommended removing only 75% of the costs. As such, my position is unchanged as a result of the Company's rebuttal.

Directors and Officers Liability Insurance

Q. DID THE COMPANY'S REBUTTAL ADDRESS YOUR ADJUSTMENT TO DIRECTORS AND OFFICERS ("D&O") LIABILITY INSURANCE?

A. Yes. The rebuttal states that D&O should be allowed because it is necessary and prudent. (Humphrey, Statement No. 2-R at 14)

Q. DO YOU AGREE WITH THE REBUTTAL?

A. I am aware that D&O is a legitimate business expense. However, not all legitimate business expenses are recoverable from ratepayers. For example, in many jurisdictions, costs for lobbying and image-related advertising are disallowed for recovery from ratepayers.

Non-industry Dues

Q. WAS THE COMPANY'S REBUTTAL OF YOUR POSITION ON NON-INDUSTRY DUES COMPELLING?

A. No. My adjustment to industry dues was based on the lack of specific benefits to ratepayers and that the expenses were related more to societal, civic, and economic issues than the provision of utility service. Much of what the rebuttal discussed fell into societal, civic, and economic issues such as "promoting partnerships to grow the local economy," "attracting new businesses and new jobs to the region," "provide habitat for wildlife," and "promote the use of native plants." (Levine, Statement No. 1-R at 7) While these may be laudable goals, they are not necessary for the provision of service. In addition, they provide indirect, more than direct benefits to ratepayers. These are discretionary expenses that should be borne by the Company and its shareholders if the Company is inclined to support these organizations.

Industry Dues

Q. HAS THE COMPANY'S REBUTTAL IMPACTED YOUR POSITION ON INDUSTRY DUES?

A. No. My adjustment was based on three factors: 1) the Company did not support the projected increases with invoices; 2) the Company did not demonstrate that membership in the industry organizations directly benefits ratepayers; and 3) the Company did not support its claim for R&D membership amounts. The Company's rebuttal only addressed the

second issue and still provided mostly vague or indirect benefits to ratepayers. (Levine, Statement No. 1-R at 5-6) As such, my recommendation to reduce this expense by 50% remains the same.

Q. HAS YOUR RECOMMENDATION CHANGED IN RESPONSE TO THE COMPANY'S REBUTTAL?

A. No. The Company has not demonstrated the ratepayer benefits to its membership in these organizations nor that all inappropriate amounts, e.g., amounts related to lobbying, political advocacy and advertising, have been removed. I continue to recommend a reduction of $880,790 which is shown on Exhibit JD-E-1, Schedule C-11.

Gains on Sales of Utility Property

Q. DID THE COMPANY'S REBUTTAL REGARDING GAINS ON DISPOSITION OF UTILITY PROPERTY CHANGE YOUR POSITION?

A. No. The rebuttal actually provides support for my adjustment. The rebuttal states that customers are paying carrying charges on the property for which the Company received gains. (Trzaska, Statement No. 3-R at 18) As the Company is receiving funds from ratepayers in relation to this property, it is appropriate that the ratepayers receive the gains from the sale of the property.

Corporate Aircraft

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL TO YOUR RECOMMENDED DISALLOWANCE OF CORPORATE AIRCRAFT EXPENSE.

A. The rebuttal argues for allowing the costs for corporate aircraft based on flexibility, discussion of sensitive information, and productivity (Humphrey, Statement No. 2-R at 15-16)

Q. DO YOU AGREE THAT THESE COSTS SHOULD BE ALLOWED?

A. No. These claims of customer benefits are unsupported because the Company does not compare the costs to commercial flights. (OCA-IV-18) Without such a comparison, it cannot be determined if the claimed benefits outweigh the costs. Also, responsive to the Company's claim about having a secure environment for Company senior leaders and Board members to discuss sensitive information, it seems unlikely that those discussions could not be conducted at times other than during flight, e.g., by phone or virtually, or in a secure location at the destination to which they all flew. As the Company cannot demonstrate ratepayer benefits, the corporate aircraft costs should be disallowed.

Employee Volunteer Activities

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL OF YOUR ADJUSTMENT TO EMPLOYEE VOLUNTEER ACTIVITIES.

A. The Company argues that the costs should be allowed because the volunteerism benefits the community, benefits the environment, and supports employee engagement. (Levine, Statement No. 1-R at 10-11)

Q. DOES THIS AFFECT YOUR POSITION?

A. No. The rebuttal supports my position that this volunteer activity is comparable to charitable activities that belong below-the-line. While it may benefit the community and environment, it is clearly unnecessary for the provision of utility service and the costs should be borne by the Company's shareholders. The Company should not be in the position of dictating charitable donations from ratepayers.

Union Ratification Payment

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL CONCERNING YOUR UNION RATIFICATION ADJUSTMENT.

A. The Company claims that this payment should be allowed as it is necessary to retain employees and such bonuses have been paid consistently. (Trzaska, Statement 3-R, at 12.)

Q. DO YOU AGREE WITH THE COMPANY'S REASONING?

A. No. The Company's claim that a ratification bonus "is necessary to retain PECO's talented labor pool and ensure that the Company has access to skilled union workers to meet customer and system needs" is problematic. (Trzaska, Statement No. 3-R at 12) There are two claims in that statement that have not been demonstrated to be accurate. The Company has not demonstrated that a union ratification bonus is necessary to retain employees nor has the Company shown that a ratification bonus ensures that the Company has access to necessary skilled union workers. The latter claim appears to be false based on the Company's historical vacancies as discussed in my direct testimony.

In addition, the Company has not supported the claim that it is a "consistent" cost. The Company has not demonstrated that this cost will occur again, when it would occur, or what the amount would be. As such, the cost should be disallowed. It should also be noted that the Company referred to the cost as a "one time" bonus. (IE-I-RE-29(B))

Q. PLEASE DISCUSS THE IBEW'S REBUTTAL REGARDING THIS ISSUE.

A. IBEW's rebuttal testimony does not address my concern that it is unknown when or if such a payment will occur in the future. (Anastasi, IBEW Rebuttal, at Q&A 6) As such, the testimony did not impact my recommendation.

Rate Case Expense

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL TO YOUR RATE CASE EXPENSE ADJUSTMENT.

A. The Company's rebuttal disagrees with my recommendation of a three-year normalization period. The rebuttal states that "it is not reasonable to assume that PECO could delay a subsequent base rate filing for at least three years." (Trzaska, Statement No. 3-R at 15)

Q. IS IT UNREASONABLE TO ASSUME THAT THE COMPANY MAY WAIT MORE THAN 2 YEARS FOR ITS NEXT RATE CASE?

A. No. Based on the Company's own witnesses' statements, that is not unreasonable at all. First, the rebuttal appears to be inconsistent with itself on this point because it also states "PECO projects that it will need to file another rate case in two **to three years**." (Statement Trzaska, No. 3-R at 14). Second, the Company's response to (I&E-I-RE-19(c)) states "PECO anticipates that base rate filings for its electric distribution operations will be required every two **to three years**." (emphasis added). If the Company itself states that rate cases are expected at two-to-three-year intervals, and more importantly, the historical record shows an average of three years between rate cases, my recommendation of a three-year average should not be considered unreasonable. Going forward, if PECO files rate cases in shorter intervals, that will adjust the Company's actual filing frequency for the purpose of setting an appropriate normalization period.

Vegetation Management

Q. PLEASE DISCUSS THE COMPANY'S REBUTTAL TO YOUR VEGETATION MANAGEMENT ADJUSTMENT.

A. The rebuttal states that the difference in budgeted to actual miles trimmed is not an appropriate basis to reject the Company's proposed increase. (Levine, Statement No. 1-R at 4)

Q. DID YOU BASE YOUR ADJUSTMENT ON MILES TRIMMED?

A. No, although I discussed the fact that the Company failed to trim the budgeted number of miles, that was not the basis for my adjustment. My adjustment was based on the Company underspending $2.7 million for vegetation management over the prior five years.

Q. DID THE REBUTTAL ADDRESS UNDERSPENDING FOR VEGETATION MANAGEMENT?

A. No. The rebuttal discussed reallocating funds from one part of the vegetation management program to another but does not explain the overall underspending over the prior five years. (Levine, Statement No. 1-R at 3)

Q. DO YOU HAVE ANY FURTHER COMMENTS REGARDING THE COMPANY'S REBUTTAL?

A. Yes. The Company's rebuttal explains why it is asking for an increase in vegetation management spending but does not explain why it should be assumed that those funds will be spent when historically that has not been

the case. Again, PECO claims it will file its next base rate case in 2 or 3 years. When it does file its next base rate case, if it has been meeting its spending projections, it may be in a position to better support a claim for an increase. As such, I continue to recommend that the Company be permitted to recover $48,374,073, which is the five-year average of its vegetation management expense.

Q. DID IBEW FILE REBUTTAL TESTIMONY REGARDING VEGETATION MANAGEMENT?

A. Yes. However, as the IBEW testimony did not address my concern with underspending, it did not impact my position.

Storm Expense

Q. PLEASE DISCUSS THE COMPANY'S RESPONSE TO YOUR STORM EXPENSE ADJUSTMENT.

A. The Company's disagrees with my recommendation to disallow inflation related to storm expense stating that costs for costs for labor, materials, and equipment have increased and will continue to increase. (Trzaska, Statement No. 3-R at 17)

Q. DO YOU AGREE WITH THE COMPANY'S ARGUMENT?

A. No, the following chart shows the storm expense for the years 2019-2023. (IE-I-RE-32)

Storm Expense	
2019	$35,910,797
2020	$114,915,918
2021	$53,653,927
2022	$22,260,241
2023	$41,173,459
AVG	$53,582,868

As shown, these costs do not increase each year but fluctuate significantly from year to year. As such, it cannot simply be assumed that the costs will increase from one period to the next.

Q. DO YOU HAVE ANY OTHER CONCERNS WITH THE COMPANY'S REBUTTAL REGARDING STORM EXPENSE?

A. Yes. The Company argues for the inclusion of 2024 costs in its storm expense average. The Company states that these costs occurred during the FTY in this case. (Trzaska, Statement No. 3-R at 18) However, the Company has already acknowledged that the storm occurred outside of the test year (IE-I – RE-31).

Q. DID THE COMPANY'S REBUTTAL CHANGE YOUR OPINION ON THIS POINT?

A. No. Nothing in the Company's rebuttal justified the inclusion of cherry-picked storm costs from outside the test year in the calculation of storm expense.

Storm Reserve

Q. DID THE COMPANY'S REBUTTAL CONCERNING THE ESTABLISHMENT OF A STORM RESERVE IMPACT YOUR POSITION ON THIS ISSUE?

A. No. My testimony recommended against the establishment of a storm reserve primarily because the Company had not demonstrated its necessity. As the Company's rebuttal does not demonstrate that a storm reserve is necessary my position is unchanged.

Q. THE COMPANY'S REBUTTAL CLAIMS THAT YOUR POSITION IS INCONSISTENT. PLEASE EXPLAIN.

A. The Company claims that my recommendation to exclude expenses from extraordinary storms from the storm reserve is inconsistent with my proposal to use a five-year average of actual costs to calculate normalized storm expense because PECO's five-year average includes both major and extraordinary storms. (Trzaska, Statement No. 3-R at 24). First, I want to again emphasize that my recommendation is to reject the establishment of a storm reserve. My recommendations of what should be included in the storm reserve, are in effect only if the Commission decides against that recommendation. Second, based on my review of IE-I-RE-31, my understanding was that there were no extraordinary storms included in the 5-year average. In IE-I-RE-31, the Company was asked to explain significant variances over the 5 years used in the Company's calculation. The response did not identify any extraordinary storms during

that period. If any extraordinary storms are included in the 5-year average, they should be removed from the calculation.

Q. DO YOU HAVE ANY OTHER CONCERNS WITH THE COMPANY'S REBUTTAL?

A. Yes. The rebuttal states that I define "extraordinary storms" as storm damage costs exceeding 5% of income. (Trzaska, Statement No. 3-R at 24). While I did note that a 5% threshold had been discussed, I did not define it that way myself.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, I reserve the right to supplement my testimony based on the receipt of additional relevant information. In addition, my silence on an issue should not be interpreted as agreement with the Company's position.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No. R- 2024-3046931
v.	:	
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, John Defever, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 1SR, 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 2, 2024

Signature: _____
John Defever

Address: Larkin & Associates, PLLC
15728 Farmington Road
Livonia, MI 48154

OCA Statement 2

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931**
PECO Energy Company – Electric Division	**:**	

DIRECT TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 17, 2024

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Appendix A:	Discounted Cash Flow Model Theory
Appendix B:	Capital Asset Pricing Model Theory

I. INTRODUCTION

Q. State your name and occupation.

A. My name is David J. Garrett. I am a consultant specializing in public utility regulation. I am the managing member of Resolve Utility Consulting PLLC.

Q. Summarize your educational background and professional experience.

A. I received a B.B.A. with a major in Finance, an M.B.A., and a Juris Doctor from the University of Oklahoma. I worked in private legal practice for several years before accepting a position as assistant general counsel at the Oklahoma Corporation Commission in 2011. At the commission, I worked in the Office of General Counsel in regulatory proceedings. In 2012, I began working for the Public Utility Division as a regulatory analyst providing testimony in regulatory proceedings. After leaving the commission, I formed Resolve Utility Consulting PLLC, where I have represented various 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").

[1] Exhibit DJG-1.

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

A. My testimony addresses the PECO Energy Company – Electric Division's ("PECO Electric" or the "Company") proposed rate of return in response to the direct testimony of Company witness Paul 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 discuss the concepts of risk and return. 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 rate of return recommendation to the Commission.

A. The key points of my testimony are as follows:

- 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 the market-determined cost of equity for PECO Electric is notably lower than the Company's proposed ROE.
- Mr. Moul's basis for arriving at his ROE recommendation of 10.95% is unsupported and has no logical connection to the results of his financial models applied to the electric proxy group, which are also based on unrealistic assumptions.

- Based on the results of my financial modeling using the DCF and CAPM models, I recommend that the Commission set the Company's market-determined cost of equity at 9.2%, which is the average result of my financial modeling in this case (excluding the sustainable growth DCF Model). The revenue requirement impact of adopting the OCA's recommended 9.2% ROE over PECO's proposed 10.95% ROE is a reduction of approximately $123 million.[2]
- The Commission should reject Company witness Moul's leverage adjustment in his DCF model result. Mr. Moul's leverage adjustment adds 1.38% to his DCF results, making his total DCF result 11.78%.[3]
- The Commission should reject the Company's request for a performance-based adder of 15 basis points to its market-determined ROE[4] as an award for its managerial performance. The requested increment in return on equity is unsupported and excessive. The impact of a 15-basis points ROE change, at PECO's claimed rate base and proposed capital structure, is approximately $10 million.[5]
- PECO's proposed capital structure of 46.60% debt and 53.40% equity[6] deviates from the average debt ratio of its own proxy group. The average capital structure

[2] OCA St. 1, Direct Testimony of John DeFever, p. 7, Exh. JD-E-2, p. 1.

[3] PECO Electric St. 5, Exh. PRM-1, p. 2, Sch. 1.

[4] PECO Electric Witness Paul Moul states that his ROE recommendation of 11.15% for PECO Gas includes "0.15% in recognition of the exemplary performance of the Company's management." PECO Gas St. 5 at 2. PECO Electric Witness Nicole LeVine addresses PECO's "performance and achievements" that demonstrate "superior management performance" in relation to the factors identified in Section 523 of the Public Utility Code," as support for Mr. Moul's recommended "return on equity enhancement." PECO Gas St. 1 at 3, 47.

[5] OCA St. 1, Direct Testimony of John DeFever, p. 7, Exh. JD-E-2, p. 1.

[6] PECO Electric St. 5, Exh. PRM-1, p, 1, Sch. 1.

of the proxy group consists of 55% debt and 45% equity. While it would not be unreasonable for the Commission to impute a ratemaking capital structure for PECO consisting of 55% debt and 45% equity like the proxy group, I am proposing a ratemaking capital structure for PECO consisting of 50% debt and 50% equity, as a necessary but moderate adjustment. The impact on the revenue requirement of adopting the OCA's recommended capital structure over PECO's proposed capital structure, at PECO's claimed rate base and at PECO's proposed ROE of 10.95%, is a reduction of approximately $33 million.[7]

- PECO's proposed cost of debt is 4.58%. I am not proposing any adjustments to PECO's proposed cost of debt.
- My proposed adjustments to the Company's ROE and capital structure result in an overall weighted rate of return of 6.89%. This rate of return balances the interests of consumers and shareholders in contrast to the Company's excessive rate or return proposal.

Q. Please describe the basis for Mr. Moul's 10.95% ROE recommendation.

A. According to Mr. Moul, his proposed 10.95% ROE is composed of a 10.80% cost of equity determined from the results of proxy group analyses and 0.15% for a management performance adder. Mr. Moul states that the 10.80% cost of equity is a blended rate for this case that would apply to both the Electric Division and Gas Division. According to Mr. Moul, the cost of equity for the Electric Division does not include an adjustment he made for the Gas Division rate case to recognize the additional risks of the Gas Division.[8]

[7] OCA St. 1., John DeFever Direct, p. 7, Exh. JD-E-2, p. 2.

[8] PECO Electric St. 5, p. 2, li. 1-14.

Q. Do you agree with Mr. Moul's rationale for the basis of his ROE recommendation?

A. No. There are several flaws in Mr. Moul's rationale. First, as discussed in my testimony, it is unreasonable to apply a management performance adder to a cost of equity estimation or an authorized ROE. Second, there is no need to have a "blended rate" for PECO. There are separate proxy groups in the Electric and Gas cases that have different risk profiles and should result in different cost of equity estimates (as they do). Finally, the average beta of the Gas Division rate case is less than the average beta of the proxy group in the Electric Division case.[9] Thus, there is an objective basis on which to conclude that PECO Gas has less risk than PECO Electric in direct contradiction to Mr. Moul's claims that we should "recognize the additional risks of the Gas Division."[10] Thus, Mr. Moul's recommended ROE of 10.95% for PECO Electric has no logical or supported connection with the results of his models in this case. In addition, since his financial models results are upwardly-biased and unreasonable, the Commission should reject Mr. Moul's proposed ROE in this case.

[9] *See* OCA St. 2, Direct Testimony of David J. Garrett, Exhibit DJG-8, Docket No. R-2024-3046932. In the Gas Division case, Mr. Moul and I used the same proxy group of gas companies. These companies and their individual betas according to Value Line are as follows: Atmos Energy Corp (0.85), Chesapeake Utilities Corp (0.80), New Jersey Resources Corporation (1.00), NiSource Inc. (0.95), Northwest Natural Holding Company (0.85), ONE Gas Inc. (0.85), Southwest Gas Holdings Inc. (0.90), and Spire Inc. (0.90). The average beta of this proxy group is 0.88.

[10] *Id.*

III. REGULATORY STANDARDS

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*,[11] the Supreme Court first addressed the meaning of a fair rate of return for public utilities. The Court found that "the amount of risk in the business is a most important factor" in determining the appropriate allowed rate of return.[12] Later, in two landmark cases, the Court set forth the standards by which utilities are allowed to earn a return on capital investments. In *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*,[13] 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.[14]

In *Federal Power Commission v. Hope Natural Gas Company*,[15] the Court expanded on the guidelines set forth in *Bluefield* and stated:

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[11] *Wilcox v. Consolidated Gas Co. of New York*, 212 U.S. 19 (1909).

[12] *Id*. at 48.

[13] *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

[14] *Id.* at 692-93.

[15] *Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591 (1944).

> 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 in accordance with the foregoing legal standards.

Q. Should the awarded rate of return be based on the Company's actual cost of capital?

A. Yes. The *Hope* Court makes it clear that the allowed return should be based on the actual cost of capital. Moreover, the awarded return must also be fair, just, and reasonable under the circumstances of each case. Under the rate base rate of return model, a utility should be allowed to recover all its reasonable expenses, its capital investments through depreciation, and a return on its capital investments sufficient to satisfy the required return of its investors. The "required return" from the investors' perspective is synonymous with the "cost of capital" from the utility's perspective. Scholars agree that the allowed rate of return should be based on the actual cost of capital:

> 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.[17]

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[16] *Id.* at 603 (emphasis added).

[17] A. Lawrence Kolbe, James A. Read, Jr. & George R. Hall, *The Cost of Capital: Estimating the Rate of Return for Public Utilities*, p. 21 (The MIT Press 1984).

The models I have employed in this case closely estimate the Company's market-based cost of equity. If the Commission sets the awarded return based on my lower, and more reasonable, rate of return, it will comply with the U.S. Supreme Court's standards, allow the Company to maintain its financial integrity, and satisfy the claims of its investors. On the other hand, if the Commission sets the allowed rate of return *higher* than the true cost of capital, it arguably results in an inappropriate transfer of wealth from ratepayers to shareholders.

Q. What does this legal standard mean for determining the awarded return and the cost of capital?

A. It is important to understand that the *awarded* return and the *cost* of capital are different but related concepts. The two concepts are related in that the legal and technical standards encompassing this issue require that the awarded return reflect the true cost of capital. On the other hand, the two concepts are different in that the legal standards do not mandate that awarded returns exactly match the cost of capital. Awarded returns are set through the regulatory process and may be influenced by factors other than objective market drivers. The cost of capital, on the other hand, should be evaluated objectively and be closely tied to economic realities. In other words, the cost of capital is driven by stock prices, dividends, growth rates, and — most importantly — it is driven by 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 actual 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 standard.

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 that the awarded return should be *based on the cost of capital*. If the Commission were to adopt the Company's position in this case, it would be permitting an excess transfer of wealth from customers to Company shareholders. Moreover, establishing an awarded return that far exceeds the 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. This is yet another reason why it is crucial for regulators to focus on the target utility's actual *cost* of equity, rather than 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 market-based cost of equity as estimated through objective models is not influenced by these factors but is instead driven by market-based factors. If regulators rely too heavily on the awarded returns from other jurisdictions, it can create a cycle over time that bears little relation to the market-based cost of equity.

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. 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. These models are the DCF Model and the CAPM. The specific inputs and calculations for these models are described in more detail below.

Q. Please explain why multiple models are used to estimate the cost of equity.

A. The models used to estimate the cost of equity 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 analyses 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. 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 electric utility proxy group that Mr. Moul used for his analyses. Mr. Moul's proxy group is comprised of ten utilities, including Exelon Corporation.[18] 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.[19] By using the same electric utility proxy group, we can remove a relatively insignificant variable from the equation and focus on the primary factors driving the Company's cost of equity estimate in this case.

V. RISK AND RETURN CONCEPTS

Q. Please discuss the general relationship between risk and return.

A. As discussed above, risk is the most important factor for the Commission to consider when determining the allowed 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. 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

[18] PECO Electric Exh. PRM-1, p. 6, Sch. 3 [2 of 2].

[19] *See* Exhibit DJG-2.

reduced sales revenue. This is an example of a firm-specific risk called "project risk."[20] 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, inflation 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.[21]

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 and the company filed for 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 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 her portfolio included 499 other stocks. Each of those stocks, however, would have been affected by

[20] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, pp. 62-63 (3rd ed., John Wiley & Sons, Inc. 2012).

[21] *See* Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments*, p. 149 (9th ed., McGraw-Hill/Irwin 2013).

various *market* risk factors that occurred that year, including the terrorist attacks on September 11th, which affected all stocks in the market. 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 investors minimize firm-specific risk through portfolio diversification?

A. Yes. A fundamental concept in finance is that firm-specific risk can be minimized through diversification.[22] If someone irrationally invested all their funds in one firm (such as Enron), they 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 essentially 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-specific action that changes the stock price of one stock in the diversified portfolio will have only a small impact on the entire portfolio.[23]

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

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[22] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, pp. 179-80 (3rd ed., South Western Cengage Learning 2010).

[23] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, p. 64 (3rd ed., John Wiley & Sons, Inc. 2012).

portfolio.[24] Firm-specific risk is also called "diversifiable risk" because it can be easily eliminated through diversification.

Q. Do investors expect an additional return for assuming firm-specific risks?

A. No. 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:

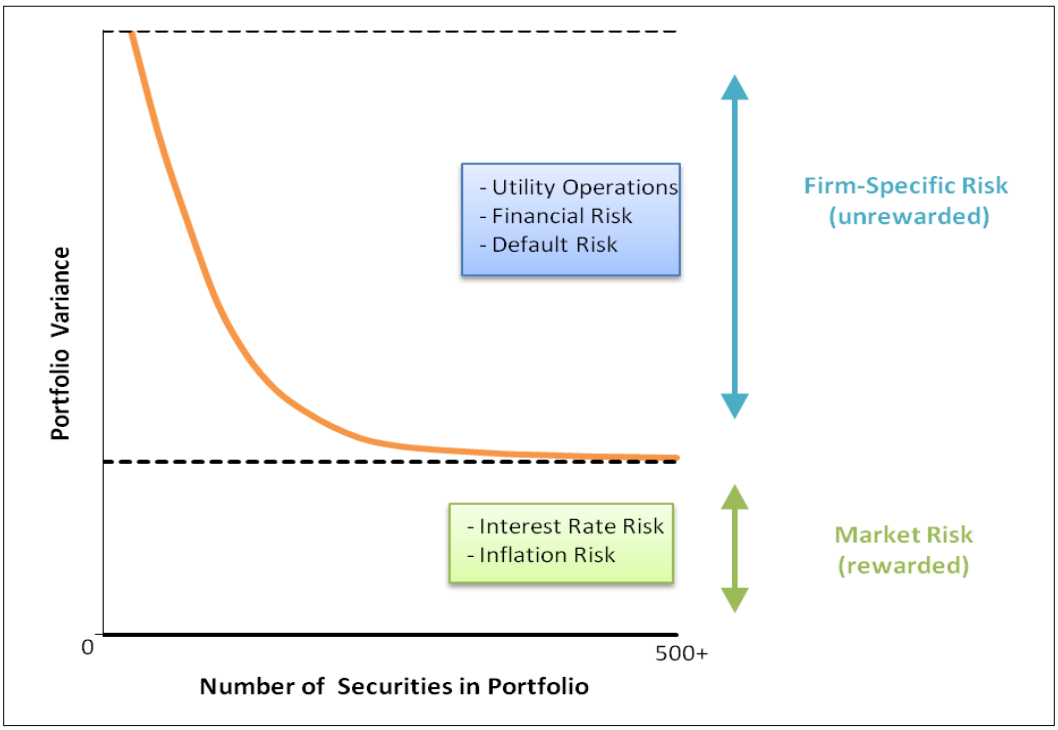
> If investors can cheaply eliminate some risks through diversification, then we should not expect a security to earn higher returns for risks that can be eliminated through diversification. Investors can expect compensation *only* for bearing systematic risk (i.e., risk that cannot be diversified away).[25]

These important concepts are illustrated in the figure below. Some form of this figure is found in many financial textbooks.

[24] *Id.*

[25] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 180 (3rd ed., South Western Cengage Learning 2010).

Figure 1:
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 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 for the utilities it regulates.

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."[26] 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 one are relatively more sensitive to market risk than the average stock. For example, if the market increases (decreases) by 1.0%, a stock with a beta of 1.5 will, on average, increase (decrease) by 1.5%. In contrast, stocks with betas of less than one are less sensitive to market risk, such that if the market increases (decreases) by 1.0%, a stock with a beta of 0.5 will, on average, only increase (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.[27]

Q. Are public utilities characterized as defensive firms that have low betas, 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."[28] 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

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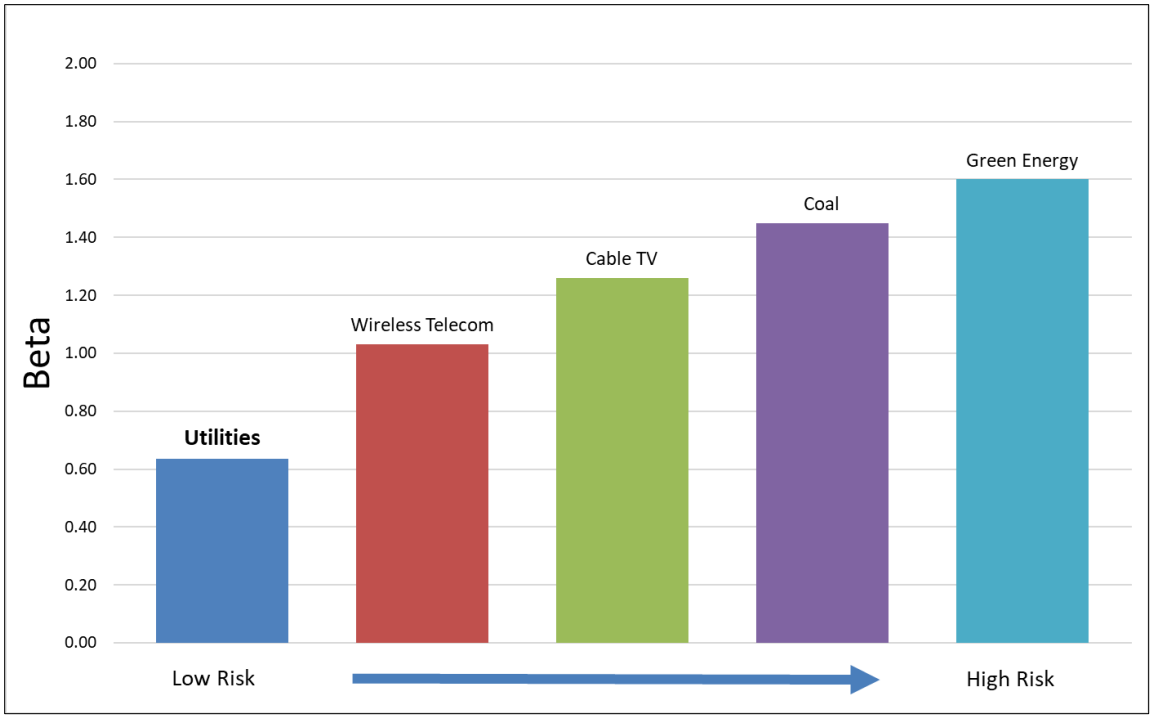
[26] *Id*. at 180-81.

[27] Though it will be discussed in more detail later, Exhibit DJG-9 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.

[28] *See* Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments,* p. 382 (9th ed., McGraw-Hill/Irwin 2013).

by overall market conditions."[29] In fact, financial textbooks often use utility companies as prime examples of low-risk, defensive firms. 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.[30]

Figure 2:
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

[29] *Id*. at 383.

[30] *See* Betas by Sector (US) available at http://pages.stern.nyu.edu/~adamodar/ (2018). (After clicking the link, click "Data" then "Current Data" then "Risk / Discount Rate" from the drop down menu, then "Total Beta by Industry Sector"). The exact beta calculations are not as important as illustrating the well-known fact that utilities are very 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.

safe and reliable service under efficient management. Likewise, utility investors can be confident that utility stock prices will not widely fluctuate. So, while it is recognized and accepted that utilities are defensive firms that experience little market risk and are relatively insulated from market conditions, this fact should also be appropriately reflected in the Company's awarded return.

VI. DISCOUNTED CASH FLOW 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.[31] 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 long-term 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.

[31] Present value (PV) is the current value of a future sum of money or stream of cash flows given a specified rate of return. Present value takes the future value and applies a discount rate or the interest rate that could be earned if invested.

A. Stock Price

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.[32] 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 instantaneously to the arrival of new information.[33] 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 between when an application is filed and when 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

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[32] Exhibit DJG-3.

[33] *See* Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, Vol. 25, No. 2 The Journal of Finance, p. 383 (1970); *see also* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 357 (3rd ed., South Western Cengage Learning 2010). The efficient market hypothesis was formally presented by Eugene Fama in 1970 and is a cornerstone of modern financial theory and practice.

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 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.[34]

B. Dividend

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 used forward-looking annualized dividends published by Yahoo! Finance for the dividend input to my constant growth DCF Model.[35] Dividing these dividends by the stock prices for each proxy company results in the dividend yield for each company.[36]

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 conducted on utilities.

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[34] 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.

[35] Exhibit DJG-4.

[36] *Id*.

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.

C. Growth Rate

Q. Please 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 issue related to DCF model inputs in utility rate cases. The DCF model used in this 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 least understood, aspects of cost of equity estimations in utility regulatory proceedings. I provide a more detailed explanation on the various determinants of growth below.

Q. Describe the various determinants of growth that can be considered for the growth rate input in the DCF Model.

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 rate, 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 sources of confusion in this area.

(1) 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.

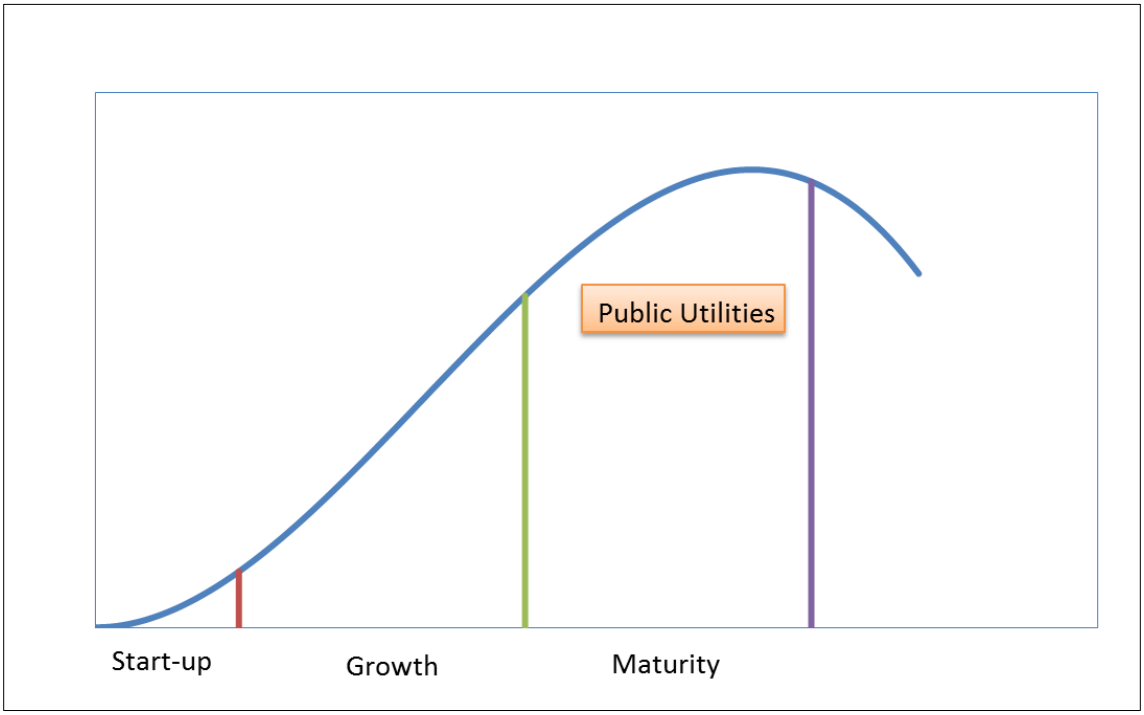
(2) Analyst Growth Rates

Analyst growth rates refer to short-term projections of earnings growth published by institutional research analysts such as Value Line and Bloomberg. Analyst growth rates, including the limitations with using them in the DCF Model to estimate utility cost of equity, are discussed in more detail below.

(3) *Sustainable Growth Rates*

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 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 3:
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 growth rate.

Q. Is the aggregate growth rate of the economy typically a limiting factor for the terminal growth rate in the DCF Model?

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.[37] Thus, the terminal 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."[38]

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

[37] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 306 (3rd ed., John Wiley & Sons, Inc. 2012).

[38] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 306 (3rd ed., John Wiley & Sons, Inc. 2012).

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. According to the Congressional Budget Office's Budget Outlook, the long-term forecast for nominal U.S. GDP growth is 3.8%, which includes an inflation rate of 1.7%.[39] For mature companies in mature industries, such as utility companies, the terminal growth rate will likely fall between the expected rate of inflation and the expected rate of nominal GDP growth.

Q. Did you also consider a variation of the DCF Model that incorporates analysts' growth rate projections?

A. Yes. Despite the potential flaws in this variation of the DCF Model, I conducted this model because it is often presented in rate cases and considered by regulators.

Q. Please describe the results of your DCF Models?

A. For my DCF Models, I considered two variations: one using a sustainable growth rate and one using analysts' growth rates. The results of these models are 9.0% and 8.1%, respectively. In this case, I did not directly consider the results of the sustainable growth variation of my DCF Model in my final ROE recommendation. Thus, the 9.0% result of the analyst growth variation of the DCF Model is the result I considered in my final ROE recommendation.

Q. Why did you not directly include the results of you sustainable growth DCF model in your final ROE recommendation in this case?

A. In this case, the sustainable growth variation of the DCF Model produced a result that is notably lower than the result of the CAPM and analyst growth variation of the DCF Model.

[39] Congressional Budget Office Long-Term Budget Outlook, https://www.cbo.gov/publication/59014.

In particular, the CAPM directly measures the impact of market risk of individual firms and in that regard may result in a more direct assessment of market-based equity costs. Thus, in my professional judgment I did not directly consider the results of the sustainable growth variation of the DCF Model in my final ROE recommendation.

D. Response to Mr. Moul's DCF Model

Q. Please summarize the results of Mr. Moul's DCF analysis.

A. Mr. Moul's DCF Model produced a result of 11.78%, which includes a dividend yield value of 4.40%, a long-term growth rate input of 6.0% and a "leverage adjustment" of 1.38%.[40] Without the leverage adjustment, Mr. Moul's DCF result for the Electric proxy group is 10.40%, a value that Mr. Moul describes as "the low end of the range" of the DCF result for the Electric Group.[41] Mr. Moul's final ROE recommendation of 10.95% is based upon more than his DCF result for the Electric Group. Mr. Moul uses the 10.40% Electric Group result and averages that with a 10.78% DCF value for a gas proxy group. So, Mr. Moul's final ROE recommendation is based in part upon his application of his DCF model to two different proxy groups for two different industries. Mr. Moul bases his final ROE recommendation on the DCF average of 10.57%, which is 17 basis points higher than his DCF result for the Electric Group.

Q. Are Mr. Moul's DCF results reasonable?

A. No. As I address below, Mr. Moul' DCF result of 11.78% is overstated. Even Mr. Moul's 10.40% DCF result for the electric proxy group, without a leverage adjustment, is not a

[40] PECO Electric St. 5 at 7, 38-39, Exhibit PRM-1, p. 2.

[41] PECO Electric St. 5 at 7.

reasonable measure of a market-based cost of equity to set rates for PECO Electric. Although Mr. Moul states it is "the low end of the range of the DCF result for the Electric Group,"[42] Mr. Moul did not separately measure the cost of equity for each individual company within the electric proxy group.[43] So there is no "range" of DCF results evident.

Q. Describe the problems with Mr. Moul's assumed sustainable growth input.

A. First, Mr. Moul assumes a sustainable growth rate of 6.0% in his DCF Model.[44] This effectively means that he assumes the Company's earnings will grow at a rate of 6.0% per year, every year, in perpetuity. This assumption is especially inappropriate considering the earnings, dividends, book value and cash flow growth rate inputs reported for the ten electric proxy companies, including Exelon. Mr. Moul's own exhibits shows that the average historical growth rates for these companies ranges from only 2.25% - 4.2%,[45] Mr. Moul also shows analysts' projected growth rate for his proxy companies, which are on average only 4.8%.[46] Thus, Mr. Moul's long-term growth rate input of 6.0% is substantially higher than the growth rates reported by analysts from his own cited sources. In the analyst growth rate variation of my DCF Model, I used an average growth rate of only 4.7% (which is substantially similar to the average growth rate of 4.8% from Mr. Moul's sources cited above), which represents the average dividend growth rate for the proxy group as reported by Value Line. Given these facts, it is evident that the 6.0% long-term growth rate estimate

[42] PECO Electric St. 5 at 7, line 8.

[43] PECO Electric St. 5 at 5, 7, 23, Exhibit PRM-1, p. 2, Sch. 1.

[44] PECO Electric St. 5, Exh. PRM-1, p. 2, Sch. 1.

[45] PECO Electric St. 5, Exh. PRM-1, p. 16, Sch. 8.

[46] PECO Electric St. 5, Exh. PRM-1, p. 17, Sch. 9 (taking an average of the average growth rate results)

used by Mr. Moul in his DCF Model is clearly too high, and as a result, his DCF cost of equity estimate is grossly overstated.

Q. Please describe Mr. Moul's leverage adjustment.

A. According to Mr. Moul, a leverage adjustment is necessary to account for the risk differential between market-value and book-value capital structures.[47]

Q. Are you aware of any other ROE witnesses applying a leverage adjustment in a similar manner as Mr. Moul is proposing in this case?

A. No. Other than Mr. Moul in previous cases, I am not aware of any other witnesses who apply a leverage adjustment to their cost of equity model results in the way that Mr. Moul does. According to Mr. Moul's logic, this would apparently mean that every other ROE expert, including those testifying for utility companies, is underestimating their cost of equity results.

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 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.[48] 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

[47] PECO Electric St. 5, p. 34, lines 13-15.

[48] *Pa. P.U.C. v. PPL Elec. Util. Corp.*, Docket No. R-2012-2290597, Order at 52 (Dec. 28, 2012).

I&E, the Company's leverage adjustment should be denied."[49] In Columbia Gas'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.[50] In Aqua PA's 2021 base rate case, the Commission denied Aqua PA's request to include a leverage adjustment as contrary to the public interest.[51]

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.[52] 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."[53]

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 model, which is further discussed below. The base result (without the leverage adjustment) of Mr. Moul's DCF Model is 10.4%,[54] which is substantially higher than my DCF result of 9.0%.

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[49] *Id*. at p. 52.

[50] *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).

[51] *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).

[52] *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).

[53] *Id.*

[54] PECO Electric St. 5, Exh. PRM-1, p. 2, Sch. 1.

Q. What is the premise of the Hamada model?

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 model. I discuss the results of the Hamada model in the section below regarding capital structure.

Q. Did Mr. Moul conduct the Hamada Model correctly?

A. No. Mr. Moul uses the Hamada Model to ultimately conclude that PECO Electric is *riskier* than the proxy group (thus forming the basis for his upward adjustment to the Company's cost of equity estimate). However, it is obviously an adjustment in the wrong direction because of this fact: PECO Electric has <u>less debt</u> in its capital structure than the proxy group.[55] It is undisputed that more debt results in more financial risk. Thus, it is impossible for PECO Electric to have less financial risk than the proxy group average. Therefore, there should actually be a *downward* adjustment to PECO's cost of equity estimate (as properly made to the CAPM rather than the DCF Model) to reflect the fact that PECO Electric has less financial risk than the proxy group average.

[55] PECO Electric St. 5, Exh. PRM-1, p. 1, Sch. 1. Exhibit DJG-13.

VII. CAPITAL ASSET PRICING MODEL ANALYSIS

Q. Please describe the CAPM.

A. The CAPM is a market-based model founded on the principle that investors expect higher returns for incurring additional risk.[56] 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,[57] and that "the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding *risks*."[58] The CAPM is a useful model because it directly considers the amount of risk inherent in a business and directly measures the most important component of a fair rate of return analysis: Risk.

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. Each input is discussed separately below.

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[56] William F. Sharpe, *A Simplified Model for Portfolio Analysis*, pp. 277-93 (Management Science IX 1963); *see also* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 208 (3rd ed., South-Western Cengage Learning 2010).

[57] *Wilcox*, 212 U.S. at 48 (emphasis added).

[58] *Hope Natural Gas Co*., 320 U.S. at 603 (emphasis added).

A. The Risk-Free Rate

Q. Please 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 devoid 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. As a result, 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 4.67%.[59]

[59] Exhibit DJG-7.

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 than 1.0 is riskier than the market portfolio. Conversely, a security with a beta less than one is 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. The market portfolio of all stocks has a beta equal to one. Stocks with betas greater than one are relatively more sensitive to market risk than the average stock. In contrast, stocks with betas of less than one are less sensitive to market risk.

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 total proxy group is 0.95.[60] Thus, we have an objective measure to prove the well-known concept that utility stocks are 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 in the interest of reasonableness.[61]

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[60] Exhibit DJG-8.

[61] *See* Appendix B for a more detailed discussion of raw beta calculations and adjustments.

C. The Equity Risk Premium

Q. Describe the equity risk premium.

A. The final term of the CAPM is the equity risk premium ("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 agree that "the single most important variable for making investment decisions is the equity risk premium."[62] 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.

1. Historical Average

Q. Describe the historical equity risk premium.

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.

[62] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns*, p. 4 (Princeton University Press 2002).

Q. What are the limitations of relying solely on a historical average to estimate the current or forward-looking ERP?

A. Some investors may rely on the historic ERP because it is convenient and easy to calculate. But what matters in the CAPM model is the current and forward-looking risk premium.[63] Some investors may think that a historic ERP provides some indication of what the prospective risk premium is; 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.[64] 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.[65] From their extensive analysis, the authors make the following conclusion regarding the prospective ERP:

> The result is a forward-looking, 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.[66]

Indeed, these results are lower than many reported historical risk premiums. Other noted experts agree:

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[63] John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 330 (3rd ed., South-Western Cengage Learning 2010).

[64] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns*, p. 34 (Princeton University Press 2002).

[65] *Id*. at 194.

[66] *Id*.

> 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%.[67]

Regardless of the variations in historic ERP estimates, many leading 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."[68]

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 primarily relied on the ERP reported in expert surveys and the implied ERP method discussed below.

2. Expert Surveys

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 Business School conducts such a survey each year. Its 2024 expert survey reported an average ERP of 5.5%.[69]

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[67] Aswath Damodaran, *Equity Risk Premiums: Determinants, Estimation and Implications – The 2015 Edition*, p. 17 (New York University 2015).

[68] John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 330 (3rd ed., South Western Cengage Learning 2010).

[69] Pablo Fernandez, et al., *Survey: Market Risk Premium and Risk-Free Rate used for 96 countries in 2024* (IESE Business School 2024), copy available at

https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID4754347_code12696.pdf?abstractid=4754347&mirid=1

IESE Business School is the graduate business school of the University of Navarra.

3. Implied Equity Risk Premium

Q. Describe the implied equity risk premium approach.

A. The third method of estimating the ERP is arguably the best. 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 that has been widely used in finance for many years.[70] 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}). 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 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). Equation 1

[70] Myron J. Gordon and Eli Shapiro, *Capital Equipment Analysis: The Required Rate of Profit* 102-10 (Management Science Vol. 3, No. 1 Oct. 1956).

below 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.[71]

Equation 1:
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_{1-5}	=	*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 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 as shown in the following equation.

Equation 2:
Implied Equity Risk Premium

$$Implied\ Expected\ Market\ Return - R_F = Implied\ ERP$$

[71] *See* Exhibit DJG-9 for detailed calculation.

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 required return on the U.S. equity market of 9.8%. I subtracted the risk-free rate to arrive at the implied equity risk premium of 5.1%.[72] 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 2024 using several implied ERP variations was 4.6%.[73] Additionally, Kroll (formerly Duff & Phelps) recently published an ERP estimate of 5.5%.[74]

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, the estimated ERP reported by Kroll, the estimated ERP calculated by Dr. Damodaran, and the implied ERP based on my calculations.[75] The results are presented in the following figure:

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[72] *Id.*

[73] http://pages.stern.nyu.edu/~adamodar/

[74] Kroll, Cost of Capital Recommendations and Potential Upcoming Changes – February 8, 2024 Update.

[75] *See also* Exhibit DJG-10.

Figure 4:
Equity Risk Premium Results

IESE Business School Survey	5.5%
Kroll (Duff & Phelps) Report	5.5%
Damodaran (average)	4.6%
Garrett	5.1%
Average	**5.2%**

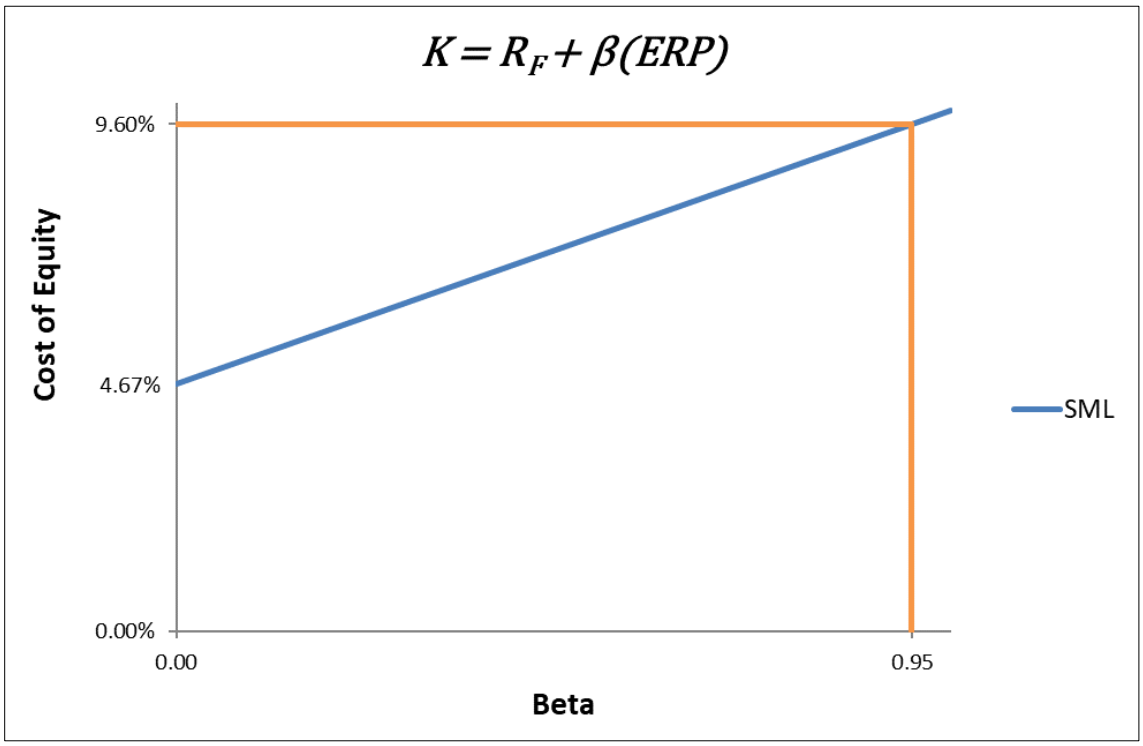
I used the average ERP of 5.2% from these sources in my CAPM.

Q. Please explain the final results of your CAPM analysis.

A. Using the inputs for the risk-free rate, beta, and equity risk premium discussed above, I estimate that the Company's CAPM cost of equity is 9.6%, but only if the proxy group average debt ratio is assumed; otherwise, the Company's CAPM cost of equity estimate is only 8.9%.[76] The CAPM can be displayed graphically through what is known as the Security Market Line ("SML"). The figure below 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.

[76] Exhibits DJG-11 and DJG-12.

Figure 5:
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 0.95 for the proxy group, and assuming the proxy group's average capital structure is used, the CAPM result is 9.6%.

D. Response to Mr. Moul's CAPM Analysis and Other Issues

Q. Please summarize the results of Mr. Moul's CAPM.

A. Mr. Moul estimates a CAPM cost of equity of 13.25%.[77] This includes a beta estimate of 1.15% and an ERP input of 8.26%. These inputs are clearly overestimated, which cause Mr. Moul's CAPM result to be unrealistically high. These issues are discussed further

[77] PECO Electric St. 5 at 48, Exhibit PRM-1, Sch. 1 [2 of 2]. Mr. Moul's testimony lists a different CAPM value of 12.51% for his Electric Group. PECO Electric St. 5 at 7.

below. I also address Mr. Moul's risk premium model in this this section because the CAPM itself is a risk premium model.

1. Beta

Q. Describe Mr. Moul's beta input to the CAPM.

A. Mr. Moul used a beta of 1.15 in his CAPM.[78] This beta is much higher than the average beta of Mr. Moul's electric proxy group as reported by Value Line, which is only 0.95.[79] The difference between a beta of 0.95 and 1.15 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 electric 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 1.15, 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.

[78] PECO Electric St. 5, Exh. PRM-1, p. 3, Sch. 1.

[79] 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 8.26% for the ERP, which is not realistic.[80] 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 5.5%.

Q. Please discuss and illustrate how Mr. Moul's ERP compares with other estimates for the ERP.

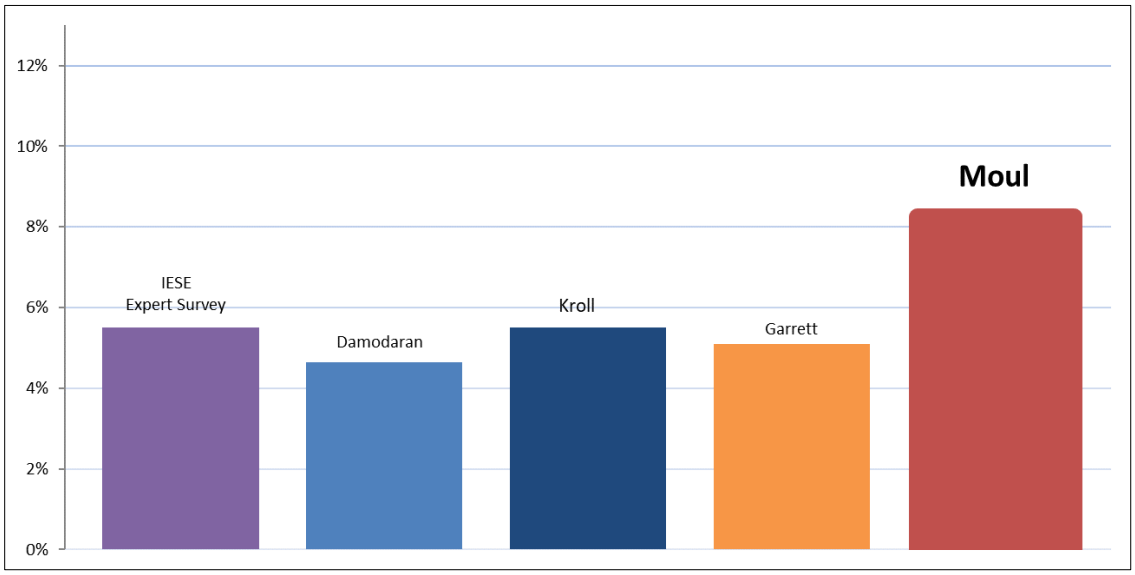
A. The 2024 IESE Business School expert survey reports an average ERP of 5.5%. Similarly, Kroll (formerly Duff & Phelps) recently estimated an ERP of 5.5%. Dr. Damodaran, one of the leading experts on the ERP, recently estimated an ERP of only 4.6%.[81] The chart in

[80] PECO Electric St. 5, p. 45, li. 19-20.

[81] 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.[82]

Figure 6:
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 Effect

Q. Describe Mr. Moul's size premium adjustment to his CAPM.

A. Mr. Moul also suggests that PECO's size relative to the proxy group has an increasing effect to its risk.[83]

[82] The ERP estimated by Dr. Damodaran is the highest of several ERP estimates under slightly differing assumptions.

[83] PECO Electric St. 5, p. 14, li. 8-11.

Q. Do you agree with Mr. Moul's opinion regarding PECO's size?

A. No. PECO should not receive any upward adjustment or consideration to its cost of equity estimate or authorized ROE due to its size. 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."[84] According to Ibbotson, Banz's size effect study was "[o]ne of the most remarkable discoveries of modern finance."[85] 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. . . ." [86] 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:

[84] Rolf W. Banz, *The Relationship Between Return and Market Value of Common Stocks* 3-18 (Journal of Financial Economics 9 (1981)).

[85] 2015 Ibbotson Stocks, Bonds, Bills, and Inflation Classic Yearbook 99 (Morningstar 2015).

[86] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns* 131 (Princeton University Press 2002).

> 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.[87]

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 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.[88]

In addition to the studies discussed above, other scholars have concluded similar results. According to Kalesnik and Beck:

[87] *Id*. at 133.

[88] 2015 Ibbotson Stocks, Bonds, Bills, and Inflation Classic Yearbook 112 (Morningstar 2015).

> 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.[89]

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 adjustment.[90] 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."[91]

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.[92]

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[89] 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).

[90] Order issued December 21, 2021, Application of Palmetto Wastewater Reclamation, before the Public Service Commission of South Carolina, p. 24.

[91] *Id.*

[92] PECO 2020 Order at 141; PECO Gas 2020 Order at 155, 160; Aqua 2021 Order at 177.

4. Risk Premium Model

Q. Please describe Mr. Moul's risk premium model.

A. Mr. Moul conducts another model that takes a 5.0% yield on utility bonds and adds 6.5% as a premium to arrive at a result of 11.5%.[93]

Q. Do you believe the results of Mr. Moul's risk premium model indicated a reasonable cost of equity for PECO Electric?

A. No. There are several problems with Mr. Moul's model. First, this model does not actually measure the cost of equity, which is the most important measure that should be used to assess a reasonable authorized ROE. Both the CAPM and DCF Model have been used for many years across all industries to assess the cost of equity for companies. The CAPM in particular is a risk premium model itself. It takes the expected return on a riskless asset (i.e., the risk-free rate) and adds a "premium" (i.e., the equity risk premium) to represent the return investors expect for investing in all equity securities in the U.S. market. The premise of the CAPM model is simple, it lead to a Nobel Prize for its creators, and it has been discussed in all textbooks I have seen related to finance and investments. In contrast, the risk premium model offered by Mr. Moul does not actually assess the cost of equity. First, it does not begin with a risk-free rate, but rather a yield on utility bonds, which already includes a premium above the real risk-free rate. Then, Mr. Moul adds 6.5% to this figure, which is apparently supposed to represent some form of an equity risk premium. According to Mr. Moul, "the equity risk premium of 6.50% is between the premiums associated with low interest rates (i.e., 7.13%) and average for the entire historical period

[93] PECO Electric St. 5, p. 43, Exh. PRM-1, p. 2, Sch. 1.

interest rates (i.e., 5.96%)."[94] As thoroughly discussed above in the section of my testimony regarding the equity risk premium, the approach offered by Mr. Moul is not remotely close to how an ERP would be properly estimated. Moreover, as also illustrated above, the average ERP reported by thousands of experts across the country is currently about 5.5%, which is significantly less than the 6.5% used by Mr. Moul. For all of these reasons, the Commission should reject Mr. Moul's risk premium model and result.

VIII. MANAGEMENT PERFORMANCE AND COMPANY'S OVERALL CLAIM

Q. Mr. Moul stated that his final ROE recommendation includes 15 basis points for management performance. Do you agree with this approach?

A. No. Mr. Moul's 10.95% recommended cost of equity for the Electric Division is comprised of two parts. There is Mr. Moul's 11.00% cost of equity that he derived from consideration of "PECO being a combination utility…"[95] Additionally, Mr. Moul included "0.15% in recognition of the exemplary performance of the Company's management," relying on the testimony of other PECO Electric witnesses.[96] As discussed in my testimony, the primary driver of the cost of equity and required rate of return is how the market risk impacts individual firms. Managerial performance and the risk of imprudent management is related to firm-specific risks, which are not rewarded by the market because investors can eliminate such risk through diversification of the portfolio, and do not have a material effect on the cost of equity. As investors in competitive firms in the marketplace cannot expect

[94] PECO Electric St. 5, p. 43, li. 9-11.

[95] PECO Electric St. 5, p. 2, li. 7-11.

[96] PECO Electric St. 5, p. 2, li. 4-7, 15-17.

an additional return on equity simply due to prudent managerial performance, the Company as a regulated firm should not receive any premium in addition to an authorized market-based ROE due to prudent managerial performance.

Q. Are Mr. Moul and the PECO Electric witnesses recommending the 0.15% performance adder based upon the performance of the Gas Division management or PECO Energy as the diversified utility?

A. Mr. Moul refers to "the Company's management," which could imply PECO Electric management. However, as discussed by OCA witnesses, Nicholas DeMarco and Roger Colton, a number of the activities cited by PECO Electric witness Nicole LeVine as support for the management adder are specific to PECO Energy and may serve customers of both the Gas Division and Electric Division.[97] In other words, Mr. Moul's recommended addition of 15 basis points for management performance would charge Electric Division ratepayers a higher ROE for services provided by the diversified PECO Energy.

Q. Do you agree with Mr. Moul's recommended addition of 0.15% to set the ROE for PECO Electric?

A. No. While Section 523 of the Public Utility Code gives the Commission the discretion to consider the efficiency, effectiveness and adequacy of service when determining just and reasonable rates, it requires the Commission to "give effect to this section by making such adjustments to specific components of the utility's claimed cost of service as it may determine to be proper and appropriate." I my opinion, it would be neither proper nor appropriate for the Commission to award an ROE bump for prudent managerial performance when they invest in competitive firms in the marketplace. For all the reasons I have explained in my testimony, and despite any contrary notion advocated for by

[97] OCA St. 5, Nicholas DeMarco Direct, pp. 2-24; OCA St. 4, Roger Colton Direct, pp. 3-6, 16-17, 84-92.

regulated utilities, ROE is not a "quid-pro-quo" concept. Increments to cost of equity should not be awarded in return for a utility's management operating the public utility company in a prudent manner as required by law.

Q. What is the monetary value of Mr. Moul's recommendation for an ROE increase for managerial performance?

A. Mr. Moul's recommendation for a performance-based increment of 15 basis points in the Company's ROE would cost PECO Gas consumers up to an additional $33 million per year in rates,[98] which is excessive and unsupported.

Q. What is your conclusion?

A. In conclusion, for the reasons stated above, the Commission should reject PECO Electric's request for an ROE at 10.95% inclusive of a performance-based adder of 15 basis points. As discussed above and admitted in the Company's testimony, Mr. Moul's base ROE of 10.80% is not a market-determined ROE for PECO Electric. The request for the 15 basis point increment to return on equity is unsupported, excessive, and inappropriate. An objective cost of equity analysis shows that PECO Electric's market-determined equity return is notably lower than the Company's proposed ROE of 10.80%. Based on the results of my financial modeling using the DCF and CAPM models, I recommend that the Commission set the Company's market-determined cost of equity at 9.2%. My recommended 9.2% ROE for PECO Gas is based upon the average of my model results (excluding the sustainable growth variation of the DCF Model) as applied to the proxy group.

[98] OCA St. 1 at 7, Exh. JD-E-2, p. 2.

IX. 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. Please explain the concept of the "weighted average cost of capital."

A. The term "cost of capital" refers to the weighted average cost of all the components of a company's capital structure, including debt and equity. Determining the cost of debt is relatively straightforward. 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 cost of debt, there is no explicit "cost" of equity; the cost of equity must be estimated through various financial models. Thus, the overall weighted average cost of capital includes the cost of debt and the estimated cost of equity. It is a "weighted average" because it is based upon the Company's relative levels of debt and

equity, or "capital structure." 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 closely estimated. The basic WACC equation used in regulatory proceedings is presented as follows:

Equation 3:
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*

Thus, the three components of the weighted average cost of capital include the following:

(1) Cost of Equity

(2) Cost of Debt

(3) Capital Structure

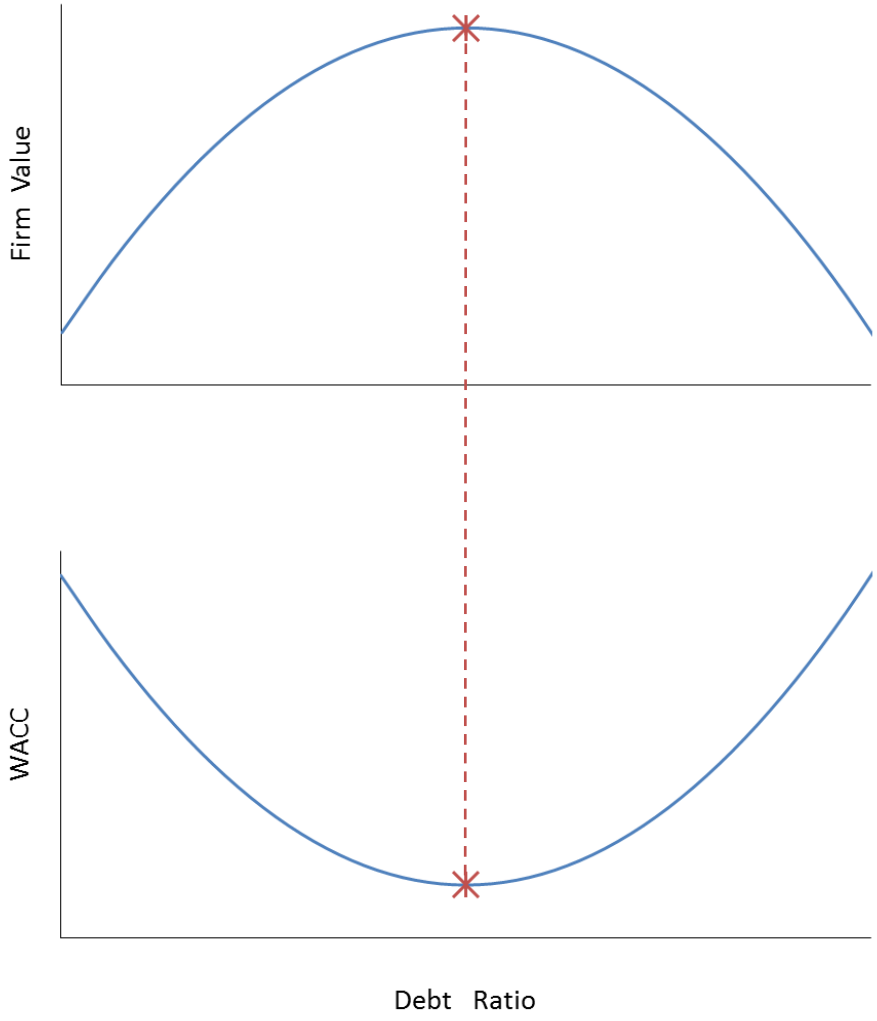
The term "cost of capital" is necessarily synonymous with the "weighted average cost of capital," and the terms are used interchangeably throughout this testimony.

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 7 illustrates these concepts.

Figure 7:
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.

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 4:
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*
	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. Left unrestrained, utilities will increase their equity and decrease their debt to unreasonably increase their profits that flow through to shareholders.

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.[99]

Note that Dr. Damodaran 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.

A. Proxy and Industry Debt Ratios

Q. Please describe the debt ratios of the proxy group.

A. According to the debt ratios recently reported in Value Line for the utility proxy group, the average debt ratio of the proxy group is 55% and the average equity ratio is 45%. More importantly, this means that PECO Electric has a lower level of financial risk relative to the proxy group – a discrepancy that can be mathematically accounted for in terms of cost of equity estimation through the Hamada Model, which is discussed in more detail below.

Q. Please describe the debt ratios recently observed in competitive U.S. industries.

A. There are nearly 2,000 firms in U.S. industries with higher debt ratios than 50%, and with an average debt ratio of about 61%.[100] The following figure shows a sample of these industries with debt ratios higher than 56%.

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[99] *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, p. 196 (emphasis added).

[100] *See* Exhibit DJG-14.

Figure 8:
Industries with Debt Ratios Greater than 56%

Industry	# Firms	Debt Ratio
Air Transport	21	84%
Hotel/Gaming	69	82%
Hospitals/Healthcare Facilities	34	82%
Retail (Automotive)	30	78%
Brokerage & Investment Banking	30	76%
Computers/Peripherals	42	71%
Bank (Money Center)	7	68%
Cable TV	10	68%
Food Wholesalers	14	67%
Advertising	58	67%
Oil/Gas Distribution	23	66%
Rubber& Tires	3	65%
Transportation (Railroads)	4	65%
Real Estate (Operations & Services)	60	64%
Retail (Grocery and Food)	13	64%
Retail (Special Lines)	78	64%
Recreation	57	62%
Insurance (Life)	27	61%
Trucking	35	61%
Packaging & Container	25	61%
Power	48	60%
Telecom. Services	49	60%
Telecom (Wireless)	16	60%
R.E.I.T.	223	60%
Auto & Truck	31	59%
Utility (General)	15	59%
Household Products	127	58%
Office Equipment & Services	16	58%
Environmental & Waste Services	62	57%
Utility (Water)	16	57%
Retail (Distributors)	69	57%
Transportation	18	57%
Green & Renewable Energy	19	57%
Total / Average	**1,349**	**65%**

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

generally prefer these higher debt ratios in order to maximize their profits. There are several notable industries that are relatively comparable to public utilities. For example, the Cable TV, Telecom, Power, and Water Utility industries all have an average debt ratio of about 60%.

Q. Are you basing your capital structure recommendation on any industry or company outside of the proxy group?

A. No. My recommended capital structure of 50% debt and 50% equity is based upon, though not equal to the proxy group's average capital structure consisting of 55% debt and 45% equity.[101] I present the capital structures observed in other competitive industries to show it is not uncommon for firms to operate with relatively higher amounts of leverage.

B. The Hamada Model: Capital Structure's Effect on ROE

Q. Have you considered the impact that your capital structure recommendation could have on the company's indicated cost of equity?

A. Yes. I assessed the impact of my capital structure proposal on the Company's cost of equity estimate by using the Hamada model.

Q. What is the premise of the Hamada model?

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

[101] Exhibit DJG-13.

removed, which is accomplished through the Hamada formula. The Hamada formula for unlevering beta is stated as follows:[102]

Equation 5:
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).

Q. Please summarize the results of the Hamada formula based on your proposed capital structure for the company.

A. The average capital structure of the electric proxy group consists of 55% debt and 45% equity. Because PECO Electric's debt ratio is notably lower than that of the proxy group, when PECO Electric is "relevered" to match the proxy group, it results in a lower ROE than if PECO Electric had been operating with a capital structure equal to that of the proxy group. This makes sense because PECO Electric has less financial risk relative to the proxy group due to the lower amount of debt in its capital structure. The results of my Hamada model are presented in the following figure.

[102] Damodaran *supra* n. 22 at 197. This formula was originally developed by Hamada in 1972.

Figure 9:
Hamada Model ROE

Unlevering Beta	
Proxy Debt Ratio	55%
Proxy Equity Ratio	45%
Proxy Debt / Equity Ratio	1.2
Tax Rate	21%
Equity Risk Premium	5.2%
Risk-free Rate	4.7%
Proxy Group Beta	0.95
Unlevered Beta	0.48

Relevered Betas and Cost of Equity Estimates

Debt Ratio	D/E Ratio	Levered Beta	Cost of Equity
0%	0.0	0.48	7.2%
20%	0.3	0.58	7.7%
30%	0.4	0.65	8.0%
40%	0.7	0.74	8.5%
47%	0.9	0.82	8.9%
55%	1.2	0.95	9.6%
60%	1.5	1.06	10.1%

According to the results of the Hamada model, if the Commission were to adopt the Company's proposed capital structure, its indicated cost of equity estimate (under the CAPM) would be 8.9%.

X. CONCLUSION

Q. Please summarize your analyses and conclusions regarding PECO's cost of equity.

A. A utility's awarded ROE should be based on its cost of equity, which can be estimated using various financial models. In estimating PECO's cost of equity, I performed a cost of

equity analysis on a proxy group of utility companies using the two most widely-used and widely-accepted financial models for calculating cost of equity in utility rate proceedings: the CAPM and DCF Model. I conducted two variations of both the CAPM and DCF Model. The results are shown in the figure below.

Figure 10:
Cost of Equity Model Summary

Model	Cost of Equity
CAPM (at Proxy Debt Ratio)	9.6%
Hamada CAPM (at Company-Proposed Debt Ratio)	8.9%
DCF Model (Analyst Growth)	9.0%
DCF Model (Sustainable Growth)	8.1%
Average all Models	**8.9%**
Average (without Sustainable DCF)	**9.2%**

As shown in this figure, the average result of my models is 8.9%, and if the results of the sustainable growth variation of the DCF Model are removed from the calculation, the average result of my models is 9.2%.

Q. Please describe why the Commission should reject Mr. Moul's 10.95% ROE recommendation for PECO Electric.

A. According to Mr. Moul, his proposed 10.95% ROE is composed of a 10.80% cost of equity and 0.15% for a management performance adder. Mr. Moul states that the 10.80% cost of equity is a blended rate for this case that would apply to both the Electric Division and Gas Division. According to Mr. Moul, the cost of equity for the Electric Division does not call for a further adjustment to recognize any additional risks for electric industry relative to

gas industry.[103] Mr. Moul's recommended 10.95% ROE should be rejected. It is unreasonable to apply a management performance adder to a cost of equity estimation or an authorized ROE. Moreover, there is no need to have a "blended rate" for PECO Electric. There are separate proxy groups in the Electric and Gas cases that have different risk profiles and should result in different cost of equity estimates. Finally, the average beta of the Gas Division rate case is less than the average beta of the proxy group in the Electric Division case. Thus, there is an objective basis on which to conclude that PECO Gas has *less risk* than PECO Electric in direct contradiction to Mr. Moul's claims that we should recognize the additional risks of the Gas Division. Thus, Mr. Moul's recommended ROE for PECO Electric has no logical or supported connection with the results of his models in this case.

Q. Please summarize your recommendation to the Commission regarding PECO's authorized rate of return.

A. I am recommending an authorized ROE of 9.2% for PECO. I also recommend the Commission impute a capital structure for PECO for ratemaking purposes consisting of 50% debt and 50% equity. My recommendations are summarized in the following table.

Figure 11:
Awarded Rate of Return Recommendation

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	50.0%	4.58%	2.3%
Common Equity	50.0%	9.20%	4.6%
Total	100.0%		6.89%

[103] PECO St. 5, p. 2, li. 1-14.

As shown in this figure, adopting my proposed adjustments to the Company's ROE and capital structure would result in a weighted average authorized rate of return of 6.89%.

Q. Does this conclude your testimony?

A. Yes.

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:[1]

Equation 1:
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. Since 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:

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;

[1] *See* Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments* 410 (9th ed., McGraw-Hill/Irwin 2013).

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 2:
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 directly for the required return (K). In addition, by assuming that dividends grow at a constant rate, the dividend stream from the General DCF Model may be essentially substituted with a term representing the expected constant 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 four additional assumptions as follows:[2]

[2] *Id.* at 254-56.

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 constant 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.[1] 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.[2]

[1] William F. Sharpe, *A Simplified Model for Portfolio Analysis* 277-93 (Management Science IX 1963); *see also* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 208 (3rd ed., South Western Cengage Learning 2010).

[2] *Id*.

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:

Equation 1:
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:[3]

Equation 2:
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*

[3] 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).

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 for beta's natural tendency to revert to an underlying mean.[4] Some analysts use an adjustment method proposed by Blume, which adjusts raw betas toward the market mean of one.[5] 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."[6] 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.[7] 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

[4] *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).

[5] See Marshall Blume, *On the Assessment of Risk*, Vol. 26, No. 1, The Journal of Finance 1 (1971).

[6] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 187 (3rd ed., John Wiley & Sons, Inc. 2012).

[7] 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).

statistical quality of the regression."[8] The Vasicek beta adjustment equation is expressed as follows:

Equation 3:
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. *This is most useful in looking at companies in industries that on average have high or low betas*.[9]

[8] 2012 Ibbotson Stocks, Bonds, Bills, and Inflation Valuation Yearbook 77-78 (Morningstar 2012).

[9] *Id*. at 78 (emphasis added).

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 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."[10] 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."[11] In conducting the Vasicek adjustment on betas in previous cases, it reveals that utility betas are even lower than those published by Value Line.[12] 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.

[10] 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).

[11] *Id*. at 91-92.

[12] *See e.g.* Responsive Testimony of David J. Garrett, filed March 21, 2016 in Cause No. PUD 201500273 before the Corporation Commission of Oklahoma (the Company's 2015 rate case), at pp. 56 – 59.

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University of Oklahoma — Norman, OK
Master of Business Administration — 2014
Areas of Concentration: Finance, Energy

University of Oklahoma College of Law — Norman, OK
Juris Doctor — 2007
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University of Oklahoma — Norman, OK
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PROFESSIONAL DESIGNATIONS

Society of Depreciation Professionals
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WORK EXPERIENCE

Resolve Utility Consulting PLLC — Oklahoma City, OK
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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
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University of Oklahoma — Norman, OK
Adjunct Instructor – "Conflict Resolution" — 2014 – 2021
Adjunct Instructor – "Ethics in Leadership"

Rose State College — Midwest City, OK
Adjunct Instructor – "Legal Research" — 2013 – 2015
Adjunct Instructor – "Oil & Gas Law"

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
Public Utilities Commission of Nevada	Southwest Gas Corporation	23-09012	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Public Utilities Commission of the State of California	Southern California Edison	A.23-05-010	Depreciation rates, service lives, net salvage	The Utility Reform Network
Pennsylvania Public Utility Commission	Pennsylvania-American Water Company	R-2023-3043189 R-2023-3043190	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45967	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Massachusetts Department of Public Utilities	Massachusetts Electric Company and Nantucket Electric Company D/B/A National Grid	D.P.U. 23-150	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Iowa Utilities Board	Interstate Power and Light Company	RPU-2023-0002	Depreciation rates, service lives, net salvage	Office of Consumer Advocate
Public Service Commission of South Carolina	Duke Energy Carolinas	2023-388-E 2023-403-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Indiana Utility Regulatory Commission	Citizens Energy Group	45988	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Railroad Commission of Texas	CenterPoint Energy Resources Corp.	OS-23-00015513	Depreciation rates, service lives, net salvage	Alliance of CenterPoint Municipalities
Indiana Utility Regulatory Commission	CenterPoint Energy Indiana South	45990	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Delaware Public Service Commission	Artesian Water Company, Inc.	23-0601	Cost of capital, depreciation rates, net salvage	Division of the Public Advocate
Maryland Public Service Commission	Washington Gas Light Company	9704	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Delaware Public Service Commission	Veolia Water Delaware Inc.	23-0598	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	United Illuminating Company	22-08-08	Depreciation rates, service lives, net salvage	PURA Staff

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 54634	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Railroad Commission of Texas	SiEnergy, LP	OS-23-00013504	Depreciation rates, service lives, net salvage	Texas municipal intervenor group
Pennsylvania Public Utility Commission	Aqua Pennsylvania, Inc.	A-2022-3034143	Fair market value review	Pennsylvania Office of Consumer Advocate
Wyoming Public Service Commission	Rocky Mountain Power	20000-633-ER-23	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Maryland Public Service Commission	Potomac Electric Power Company	9702	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Public Utilities Commission of Nevada	Nevada Power Company d/b/a NV Energy	23-06007 23-06008	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Public Utilities Commission of Ohio	Northeast Ohio Natural Gas Corp.	23-0154-GA-AIR	Cost of capital, awarded rate of return, capital structure	Office of the Ohio Consumers' Counsel
New York State Public Service Commission	The Brooklyn Untion Gas Company and Keyspan Gas East Corporation d/b/a Nation Grid	23-G-0225 23-G-0226	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-23-11	Cost of capital, awarded rate of return, capital structure	Micron Technology, Inc.
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45933	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Massachusetts Department of Public Utilities	Fitchburg Gas and Electric Company d/b/a Unitil	D.P.U. 23-80; D.P.U. 23-81	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Kansas Corporation Commission	Evergy Kansas Central, Evergy Kansas South, and Evergy Metro	23-EKCE-775-RTS	Depreciation rates, service lives, net salvage	The Citizens' Utility Ratepayer Board
Delaware Public Service Commission	Delmarva Power & Light Company	22-0897	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	Connecticut Water Company	23-08-32	Depreciation rates, service lives, net salvage	PURA Staff

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Connecticut Public Utilities Regulatory Authority	Connecticut Natural Gas Corporation and The Southern Connecticut Gas Company	23-11-02	Depreciation rates, service lives, net salvage	PURA Staff
Railroad Commission of Texas	Atmos Pipeline – Texas	OS-23-00013758	Depreciation rates, service lives, net salvage	Atmos Texas Municipalities
Wyoming Public Service Commission	Black Hills Wyoming Gas	30026-78-GR-23	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Indiana Utility Regulatory Commission	Indianapolis Power & Light Company d/b/a AES Indiana	45911	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
New Mexico Public Regulation Commission	Southwestern Public Service Company	22-00286-UT	Cost of capital, depreciation rates, net salvage	The New Mexico Large Customer Group; Occidental Permian
Public Utilities Commission of the State of California	Southern California Gas Company San Diego Gas & Electric Company	A.22-05-015 A.22-05-016	Depreciation rates, service lives, net salvage	The Utility Reform Network
Public Utilties Commission of the State of Colorado	Public Service Company of Colorado	22AL-0530E 22AL-0478E	Cost of capital, awarded rate of return, capital structure	Colorado Energy Consumers
New Mexico Public Regulatory Commission	Public Service Company of New Mexico	22-00270-UT	Cost of capital, depreciation rates, net salvage	The Albuquerque Bernalillo County Water Utility Authority
Florida Public Service Commission	Peoples Gas System	20230023-GU 20220219-GU 20220212-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Maryland Public Service Commission	Potomac Edison Company	9695	Cost of capital, depreciation rates, net salvage	Maryland Office of People's Counsel
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	2022.11.099	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Indiana-American Water Company	45870	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Dominion Energy South Carolina	2023-70-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Maryland Public Service Commission	Columbia Gas of Maryland	9701	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Pennsylvania Public Utility Commission	Columbia Water Company	R-2023-3040258	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Baltimore Gas and Electric Company	9692	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-22-0144	Cost of capital, awarded rate of return, capital structure	Residential Utility Consumer Office
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 2022-000093	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Public Service Commission of the State of Montana	NorthWestern Energy	2022.07.078	Cost of capital, depreciation rates, net salvage	Montana Consumer Counsel and Montana Large Customer Group
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45772	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Duke Energy Progress	2022-254-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Wyoming Public Service Commission	Cheyenne Light, Fuel and Power Company D/B/A Black Hills Energy	20003-214-ER-22	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	OS-22-00009896	Depreciation rates, service lives, net salvage	The City of El Paso
Public Utilities Commission of Nevada	Sierra Pacific Power Company	22-06014	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Washington Utilities & Transportation Commission	Puget Sound Energy	UE-220066 UG-220067 UG-210918	Depreciation rates, service lives, net salvage	Washington Office of Attorney General
Public Utility Commission of Texas	Oncor Electric Delivery Company LLC	PUC 53601	Depreciation rates, service lives, net salvage	Alliance of Oncor Cities
Florida Public Service Commission	Florida Public Utilities Company	20220067-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 53719	Depreciation rates, decommissioning costs	Texas Municipal Group

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Florida Public Service Commission	Florida City Gas	2020069-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Connecticut Public Utilities Regulatory Authority	Aquarion Water Company of Connecticut	22-07-01	Depreciation rates, service lives, net salvage	PURA Staff
Washington Utilities & Transportation Commission	Avista Corporation	UE-220053 UG-220054 UE-210854	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Federal Energy Regulatory Commission	ANR Pipeline Company	RP22-501-000	Depreciation rates, service lives, net salvage	Ascent Resources - Utica, LLC
Pennsylvania Public Utility Commission	Columbia Gas of Pennsylvania, Inc.	R-2022-3031211	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Piedmont Natural Gas Company	2022-89-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	UGI Utilities, Inc. - Gas Division	R-2021-3030218	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	A.21-06-021	Depreciation rates, service lives, net salvage	The Utility Reform Network
Pennsylvania Public Utility Commission	PECO Energy Company - Gas Division	R-2022-3031113	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 202100164	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Massachusetts Department of Public Utilities	NSTAR Electric Company D/B/A Eversource Energy	D.P.U. 22-22	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Michigan Public Service Company	DTE Electric Company	U-20836	Cost of capital, awarded rate of return, capital structure	Michigan Environmental Council and Citizens Utility Board of Michigan
New York State Public Service Commission	Consolidated Edison Company of New York, Inc.	22-E-0064 22-G-0065	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utility Commission of Texas	El Paso Electric Company	PUC 52195	Depreciation rates, service lives, net salvage	The City of El Paso
Pennsylvania Public Utility Commission	Aqua Pennsylvania	R-2021-3027385	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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
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
AVANGRID, Inc	AGR	14,200	Large Cap	2	A
Consolidated Edison Inc	ED	32,500	Large Cap	1	A+
Dominion Energy, Inc.	D	42,800	Large Cap	3	B++
Duke Energy Corporation	DUK	76,100	Large Cap	2	A
Eversource Energy	ES	21,100	Large Cap	2	A
Exelon Corp	EXC	37,700	Large Cap	2	B++
FirstEnergy Corp	FE	22,300	Large Cap	3	B++
NextEra Energy Inc	NEE	138,000	Large Cap	3	A
PPL Corp	PPL	20,300	Large Cap	3	A
Public Service Enterprise Group Inc	PEG	34,200	Large Cap	1	A

Value Line Investment Survey

DCF - Stock and Index Prices

Ticker	^GSPC	AGR	ED	D	DUK	ES	EXC	FE	NEE	PPL	PEG
30-day Average	5131	36.53	92.70	50.63	97.77	59.42	37.21	38.32	68.09	27.69	68.95
Standard Deviation	92.3	0.54	3.35	1.78	3.08	1.20	0.77	1.08	4.57	0.99	3.26
04/05/24	5204	36.03	88.89	48.57	94.96	57.82	36.97	37.60	64.18	27.22	66.52
04/08/24	5202	35.80	89.83	48.78	95.35	58.77	37.41	37.95	64.86	27.38	66.79
04/09/24	5210	35.85	90.36	49.55	96.35	59.26	37.49	38.05	65.38	27.53	67.20
04/10/24	5161	35.91	88.13	48.80	94.46	58.38	36.54	37.43	64.01	26.92	66.57
04/11/24	5199	35.76	87.80	49.02	94.34	58.46	36.44	37.21	63.94	26.74	66.45
04/12/24	5123	35.75	87.88	48.91	93.96	58.10	36.12	37.00	63.08	26.63	65.87
04/15/24	5062	35.94	88.56	47.92	93.20	57.56	35.91	36.99	62.75	26.43	65.20
04/16/24	5051	35.71	86.68	46.86	91.95	56.53	35.40	36.43	61.70	26.01	64.28
04/17/24	5022	36.04	89.56	48.32	93.56	57.82	36.06	37.04	63.79	26.42	65.03
04/18/24	5011	36.24	90.13	48.57	94.98	58.30	36.32	37.22	64.01	26.62	65.10
04/19/24	4967	36.87	90.99	49.84	97.27	58.99	37.18	37.76	64.30	27.02	65.74
04/22/24	5011	37.05	91.94	50.63	97.15	59.59	37.30	37.80	65.31	27.37	66.71
04/23/24	5071	36.84	92.05	50.67	97.23	59.64	37.19	37.71	66.20	27.24	66.49
04/24/24	5072	37.02	92.64	51.23	97.98	60.13	37.40	37.89	66.56	27.37	67.23
04/25/24	5048	36.55	93.31	50.97	98.05	59.81	37.29	38.15	66.90	27.30	68.09
04/26/24	5100	36.38	92.14	50.45	96.74	58.76	36.95	37.72	65.99	27.02	67.82
04/29/24	5116	36.63	93.17	51.14	97.75	59.75	37.35	38.36	67.42	27.53	68.64
04/30/24	5036	36.53	93.60	50.98	97.29	59.91	37.21	37.92	66.97	27.46	69.08
05/01/24	5018	36.65	93.99	51.15	98.79	60.90	37.46	38.28	68.61	28.00	69.81
05/02/24	5064	36.55	94.44	51.16	98.33	60.04	37.51	38.67	68.85	27.92	70.02
05/03/24	5128	36.62	94.75	51.40	99.27	59.31	37.04	38.82	70.14	28.09	70.45
05/06/24	5181	36.80	95.31	51.41	99.42	59.01	37.18	38.95	71.25	28.09	71.34
05/07/24	5188	36.78	96.67	52.12	101.25	60.45	37.53	39.35	71.95	28.35	71.98
05/08/24	5188	36.36	96.74	52.15	101.36	60.32	37.45	39.47	72.85	28.52	72.56
05/09/24	5214	36.85	97.29	52.84	102.00	61.03	37.95	39.84	74.58	28.91	73.60
05/10/24	5223	36.85	96.87	53.07	101.65	61.19	37.67	39.94	73.79	29.14	74.01
05/13/24	5221	37.30	96.81	53.04	101.87	60.56	38.13	39.69	74.58	29.17	73.49
05/14/24	5247	37.16	96.64	52.84	101.30	60.19	38.40	39.84	75.42	29.19	73.74
05/15/24	5308	37.55	96.91	53.22	102.32	60.53	38.73	40.26	77.05	29.57	74.45
05/16/24	5297	37.53	96.91	53.30	102.84	61.46	38.62	40.22	76.41	29.61	74.22

All prices are adjusted closing prices reported by Yahoo! Finance, http://finance.yahoo.com

DCF - Dividend Yields

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield
AVANGRID, Inc	AGR	1.76	36.53	4.82%
Consolidated Edison Inc	ED	3.32	92.70	3.58%
Dominion Energy, Inc.	D	2.67	50.63	5.27%
Duke Energy Corporation	DUK	4.10	97.77	4.19%
Eversource Energy	ES	2.86	59.42	4.81%
Exelon Corp	EXC	1.52	37.21	4.09%
FirstEnergy Corp	FE	1.70	38.32	4.44%
NextEra Energy Inc	NEE	2.06	68.09	3.03%
PPL Corp	PPL	1.03	27.69	3.72%
Public Service Enterprise Group Inc	PEG	2.40	68.95	3.48%
Average		**$2.34**	**$57.73**	**4.14%**

[1] Yahoo Finance

[2] Average stock price from Exhibit DJG-3

[3] = [1] / [2]

DCF - Terminal Growth Rate Determinants

Terminal Growth Determinants	Rate	
Nominal GDP	3.8%	[1]
Real GDP	1.7%	[2]
PECO Load Growth (GWhs)	-0.8%	[3]
PECO Electric Customers	0.7%	[4]
Average	1.4%	
Long-Term Growth Ceiling	**3.8%**	

[1],[2] CBO, The 2024 Long-Term Budget Outlook, p. 34

[3], [4] Response to OCA-VII-12(a)(b) (CAGR 2014-2023)

DCF - Final Result

Company	Ticker	[1] Dividend Yield	[2] Analyst Growth	[3] Sustainable Growth	[4] DCF Result (Analyst Growth)	[5] DCF Result (Sustainable Growth)
AVANGRID, Inc	AGR	4.8%	3.5%	3.8%	8.5%	8.8%
Consolidated Edison Inc	ED	3.6%	3.5%	3.8%	7.2%	7.5%
Dominion Energy, Inc.	D	5.3%	0.5%	3.8%	5.8%	9.3%
Duke Energy Corporation	DUK	4.2%	2.0%	3.8%	6.3%	8.2%
Eversource Energy	ES	4.8%	6.0%	3.8%	11.1%	8.8%
Exelon Corp	EXC	4.1%	4.0%	3.8%	8.2%	8.0%
FirstEnergy Corp	FE	4.4%	5.5%	3.8%	10.2%	8.4%
NextEra Energy Inc	NEE	3.0%	9.0%	3.8%	12.3%	6.9%
PPL Corp	PPL	3.7%	7.5%	3.8%	11.5%	7.7%
Public Service Enterprise Group Inc	PEG	3.5%	5.0%	3.8%	8.7%	7.4%
Average		**4.1%**	**4.7%**	**3.8%**	**9.0%**	**8.1%**

[1] Dividend Yield from Exhibit DJG-4

[2] Forecasted dividend growth rates - Value Line; (projected earnings growth rate used when dividend growth rate not reported or negative rate)

[3] Sustainable growth rate from Exhibit DJG-5

[4] Annual Compounding DCF = $D_0 (1 + g) / P_0 + g$ (using analyst growth rate)

[5] Annual Compounding DCF = $D_0 (1 + g) / P_0 + g$ (using sustainable growth rate)

CAPM - Risk-Free Rate Estimate

Date	Rate
04/05/24	4.54%
04/08/24	4.55%
04/09/24	4.50%
04/10/24	4.64%
04/11/24	4.65%
04/12/24	4.61%
04/15/24	4.74%
04/16/24	4.77%
04/17/24	4.71%
04/18/24	4.74%
04/19/24	4.72%
04/22/24	4.72%
04/23/24	4.73%
04/24/24	4.78%
04/25/24	4.82%
04/26/24	4.78%
04/29/24	4.75%
04/30/24	4.79%
05/01/24	4.74%
05/02/24	4.72%
05/03/24	4.66%
05/06/24	4.64%
05/07/24	4.61%
05/08/24	4.64%
05/09/24	4.60%
05/10/24	4.64%
05/13/24	4.63%
05/14/24	4.59%
05/15/24	4.52%
05/16/24	4.52%
Average	**4.67%**

*Daily Treasury Yield Curve Rates on 30-year T-bonds,
http://www.treasury.gov/resources-center/data-chart-center/interest-rates/

CAPM - Beta Coefficients

Company	Ticker	Beta
AVANGRID, Inc	AGR	0.95
Consolidated Edison Inc	ED	0.80
Dominion Energy, Inc.	D	0.90
Duke Energy Corporation	DUK	0.90
Eversource Energy	ES	0.95
Exelon Corp	EXC	NMF
FirstEnergy Corp	FE	0.90
NextEra Energy Inc	NEE	1.05
PPL Corp	PPL	1.15
Public Service Enterprise Group Inc	PEG	0.95
Average		0.95

Betas from Value Line Investment Survey

CAPM - Implied Equity Risk Premium Estimate

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Year	Market Value	Operating Earnings	Dividends	Buybacks	Earnings Yield	Dividend Yield	Buyback Yield	Gross Cash Yield
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%
2022	32,133	1,656	565	923	5.15%	1.76%	2.87%	4.63%
2023	36,870	1,790	588	795	4.85%	1.60%	2.16%	3.75%

Cash Yield	4.50%	[9]
Growth Rate	6.47%	[10]
Risk-free Rate	4.67%	[11]
Current Index Value	5,131	[12]

	[13]	[14]	[15]	[16]	[17]
Year	1	2	3	4	5
Expected Dividends	246	262	279	297	316
Expected Terminal Value					6494
Present Value	224	217	211	205	4274
Intrinsic Index Value	5131	[18]			
Required Return on Market	9.8%	[19]			
Implied Equity Risk Premium	**5.1%**	[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)^ $^{1/10}$-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	5.5%	[1]
Kroll (Duff & Phelps) Report	5.5%	[2]
Damodaran (average)	4.6%	[3]
Garrett	5.1%	[4]
Average	**5.2%**	

CAPM - Final Results

Company	Ticker	[1] Beta	[2] CAPM Result
AVANGRID, Inc	AGR	0.95	9.6%
Consolidated Edison Inc	ED	0.80	8.8%
Dominion Energy, Inc.	D	0.90	9.3%
Duke Energy Corporation	DUK	0.90	9.3%
Eversource Energy	ES	0.95	9.6%
Exelon Corp	EXC	NMF	NMF
FirstEnergy Corp	FE	0.90	9.3%
NextEra Energy Inc	NEE	1.05	10.1%
PPL Corp	PPL	1.15	10.6%
Public Service Enterprise Group Inc	PEG	0.95	9.6%
Average			**9.6%**

Risk-free Rate	[3]	4.7%
Equity Risk Premium	[4]	5.2%

[1] From Exhibit DJG-8

[2] = [3] + [1] * [4]

[3] From Exhibit DJG-7

[4] From Exhibit DJG-10

Cost of Equity Summary

Model	Cost of Equity
CAPM Result (if PECO had 55% debt ratio)	9.6%
Hamada CAPM (at Company-Proposed Debt Ratio)	8.9%
DCF Model (Analyst Growth)	9.0%
DCF Model (Sustainable Growth)	8.1%
Average all Models	**8.9%**
Average (without Sustainable DCF)	**9.2%**

Proxy Company Debt Ratios

Company	Ticker	Debt Ratio	Equity Ratio
AVANGRID, Inc	AGR	34%	66%
Consolidated Edison Inc	ED	51%	49%
Dominion Energy, Inc.	D	55%	45%
Duke Energy Corporation	DUK	60%	40%
Eversource Energy	ES	63%	37%
Exelon Corp	EXC	60%	40%
FirstEnergy Corp	FE	69%	31%
NextEra Energy Inc	NEE	56%	44%
PPL Corp	PPL	51%	49%
Public Service Enterprise Group Inc	PEG	54%	47%
Average		55%	45%

Debt ratios from Value Line Investment Survey - 2023

Competitive Industry Debt Ratios

Industry	# Firms	Debt Ratio
Air Transport	21	84%
Hotel/Gaming	69	82%
Hospitals/Healthcare Facilities	34	82%
Retail (Automotive)	30	78%
Brokerage & Investment Banking	30	76%
Computers/Peripherals	42	71%
Bank (Money Center)	7	68%
Cable TV	10	68%
Food Wholesalers	14	67%
Advertising	58	67%
Oil/Gas Distribution	23	66%
Rubber& Tires	3	65%
Transportation (Railroads)	4	65%
Real Estate (Operations & Services)	60	64%
Retail (Grocery and Food)	13	64%
Retail (Special Lines)	78	64%
Recreation	57	62%
Insurance (Life)	27	61%
Trucking	35	61%
Packaging & Container	25	61%
Power	48	60%
Telecom. Services	49	60%
Telecom (Wireless)	16	60%
R.E.I.T.	223	60%
Auto & Truck	31	59%
Utility (General)	15	59%
Household Products	127	58%
Office Equipment & Services	16	58%
Environmental & Waste Services	62	57%
Utility (Water)	16	57%
Retail (Distributors)	69	57%
Transportation	18	57%
Green & Renewable Energy	19	57%
Computer Services	80	56%
Broadcasting	26	56%
Retail (Online)	63	56%
Apparel	39	56%
Aerospace/Defense	77	56%
Paper/Forest Products	7	55%
Beverage (Soft)	31	55%
Farming/Agriculture	39	54%
Reinsurance	1	53%
Chemical (Diversified)	4	52%
Construction Supplies	49	52%
Retail (General)	15	52%
Business & Consumer Services	164	52%
Real Estate (Development)	18	51%
Furn/Home Furnishings	32	51%
Total / Average	**1,994**	**61%**

http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/dbtfund.htm

Hamada Model Results

Unlevering Beta

Proxy Debt Ratio	55%	[1]
Proxy Equity Ratio	45%	[2]
Proxy Debt / Equity Ratio	1.2	[3]
Tax Rate	21%	[4]
Equity Risk Premium	5.2%	[5]
Risk-free Rate	4.7%	[6]
Proxy Group Beta	0.95	[7]
Unlevered Beta	0.48	[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	0.48	7.2%
20%	0.3	0.58	7.7%
30%	0.4	0.65	8.0%
40%	0.7	0.74	8.5%
47%	0.9	0.82	8.9%
55%	1.2	0.95	9.6%
60%	1.5	1.06	10.1%

[1] Proxy group average debt ratio

[2] Proxy group average equity ratio

[3] = [1] / [2]

[4] Company assumed 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 (Garrett proposed highlighted)

[10] = [9] / (1 - [9])

[11] = [8] * (1 + (1 - [4]) * [10])

[12] = [6] + [11] * [5]

Final Rate of Return Recommendation

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	50.0%	4.58%	2.3%
Common Equity	50.0%	9.20%	4.6%
Total	100.0%		6.89%

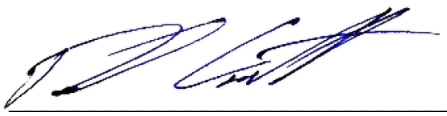
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, David J. Garrett, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 2, 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 17, 2024

Signature: 

David J. Garrett

Address: Resolve Utility Consulting
101 Park Avenue
Suite 1125
Oklahoma City, OK 73102

OCA Statement 2R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931**
PECO Energy Company – Electric Division	**:**	

REBUTTAL TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

July 16, 2024

I. INTRODUCTION

Q. State your name and occupation.

A. My name is David J. Garrett. I am a consultant specializing in public utility regulation. I am the managing member of Resolve Utility Consulting PLLC.

Q. Have you previously filed testimony in this proceeding?

A. Yes. I filed direct testimony in OCA Statement 2 on June 17, 2024, 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 rebuttal testimony?

A. My rebuttal testimony addresses the direct testimony of Lawrence Anastasi, who testifies on behalf of the International Brotherhood of Electrical Workers, AFL-CIO ("IBEW").

Q. Please summarize the arguments made by Mr. Anastasi that you will address.

A. Mr. Anastasi is supportive of PECO's requested overall electric rate increase of approximately $464 million.[1] While Mr. Anastasi does not directly discuss PECO's authorized ROE or capital structure, he states customers benefit from being serviced by a "financially healthy" utility and that PECO's credit ratings impact the interest and availability of loan options.[2]

Q. What is your response to Mr. Anastasi's claims regarding these issues?

A. First, the financial health and credit ratings of PECO is primarily a function of Company management to operate the company in an efficient, prudent and economical manner. Second, Mr. Anastasi's concern for high interest on debt overlooks that equity is even

[1] Direct Testimony of Lawrence Anastasi, p. 5, lines 9-11.

[2] Direct Testimony of Lawrence Anastasi, p. 6, lines 1-13.

higher cost. When an authorized ROE is reflective of a utility's market-based cost of equity, it allows the utility to earn a fair return and remain financially healthy under good management. My financial analysis of PECO Electric's cost of equity in this case shows that the Company's estimated cost of equity is about 9.2%, and its fair ratemaking capital structure should include a debt ratio of at least 50%. OCA St. 2 at 62, Exhibit DJG-16. Given the fact that the electric proxy group's average debt ratio is 55%, and my authorized ROE recommendation is 9.2%, my overall recommended rate of return for PECO Electric in this case is likely higher than its market-based cost of capital estimate. This means that if my recommended rate of return is adopted, it would allow PECO Electric a more-than-fair opportunity to earn a return on equity that is higher than its market-based cost of equity. In contrast, the Company's proposed return on equity of 10.95% and capital structure consisting of only 46.6% debt in this case would result in an excessive and unfairly high rate of return for the Company. Mr. Anastasi's recommendation that the Commission approve PECO Electric's entire rate increase is not supported and should not be adopted.

Q. Does this conclude your testimony?

A. Yes.

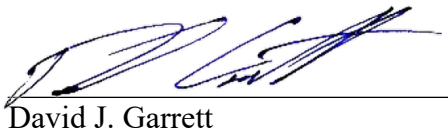
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No.: R-2024-3046931
v.	:	
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, David J. Garrett, hereby state that the facts above set forth in my Rebuttal Testimony, OCA Statement 2R, 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 16, 2024

Signature: 

David J. Garrett

Address: Resolve Utility Consulting
101 Park Avenue
Suite 1125
Oklahoma City, OK 73102

OCA St. 2SR

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3046931**
PECO Energy Company – Electric Division	**:**	

SURREBUTTAL TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

August 2, 2024

Q. State your name and occupation.

A. My name is David J. Garrett. I am a consultant specializing in public utility regulation. I am the managing member of Resolve Utility Consulting PLLC.

Q. Have you previously filed testimony in this proceeding?

A. Yes. I filed direct testimony in OCA Statement 2 on June 17, 2024, 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 responds to the rebuttal testimony of PECO Energy Company – Electric Division ("PECO Electric" or the "Company") witness Paul Moul regarding rate of return issues.

Q. Did the Company's rebuttal testimony cause you to change any of your positions or recommendations discussed in your direct testimony?

A. No. Additionally, to the extent I do 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. Are you sponsoring any exhibits to your surrebuttal testimony?

A. No.

Q. Please summarize your surrebuttal testimony directed to the rebuttal testimony of Mr. Moul.

A. In my surrebuttal testimony to Mr. Moul, I will address the assertions made in his rebuttal testimony regarding the Discounted Cash Flow ("DCF") Model, the Capital Asset Pricing Model ("CAPM"), and capital structure.

A. DCF Analysis

Q. Please summarize Mr. Moul's criticisms of your DCF Model.

A. Mr. Moul criticizes my use of analyst's dividend growth projections in my DCF Model. He claims I should have used earnings per share rather than dividends per share to assess PECO Electric's long-term growth rate in the DCF Model.[1] Mr. Moul also claims that I did not refute his leverage adjustment that he applies to the DCF Model.

Q. Do you agree with Mr. Moul's criticisms regarding your use of projected dividend growth rates?

A. No. The "D" in the DCF Model formula stands for "dividend." Mr. Moul acknowledges this in his testimony.[2] This represents the cash flow that is being discounted to estimate the cost of equity in this model. Mr. Moul also relied on earnings growth rates as part of his DCF Model. I do not believe it is unreasonable to consider earnings growth rates as a proxy for a dividend growth rate in the DCF Model, as long as long-term growth rate projections are generally sustainable. However, in this case, the growth rates assumed by

[1] Rebuttal Testimony of Paul Moul, pp. 22-26.

[2] Direct Testimony of Paul Moul, p. 23, line 10.

Mr. Moul, which are as high as 8.0%, are not sustainable. In other words, Mr. Moul is assuming that the annual earnings growth of this company in his proxy group (NextEra Energy) will increase its annual earnings at a rate that is more than two times higher than the projected growth rate of the entire U.S. economy (as measured in GDP). I do not believe this assumption is reasonable. As a result, Mr. Moul's DCF cost of equity estimate is overstated.

Q. Please summarize Mr. Moul's rebuttal testimony regarding his leverage adjustment.

A. Mr. Moul states: "Mr. Garrett never really refutes my leverage adjustment."[3] Mr. Moul uses the leverage adjustment to quantify a return for his Electric proxy group of 11.78% - the sum of his DCF result plus a 1.35% leverage adjustment."[4]

Q. Does Mr. Moul's recommended ROE for PECO include a leverage adjustment value?

A. No. Mr. Moul's recommendation of 10.95% is based on DCF results "without regard to the leverage adjustment…"[5] In my direct, I reviewed how Mr. Moul arrived at his ROE recommendation of 10.80% plus 0.15% as an adder for management performance.[6] Mr. Moul's calculation of a 1.35% leverage adjustment plays into Mr. Moul's estimate of the cost of equity for the Electric proxy group as a whole.[7] Mr. Moul then uses the inflated

[3] *Id*. at p. 30, lines 4-5.

[4] Direct Testimony of Paul Moul, p. 39, lines 3-4.

[5] Direct Testimony of Paul Moul, p. 7 at lines 9-10.

[6] Direct Testimony of David J. Garrett, p, 26 at line 6 to p. 27, line 4.

[7] Direct Testimony of Paul Moul, p. 5, lines 8-11, p. 23, lines 16-18.

proxy group results as a point of comparison, to suggest that his recommended 10.95% for PECO is reasonable.[8]

Q. Did you refute Mr. Moul's leverage adjustment in your direct testimony?

A. Yes. In my direct testimony I specifically state that I disagree with Mr. Moul's leverage adjustment,[9] and I devote an entire section of my testimony along with a separate cost of equity estimate under the Hamada Model that shows how leverage should be properly accounted for in estimating PECO Electric's cost of equity – or in other words, a corrected version of Mr. Moul's leverage adjustment.[10] My application of the Hamada model shows that PECO Electric's leverage (or debt levels) relative to the proxy group should result in a *lower* cost of equity estimate under the CAPM, which is the exact opposite of Mr. Moul's conclusion (which results in an upward adjustment). For Mr. Moul to claim that I do not refute his leverage adjustment and that my application of the Hamada Model is "validating [his] approach"[11] is false.

Q. Do you agree with Mr. Moul's exclusion of a leverage adjustment in development of an ROE for PECO?

A. Yes, I do. As I stated in my direct testimony, Mr. Moul's leverage adjustment to the DCF is conceptually unnecessary. Indeed, the Commission has not adopted Mr. Moul's leverage

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[8] Direct Testimony of Paul Moul, p. 51, line 18 to p. 52, line 2.

[9] Direct Testimony of David J. Garrett, p. 29, lines 11-16.

[10] *Id*. at pp. 56-59.

[11] Rebuttal Testimony of Paul Moul, p. 30, line 7.

adjustment concept in a number of other base rate cases, as noted in my direct testimony.[12] The 1.38% leverage adjustment calculated by Mr. Moul as part of his estimate of the electric proxy group's cost of equity should not be considered in determining the appropriate return for PECO.

B. CAPM Analysis

Q. Please summarize Mr. Moul's criticisms of your CAPM analysis.

A. Mr. Moul disagrees with my CAPM result of 9.6%.[13] The primary contentious issue under the CAPM is the equity risk premium ("ERP"). However, Mr. Moul does not actually provide any rebuttal regarding the sources for my ERP estimate. Instead, he compares my ERP estimate with recent returns on the market, as well as stock market returns dating back to 1926.[14]

Q. Please briefly reiterate the sources you considered for the ERP estimate.

A. The ERP is an important figure for financial and market analysts in all industries, not just utility regulation. Thus, many analysts, managers, investors, and academics are constantly studying and are concerned with obtaining a reliable and accurate estimate of this important number, which can be used in a variety of financial analyses, including the CAPM. All else held constant, a higher ERP will result in a higher indicated cost of equity and apply

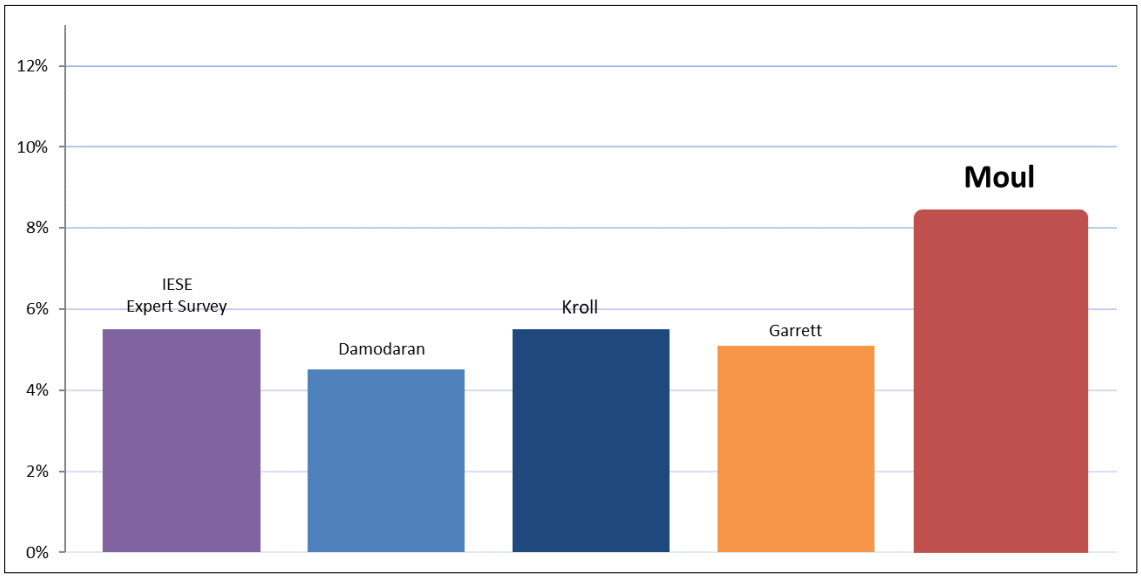
[12] Direct Testimony of David J. Garrett, p. 28, line 3 to p. 29, line 16.

[13] *Id*. at p. 33.

[14] *Id*. at p. 31, lines 1-2.

upward pressure on the authorized ROE. I considered three reliable and objective sources to include in my overall ERP estimate, including the result of the IESE Business School survey of experts, the estimate published by Kroll (formerly Duff & Phelps), and the estimate published by one of the world's leading experts on the issue, Dr. Aswath Damodaran. I also conducted and presented my own ERP estimate, the result of which is similar to those from the other sources. The figure below contrasts the ERP estimates from these sources with the ERP estimated by Mr. Moul.[15]

Figure 1:
Equity Risk Premium Comparison



[15] *See also* Exhibit DJG-10.

When compared with other independent sources for the ERP (as well as my estimate), which do not have a wide variance, Mr. Moul's ERP estimate is clearly not within the range of reasonableness.

Q. Do you agree with Mr. Moul that looking at recent or historical market returns indicates a reasonable estimate for the current ERP?

A. No. First, actual market returns are a different concept altogether than the ERP. For example, in 2008 the U.S. stock market return was negative. However, it is impossible to ever have a negative ERP estimate for any risky investment. Even the expected return for a risk-free investment (such as Treasury bonds) must be positive. The expected return on an asset or group of assets is simply a different concept than the actual return the asset earns in a given period. Furthermore, Mr. Moul's reference to market data predating the Great Depression (1926) has no bearing on what the expected return is today. Clearly, the expert survey respondents, Kroll, and Dr. Damodaran have not taken the same approach as Mr. Moul has in estimating the ERP.

C. Capital Structure

Q. Please summarize Mr. Moul's criticisms of your capital structure adjustment.

A. Mr. Moul claims that I do not demonstrate that PECO Electric's proposed capital structure is unreasonable and that it is "simply designed to lower the Company's revenue requirement."[16]

[16] *Id*. at p. 10, lines 8-9.

Q. What is your response to Mr. Moul's rebuttal testimony on this issue?

A. First, Mr. Moul has no basis to claim that a proposed adjustment is *designed* to lower the revenue requirement, and his claim with regard to my capital structure adjustment is false. My capital structure adjustment simply aligns PECO Electric's capital structure with the average capital structure of Mr. Moul's own proxy group – which is a very fair and reasonable adjustment, regardless of its impact to the revenue requirement. The average debt ratio of Mr. Moul's own proxy group is 55%. To accept a debt ratio less than this for the purpose of calculating the ROR essentially amounts to cherry-picking the metrics of the proxy group to obtain a more favorable ROR for the Company. This is because there is a direct relationship between risk and cost of equity. The more financial risk (or debt) a company has in its capital structure, it will have an increasing effect on its cost of equity. The fact that PECO Electric has less debt in its capital structure relative to the proxy group is significant, and it means that PECO Electric has less financial risk than the proxy group. Since we are obtaining all of the other metrics used to estimate PECO Electric's cost of equity from the proxy group, it would be inaccurate to reject the capital structure of that same proxy group as part of the analyses. The Hamada model I used in this case mathematically reconciles the discrepancy between PECO Electric's low debt ratio relative to the proxy group's average. This capital structure-adjusted CAPM indicates a cost of equity of only 8.9% for PECO Electric, which is actually lower than my final ROE recommendation, which indicates a 9.2% ROE is more than fair for the Company.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does at this time.

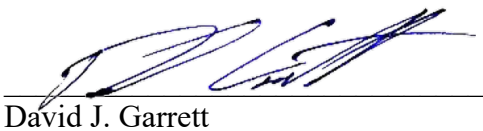
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, David J. Garrett, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 2SR, 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 2, 2024

Signature: 

David J. Garrett

Address: Resolve Utility Consulting
101 Park Avenue
Suite 1125
Oklahoma City, OK 73102

OCA STATEMENT 3

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket Number R-2024-304693
	:	
PECO Energy Company—Electric Division	:	

DIRECT TESTIMONY
OF
CLARENCE L. JOHNSON

ON BEHALF OF
OFFICE OF CONSUMER ADVOCATE

June 17, 2024

DIRECT TESTIMONY OF CLARENCE JOHNSON

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Appendix A Statement of Qualifications

Exhibit CJ-1 RESULTS OF CCOSS ADJUSTMENTS

Exhibit CJ-2 ALLOCATION OF PECO PROPOSED DISTRIBUTION REVENUES

Exhibit CJ-3 CUSTOMER CHARGE ANALYSIS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Clarence L. Johnson. My business address is 3707 Robinson Ave, Austin, Texas 78722.

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

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

Q. WHAT IS YOUR CURRENT EMPLOYMENT?

A. I am self-employed as a consultant providing technical analysis, advice, and testimony regarding energy and utility regulatory issues.

Q. DO YOU HAVE PREVIOUS EXPERIENCE AS AN EXPERT ON REGULATED UTILITY MATTERS?

A. Yes. I have over 37 years of experience as a utility regulatory expert, including 25 years as director of regulatory analysis for the Texas Office of Public Utility Counsel ("OPC"). As a consultant, I have provided expert advice, assistance, and testimony on utility-related issues to a number of parties. My clients have included state consumer advocate offices, customer groups, and various coalitions of municipalities in Texas. Municipalities in Texas act as original jurisdiction regulators over electric utility rates within city boundaries. I have previously filed testimony in PECO, FirstEnergy, and Duquesne electric rate cases in Pennsylvania.

Q. HAVE YOU PROVIDED AN ATTACHMENT WHICH DETAILS YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE?

A. Yes. Please see Attachment A.

Q. PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I have a B.S. in Political Science and a M.A. in Urban Studies from the University of Houston. My graduate degree is in an interdisciplinary program offered by the University of Houston's College of Social Science, which incorporated substantial training in economics, including course work in the application of cost-benefit analysis to public policy. During my 25-year tenure at OPC, I gained experience in virtually all phases of economic review required for the ratemaking process. I was chairman of the Economics and Finance Committee of the National Association of State Utility Consumer Advocates ("NASUCA") and served as a presenter for NASUCA's workshops and panels on cost allocation and rate design, demand-side management incentives, market power and electric utility competition. Also, at various times, I have undergone training in specific subjects, such as electric wholesale market design, cogeneration engineering and Electric Reliability Council of Texas ("ERCOT") operations.

I have previously filed testimony in approximately 150 proceedings at the Public Utility Commission of Texas, Texas Railroad Commission, Pennsylvania Public Utility Commission, Maryland Public Service Commission and Connecticut Public Utility Regulatory Authority.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

A. My testimony will address cost allocation and rate design issues pertaining to PECO's ("Company") base rate increase requested in this docket. For purposes of comparability, my analysis generally utilizes the revenue requirements and schedules filed by the Company. My use of PECO's filed costs and revenues should not be construed as agreement or acceptance of the Company's requested revenues. Other witnesses retained by OCA will address the Company's proposed revenue requirements.

Q. WHAT DOCUMENTS HAVE YOU REVIEWED IN PREPARING THIS TESTIMONY?

A. I reviewed relevant testimony and exhibits in PECO's rate case filing. I also propounded interrogatories to the Company and reviewed the responses and accompanying attachments.

II. SUMMARY

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. My recommendations are as follows:

- I recommend a demand allocation of secondary lines, poles, and underground facilities. The Company's 100% customer classification of secondary facilities (except for transformers) is unreasonable because the classification ignores the fact that secondary lines and underground cables are designed to meet maximum area demand.
- I recommend that the portion of other revenues allocated on a customer basis should be increased by $1.2 million.
- The class revenue distribution should recognize cost study results, but the ultimate revenue allocation should be constrained by rate moderation. My recommendation is based on the

revised class cost of service study but includes gradualism constraints to limit the maximum class percentage increases and require that all classes share in the revenue increase.

- The Company proposes to apply a 36% increase to the residential customer charge (from $10.50 to $14.28). This is an unreasonable increase which adversely affects low usage customers, reduces customers' control over their electric bill, and discourages customers from undertaking energy efficiency measures. My analysis indicates that a customer charge of $7.94 would recover costs which vary directly with the number of customers. My primary recommendation is to maintain the current $10.50 customer charge. Given that the current customer charge exceeds direct costs, the customer charge in the alternative could be reduced below $10.50 if the Commission prefers greater emphasis on energy conservation considerations.

III. CLASS COST OF SERVICE STUDY

A. Overview

Q. WHAT IS A CLASS COST OF SERVICE STUDY (CCOSS)?

A. The CCOSS is a fully allocated cost study which distributes the Company's costs to customer classes. The intent of the study is to allocate costs based on cost causation, generally resulting in a portion of costs allocated on causal measures and the remainder of indirect costs following those costs. The CCOSS is at best a general benchmark for evaluating customer class cost responsibility. The CCOSS can provide guidance to the regulator, but considerations other than the CCOSS also are appropriate in determining the ultimate allocation of costs among customer classes. The CCOSS provides rates of return for each customer class at current and proposed class rates. Sometimes the class rates of

return are divided by the total retail rate of return to arrive at a relative rate of return (RROR). The relative rate of return (or unitized return) at present rates may be used as a benchmark for guiding the direction of revenue changes at the class level. The CCOSS also provides class revenues based upon equalized rates of return (all classes' revenue produce the proposed overall retail rate of return). The class revenues at equalized rates of return can be used as a rough target for apportioning class revenue increases, but the results at equalized rates of return do not necessarily dictate the exact levels of class revenues. The class revenues may depart from equalized rates of return in order to recognize rate gradualism, relative risks associated with serving each class, or other non-cost considerations. However, the resulting revenues indicated by the CCOSS may provide useful information regarding the equitable distribution of a system revenue increase among customer classes.

Q. HOW IS THE COST CAUSATION CRITERION APPLIED IN THE CCOSS?

A. Some costs are incurred directly to serve only an individual customer or set of customers. For example, equipment may be dedicated to serving an individual customer and can be directly assigned.

However, the provision of electric utility service is predominated by common and joint costs, which either support the overall enterprise or produce shared benefits for all or most customers. These costs often are assigned based upon indirect, and often weak, measures of causation. For example, overhead costs, such as Board of Director fees, might be allocated based upon measures as diverse as revenues, labor costs, energy sales, plant or demand. No single objective economic basis supports the allocation of these costs; therefore, the allocation decisions are subjective or based on ratemaking conventions.

Ideally, the analyst selects a method that best recognizes the manner in which customer classes' characteristics contributed to the incurrence of utility investments and expenses. The manner in which a utility plans and installs an investment often informs the analyst's evaluation of causal factors related to classification or allocation of the investment.

The three major steps of the embedded cost of service study are functionalization, classification, and allocation. Functionalization is the procedure for separating costs into functional segments, such as generation, transmission, and distribution. The next two accounting steps, classification and allocation, facilitate the recognition of causation. The classification procedure, which pools costs into general categories of causation (i.e., demand, customer, energy), is an intermediate step in determining the allocation factors that are used to divide costs among jurisdictions and customer classes. The allocation step determines the appropriate percentage of a particular FERC account which is attributed to each customer class.

Q. CAN YOU PROVIDE MORE DETAIL REGARDING THE DEVELOPMENT OF ALLOCATION FACTORS FOR DISTRIBUTION COST OF SERVICE STUDIES?

A. Yes. The principal external allocation factors in the CCOSS are customer, demand, and energy allocators. Customer allocators are based on class customer count as a percentage of total retail customer count. Sometimes weighting factors are applied to the customer count in order to reflect differences in cost per customer. For instance, customer allocators applied to service drops may be weighted to reflect the differences in the cost of average service drops for each customer class.

The predominant demand allocation factor for the distribution system is non-coincident peak demand (NCP). NCP is based on the maximum hour of demand for the

class. Since classes incur peak demand in different time periods, the NCP method is said to reflect demand diversity on the system. Each class's demand allocator is the ratio of the class maximum kW demand relative to the sum of all classes' maximum demands. Energy allocation factors, based on kWh usage, are not used by PECO for distribution costs in the CCOSS.[1]

Indirect costs in the CCOSS usually are allocated on the basis of internal allocation factors which "follow" the allocation of direct costs. An example is the labor allocator, which may be used to allocate administrative & general expenses; the labor allocator will be driven by the labor portion of accounts which are classified as customer, demand, or both. A substantial portion of the customer and demand costs in the CCOSS will consist of indirect costs which are not inherently customer- or demand-related, but follow the customer/demand classification of other accounts. This explains in part why the results of a CCOSS frequently are sensitive to small changes in the customer/demand classification for certain accounts.

Q. PLEASE DESCRIBE YOUR REVIEW OF THE CCOSS PRESENTED BY THE COMPANY.

A. I evaluated the studies for consistency and accuracy in the allocation of costs among classes. Based on my review, the allocation or classification of several CCOSS elements, principally the secondary distribution system, were identified as insufficiently justified or warranting improvement. My testimony proposes modifications to the treatment of those costs in the CCOSS, discussed in subsections III.(B) through III.(D) below. These changes

[1] PECO's use of energy allocation factors is limited to purchased power expense and associated costs. PECO Statement 6 at 22.

affect my recommendations with respect to class revenue distribution. My recommendations focus on a limited number of CCOSS issues; omission of other issues should not be construed as agreement with all other aspects of the Company's cost studies. The OCA does not agree with the proposed revenue requirements in the CCOSS, therefore, the revised versions of the CCOSS should be used only to examine class cost relationships rather than absolute revenue levels.

Q. DID YOU MODIFY THE COMPANY'S CCOSS TO REFLECT YOUR PROPOSED REVISIONS?

A. Yes. PECO provided OCA with a live version[2] of the CCOSS in Excel format after execution of a protective order; the model was developed by a PECO consultant and is considered to be proprietary information; however, the output of the model is publicly available. After revising certain inputs in the model, the resulting modified CCOSS output is used in my rate design analysis to develop a recommended allocation of any proposed revenue increase among customer classes.

B. Secondary Distribution Plant

Q. WHAT PORTION OF THE DISTRIBUTION PLANT ALLOCATION WILL YOU ADDRESS?

A. This section of my testimony will propose changes to PECO's classification of secondary poles, overhead conductors, and underground conductors/conduit, which I will refer to in the aggregate as "secondary lines." I do not dispute the Company's classification of secondary transformers as demand-related.[3]

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[2] Confidential PECO Exhibits TJJ1-TJJ4.xlsm

[3] In my view, it is reasonable to classify transformers as partly demand-related and partially energy-related, because costs are incurred to reduce energy losses as well as size the transformer for maximum demand. However, in this

Q. HOW DOES PECO CLASSIFY SECONDARY LINES?

A. PECO witness Jamison (PECO St. No. 6) classifies secondary lines as 100% customer-related, meaning that these infrastructure costs are allocated among customer classes in proportion to the number of customers. This assumes that the cost of secondary poles and lines vary solely on the basis of number of customer locations served. The impact of a customer allocation is particularly detrimental for residential customers. The secondary voltage customer allocation factor for the two residential classes is 90% compared to the secondary demand allocation factor of 72%. The Company's classification is adverse to any class which contains relatively small demand per customer, due to the difference between demand and customer allocation factors.

Q. DO YOU AGREE WITH THE COMPANY'S ALLOCATION OF SECONDARY LINES TO CUSTOMER CLASSES?

A. No. My recommendation is to classify secondary poles, overhead conductors, and underground conductors and conduit as 100% demand-related and allocate the costs on secondary NCP (non-coincident peak) demands, in the same manner as the Company allocated secondary transformers. The Company's proposed classification of secondary lines as customer-related should be rejected because the jointly used distribution system is sized and designed to provide adequate capacity to meet maximum demands. The objective of distribution system planning is to provide reliable service; as a result, distribution facilities must be sized to meet the maximum demand that will be placed on

case, I have accepted the Company's 100% demand classification of transformers, given the relatively small impact of a partial energy classification.

the facility, and failure to do so can result in outages, burned-out equipment, and voltage dropping outside of acceptable limits.

Q. WHY SHOULD SECONDARY LINES BE CLASSIFIED AS DEMAND-RELATED?

A. The secondary lines are sized to meet local maximum demand. As stated in PECO Response to OCA Interrogatory 6-20:

> When forecasting demand for a new customer (or group of customers), a number of items are considered in the engineering analysis performed to estimate the peak demand *to size the secondary lines required to serve each customer*...Existing secondary lines may be replaced due to load growth from new or existing customers, material condition or voltage issues. If the replacement is due to load-related issues, actual load readings or meter data are used *to determine secondary wire size*. (emphasis added)

The response identifies factors used to estimate the peak demand on secondary lines: intended use of the customer's facilities (such as residential or commercial, and if it is commercial, the uses for the space); HVAC requirements; customer's connected load; and building size (square footage and number of floors). The Company states that large loads with high starting currents are considered in sizing secondary lines and may require the installation of larger conductors.[4] Given the causal relationship between local end use demands and sizing the secondary lines, secondary lines should be classified and allocated on NCP demands.

[4] PECO Response to OCA 6-20.

Q. DOES COMPANY WITNESS JAMISON'S TESTIMONY PROVIDE EXPLANATION OR SUPPORT FOR CLASSIFYING SECONDARY LINES AS 100% CUSTOMER-RELATED?

A. No. The testimony does not explain why none of the secondary lines are classified as demand-related. The Company chose to consider secondary plant as customer-related and primary plant as demand-related.[5]

Q. DID THE COMPANY PROVIDE AN ANALYSIS TO SUPPORT ITS CLASSIFICATION OF SECONDARY LINES AS CUSTOMER-RELATED?

A. No. Ms. Jamison's testimony points out that special studies, such as a minimum size study, are sometimes used to determine customer classification percentages, but goes on to state that PECO did not perform such a study.[6]

Q. PLEASE EXPLAIN WHY YOUR RECOMMENDATION IS SUPERIOR TO 100% CUSTOMER CLASSIFICATION OF SECONDARY LINES.

A. In my opinion, the customer classification of distribution plant should be limited to service drops and meters, since these facilities are located on or close to the customer's premises. The remaining distribution plant should be classified as demand-related. There is little dispute that jointly-used distribution plant must be sized to accommodate maximum demand, and local demand is the most straightforward and readily measured method of allocating the plant. As provided above, PECO also uses load to determine how to size secondary distribution plant. My recommendation is consistent with the following

[5] PECO Statement 6 at 14.
[6] Ibid.

description of regulatory practice in a recently updated electric utility cost allocation manual:

> The most common method [for apportioning distribution facilities between demand and customer] used is the "basic customer method" which classifies all wires, transformers, and poles as demand-related, and meters, meter reading, and billing as customer-related. This general approach is used by more than 30 states."[7]

The manual continues, pointing out that many jurisdictions have accepted or mandated the basic customer classification, including Arkansas, California, Colorado, Illinois, Iowa, Massachusetts, Texas, and Washington.[8] The states' regulatory preference for the "basic customer method" is logical. Meters and service lines are located on or near the customer's premises. The remaining distribution facilities radiate outward from the customer's location and are part of an integrated electrical system which is designed and sized to support aggregations of load which may be nearly equivalent to the demand of the total system as the lines approach major substations. By classifying all of facilities except those located on the customer's property as demand-related, the regulatory authorities avoid the complications associated with relying upon minimum system studies.[9]

Q. IF THE COMPANY HAD PREPARED A MINIMUM SIZE STUDY, WOULD IT HAVE SUPPORTED THE COMPANY'S CLASSIFICATION OF SECONDARY FACILITIES?

A. No. First, I do not agree with the rationale for the minimum system (sometimes called "minimum size") concept. By way of background, the minimum system study attempts to

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[7] "Lazar, J., Chernick, P., Marcus, W., and LeBel, M. (Ed.). (2020, January). Electric cost allocation for a new era: A manual. Montpelier, VT: Regulatory Assistance Project. At 145.

[8] Ibid.

[9] The Manual concludes: "The basic customer method for classification is by far the most equitable solution for the vast majority of utilities." Ibid.

develop the cost of a hypothetical distribution system with no load carrying capability and uses the resulting theoretical cost to split plant accounts into customer and demand percentages. Most such studies identify minimum size plant components or perform a regression analysis to determine the hypothetical costs. The hypothetical nature of the studies frequently leads to dispute. The study, by its nature, can produce a wide range of results, depending on the assumptions made by the analyst. Furthermore, the process of identifying zero or minimum load components is subjective and may lead to double-counting of customer class demands. As a result, the study results are likely to overstate the cost responsibility of classes with below average usage per customer.

Second, even if a minimum system study had been performed, some portion – perhaps a majority – of the secondary lines would be classified as demand-related. Therefore, even this rationale does not support a 100% customer classification of secondary lines as proposed by PECO. Moreover, the methodology has several severe flaws, and should not be adopted in this case. Among the notable flaws in the minimum system concept: minimum size wires and poles in the studies frequently are oversized and do not represent the smallest facilities which could be installed; the minimum system includes load carrying capacity and therefore results in double-counting each class's demand usage; and the concept ignores the fact that an increase in customers frequently does not result in an increase in the size or cost of the secondary distribution system.

Q. DO THE SHORTCOMINGS OF THE MINIMUM SYSTEM CONCEPT REVEAL SIMILAR FLAWS IN PECO'S ALLOCATION OF SECONDARY LINES AS CUSTOMER-RELATED?

A. Yes. Ms. Jamison's testimony states that "some costs fit neatly into one of three classifications;" but she provides no evidence that secondary distribution meets that criterion.[10] Even if non-demand related costs can be identified, the causation for those costs is unlikely to be purely customer-related. Dr. James Bonbright's critique of the minimum distribution system concept is frequently cited by cost analysts:

> [T]he annual costs of this phantom, minimum sized distribution system are treated as customer costs and are deducted from the annual costs of the existing system, only the balance being included among those demand-related costs…. Their inclusion among the customer costs is defended on the ground that, since they vary directly with area of the distribution system (or else with the lengths of the distribution lines, depending on the type of distribution system), they therefore vary indirectly with the number of customers.
>
> What this last-named cost imputation overlooks, of course is the very weak correlation between the area (or the mileage) of a distribution system and the number of customers served by this system. For it makes no allowance for the density factor (customers per linear mile or per square mile). Indeed, if the company's entire service area stays fixed, an increase in number of customers does not necessarily betoken any increase whatever in the costs of a minimum-sized distribution system.[11]

The implication of Dr. Bonbright's conclusion is that this "residual" cost of the distribution system is not closely related to either demand or customer factors, but instead varies on the basis of less easily discerned geographic variables such as customer density

[10] PECO Statement No. 6 at 13-14.

[11] *Principals of Public Utility Rates*, Columbia University Press, James Bonbright (1961) at 347-348.

or topography.[12] These factors are consistent with Dr. Bonbright's conclusion that the portion of distribution investment identified as "customer-related" should instead be regarded as inherently un-allocable.[13]

Therefore, my recommendation is consistent with allocating un-allocable costs in proportion to the remaining allocable costs, a typical method for allocating costs without a clear causal basis. The Company's own CCOSS indicates that over 70% of distribution plant is demand-related.[14] Because distribution investment is overwhelmingly allocable on a demand basis, classifying the residual un-allocable amount as demand-related is superior to classifying the residual un-allocable costs as customer-related. Since secondary lines clearly are designed to meet maximum demand, a 100% demand classification is more reasonable than the 100% customer classification used by PECO, a classification which is inconsistent with how PECO sizes the secondary lines it installs and ignores the significant number of intervening variables which affect the cost of installation more than the number of customers serviced.

Q. DO EMPIRICAL STUDIES SHOW THAT DISTRIBUTION COSTS VARY WITH CUSTOMERS?

A. No. Empirical analyses have reported that distribution plant and customer sales accounts are correlated with load density but are not significantly affected by the number of customers served.[15]

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[12] In addition to spatial density, other factors that are not related to customer count, such as economies of scale, efficiencies of stocking standard components, and life cycle cost optimization, may be intervening variables.

[13] Bonbright at 347-348.

[14] Exhibit TJJ-3. Total distribution plant divided by demand-related plant is 73%.

[15] "Antitrust in the Electric Industry," by Leonard Weiss, *Promoting Competition in Regulated Markets*, Phillips, Almarin, Ed., The Brookings Institution (1975) at 145; "The Economics of Electric Distribution System Costs and Investments," by David Lessels, *Public Utilities Fortnightly*, Dec. 4, 1980 at 37-40.

Q. WOULD YOU CHARACTERIZE THE PECO SERVICE AREA AS RELATIVELY DENSELY POPULATED?

A. Yes. PECO has a highly urbanized service area.[16] Unlike electric utilities which serve predominantly rural areas, where lines and components must be provided to serve only a few secondary customers, secondary facilities in a dense urban area are shared by many customers served by the localized facilities. This characteristic makes the customer classification an even weaker measure of cost causation. The load density permits the utility to more fully exploit the economies of scale associated with the secondary delivery system. For example, in densely developed areas like Center City Philadelphia, PECO typically installs underground conduits and cables with spare ducts installed for future use. As a result, additional customers can be added at little or no incremental cost. [17] As noted in Professor Bonbright's treatise, the existence of customer density distorts any linear relationship between the customer allocation factors and square mileage of service area.

Q. DO YOU AGREE WITH THE COMPANY'S CLASSIFICATION OF PRIMARY DISTRIBUTION PLANT AS DEMAND-RELATED?

A. Yes. Primary distribution facilities are upstream of secondary facilities and tend to serve aggregated loads of customers taking power at different voltages. The principal objective of primary facilities is to transmit power from distribution substations to localized service areas. Therefore, system demand is the principal cost causation driver of primary costs.

[16] Among the 50 most populated places in the United States, Philadelphia ranks sixth in population density. https://statisticalatlas.com/place/Pennsylvania/Philadelphia/Population

[17] PECO Response to OCA 6-44.

Q. WHAT IS THE IMPACT OF CHANGING THE CLASSIFICATION OF SECONDARY LINES FROM CUSTOMER TO DEMAND?

A. The most notable impact is an increase in the rate of return produced by the residential class. The relative rate of return (RROR) measures the class rate of return as a ratio of the distribution system rate of return. The comparison below shows the RROR at present rates for the standard residential class. The residential class RROR moves 23 points higher, demonstrating significantly improved CCOSS results.

Residential RROR at Present Rates	
PECO Filed	116%
As Adjusted	139%

C. Other Revenues

Q. DO YOU RECOMMEND AN ADJUSTMENT TO THE COMPANY'S ALLOCATION OF REVENUES?

A. Yes. I propose an adjustment to the allocation of Other Revenues. Other Revenues consist of revenues produced by several fees and charges which are treated as a credit to class costs in the CCOSS. The Company's response to OCA 6-7 identifies the source components of the $31 million in Other Revenues: make ready revenues; theft of service revenues; solar application fees; distribution system operations revenue; connect/reconnect fees; and return check charges.

Q. HOW DOES THE COMPANY ALLOCATE OTHER REVENUES?

A. The Company allocates the majority of Other Revenues to customer classes based on distribution plant. In PECO's 2021 rate case, I filed testimony for OCA recommending that revenues from reconnection charges and returned check charges should be allocated on a customer basis. Ms. Jamison agreed with that recommendation in her rebuttal testimony. And the Company appropriately continues to allocate those two components on the basis of customers in this case.

Q. DO YOU AGREE WITH THE USE OF A DISTRIBUTION PLANT ALLOCATOR?

A. The distribution plant allocator is reasonable for most of the revenues included in Other Revenues. However, after further review of the fees included in Other Revenues, I have concluded that solar application fees and theft of service revenues also should be allocated on a customer basis.

Q. WHAT IS THE BASIS FOR YOUR CONCLUSION THAT THE CUSTOMER ALLOCATOR IS A BETTER METHOD FOR ASSIGNING SOLAR APPLICATION FEES TO CLASSES?

A. The Company provided the amounts paid for solar application fees, reconnection charges, and returned check charges in response to OCA 6-42. The Company agrees that the customer allocator is a more reasonable indicator of customer class contributions to reconnection and returned check charges. The class contribution to solar application fees is very similar to those two charges. The table below shows the percentage of payments by residential, commercial/industrial customers for solar application fees, reconnection charges and returned check fees. Comparing these percentages to the customer and

distribution plant allocators indicates that the customer allocation is a closer representation of customer class responsibility for these revenues.

	Source of Payments	
	Residential	C&I Classes
Solar fees	96%	4%
Reconnection	95%	5%
Returned checks	94%	6%
Customer allocation	90%	10%
Dist. plant allocation	46%	54%

Q. WHAT IS YOUR CONCLUSION WITH RESPECT TO SOLAR APPLICATION FEES?

A. Class responsibility for solar application fees is nearly the same as for reconnection and returned check charges, both of which are allocated on a customer basis. Furthermore, the distribution plant allocation factor is not closely related to the class revenue contribution for solar fees. Therefore, revenues from solar application fees should be included with reconnection and returned check revenues for cost allocation.

Q. WHY DO YOU ALSO PROPOSE CUSTOMER ALLOCATION FOR THEFT OF SERVICE REVENUES?

A. The Company does not maintain data on theft of service charges by customer class. However, theft of service is not closely related to distribution plant investment, which is the current allocation for the revenues. The number of customers found to be involved in theft of service was 16,075 in 2021 and 12,980 in 2022.[18] Given that the incidence of theft

[18] OCA 6-40.

is likely a low percentage, it is reasonable to expect that most of the theft cases involved classes with larger numbers of customers. Moreover, the investigation of the theft cases is likely to involve work by customer service and collection personnel who are employed in customer related departments.

Q. PLEASE SUMMARIZE THIS REVISION TO THE CCOSS.

A. Solar fees and theft of service charges are $430,000 and $776,000, respectively, for a total of $1.206 million. I adjusted the CCOSS to allocate this amount on the basis of customers.

D. Results of Revised CCOSS

Q. HOW DID YOU EVALUATE THE IMPACT OF THE RECOMMENDED CLASS COST OF SERVICE MODIFICATIONS?

A. I revised the Company's confidential CCOSS model in accordance with III.(A) – (C). A summary of the results for the OCA class cost of service are shown on Exhibit CJ-1. The revenue requirements reflect the Company's request. My use of the class cost of service results does not imply agreement with the Company's proposed revenue requirement. Instead, the Company's revenue requirements are utilized in order to provide an apples-to-apples comparison.

Q. PLEASE SHOW THE DIFFERENCES IN RELATIVE RATES OF RETURN AT PRESENT RATES.

A. The table below is based on the distribution CCOSS filed by the Company and the CCOSS revised by OCA. The relative rate of return shows the extent that classes' present revenues produce rates of return, which are higher or lower than the system earned rate of return. A RROR above 100% indicates a class that is above average, in terms of compensatory rates,

and a RROR below 100% indicates a class that is below average. The RROR, below, reflects present rates. For comparison, the distribution percent increase by class is also shown. The increase at equalized rate of return is shown on Exhibit CJ-1.

	Total	Residential	RH	GS	Pri-D	HT	EP	L
Filed								
Distribution Pct. Incr.	29.2%	20.4%	52.9%	36.8%	42.8%	39.5%	65.0%	16.2%
RROR @current rates	100%	116%	59%	92%	76%	89%	57%	133%
OCA Revised								
Distribution Pct. Incr.	29.2%	12.0%	64.9%	61.0%	42.9%	39.6%	65.1%	-17.6%
RROR @current rates	100%	139%	43%	56%	76%	89%	57%	256%

Q. WHAT IS THE IMPACT OF THE OCA CCOSS ON THE RELATIVE COST POSITION OF THE RESIDENTIAL CLASS?

A. The OCA CCOSS shows that the standard residential class produces a relative rate of return well above cost. The OCA CCOSS will inform my recommended distribution of the proposed revenue increase, but it is not determinative of recommended revenue changes. The class increase associated with equalized rates of return can and should be constrained by rate moderation considerations.

IV. CLASS REVENUE DISTRIBUTION

Q. IS THE CLASS COST OF SERVICE STUDY AN ABSOLUTE DETERMINANT OF THE DISTRIBUTION OF THE SYSTEM REVENUE INCREASE AMONG CLASSES?

A. No. The cost of service study results should be tempered by gradualism considerations. In addition, because the class cost of service results should be viewed as a snapshot of cost conditions that can change over time, gradualism can address the possibility that cost-based

rates may be a moving target. Moreover, because the CCOSS may be quite sensitive to changes in allocation or classification choices, "cost based rates" are best viewed as representing a reasonable band around the CCOS results, rather than exact price points.

Q. HOW DID YOU DEVELOP YOUR RECOMMENDED REVENUE DISTRIBUTION?

A. I relied on the OCA revised CCOSS as the initial target for class revenue increases. For gradualism limits, I applied 140% of system average increases for the secondary voltage classes, GS and RH. For the remaining classes, I applied 150% of system average as a gradualism limit. The 150% constraint is frequently used for the application of gradualism. Because my testimony recommends a significant change to the classification of secondary lines, the somewhat lower moderation limit is appropriate for the two secondary classes which are most affected by altering the allocation of secondary line costs. I also applied a 50% of system average increase "floor" to the class revenue increase. In my view, when all other classes are receiving a significant revenue increase, it is equitable to eliminate revenue decreases and require such classes to bear at least 50% of the system average percent increase. In this case, all classes should share in the burden of paying the overall revenue increase. This floor limit applies to the lighting class, which would otherwise receive a revenue decrease. I applied the 140% and 150% limits sequentially. The shortfall created by the 140% constraint would require a reallocation that puts the HT and Primary classes over the 150% constraint. Therefore, the 150% limit would apply to the HT, Primary, and ET classes. As I noted, the GS and RH classes are subject to the 140% limit on increases relative to system average, and the lighting class is set at 50% of system average. The remaining class, residential, bears an increase that is 69% of the system

average increase. The residential increase is notably higher than the 42% of system average increase indicated by the revised CCOSS.

Q. HAVE YOU PREPARED A SCHEDULE SETTING OUT THE OCA'S PROPOSED REVENUE DISTRIBUTION?

A. Yes. Schedule CJ-2 shows my proposed allocation of the distribution base revenue increase to customer classes. For purposes of comparison, the percentage increase is calculated prior to inclusion of the GSA/TSC adjustment. The chart below compares the class percentage increases in Schedule CJ-2 to the Company proposal (excluding GSA/TSC adjustment).[19]

	Percentage Distribution Revenue Increase						
	Resid.	RH	GS	P-D	HT	EP	L
Company	26.6%	38.8%	33.7%	35.5%	38.0%	38.5%	14.8%
OCA	20.2%	40.8%	40.8%	43.7%	43.7%	43.7%	40.8%

Q. DO YOU EXPECT THE OVERALL PROPOSED DISTRIBUTION REVENUE INCREASE TO BE LESS THAN THE COMPANY'S FILED REQUEST?

A. Yes. The OCA presents revenue requirement testimony which proposes downward adjustments to the system revenue requirement. I recommend that the class results should be proportionately scaled back by the adopted revenue requirement adjustments.

[19] Company percentages from Exhibit JAB 1, column 3 divided by column 1.

V. RESIDENTIAL CUSTOMER CHARGE

Q. WHAT IS PECO'S PROPOSAL REGARDING THE RESIDENTIAL CUSTOMER CHARGE?

A. The Company proposes to increase the residential customer charge from the current level of $10.50 to $14.28. [20] This is a 36% increase in the monthly charge.

Q. DO YOU AGREE WITH PECO'S RECOMMENDED INCREASE IN THE RESIDENTIAL CUSTOME CHARGE?

A. No. As a matter of regulatory principles and policy, the absolute level of the fixed customer charge should be limited so that it provides the customer with more control over the size of the monthly bill. The customer charge is the least informative part of a utility's rate design, and an excessive customer charge is inconsistent with energy conservation objectives because it diminishes the price signal provided by usage rates.

Q. WHAT ARE THE POLICY REASONS FOR ENSURING THE RESIDENTIAL CUSTOMER CHARGE IS NOT EXCESSIVE?

A. An excessive customer charge can distort appropriate price signals for residential customers. The principal economic function of a customer charge is to ration access to the utility system. That objective conflicts with the policy basis for regulating monopolies and is counter to the concept of the essential service character of electricity. Public policy encourages universal service, rather than limiting public access to regulated monopoly service. Except for its role in rationing access to the system, the customer charge provides no meaningful price signal that is relevant to resource allocation. This contrasts with kWh

[20] PECO Statement 7 at page 7.

charges which are controlled by the consumer's usage decisions. A tenet of rate design is that lowering the customer charge will increase the proportion of costs recovered through a usage-sensitive rate (i.e., price per kWh). That result is more consistent with energy conservation goals and provides pricing policies appropriate for consumption of finite natural resources. By allowing customers to control their utility bill with conservation, minimizing the customer charge is aligned with the Company's stated objection of aggressively pursuing energy efficiency and conservation[21]. In addition, a policy that minimizes the customer charge is more equitable to low usage and low income residential customers.[22]

Q. WHAT IS AN APPROPRIATE BENCHMARK FOR SETTING THE CUSTOMER CHARGE?

A. In my view, basic customer costs constitute the appropriate benchmark. The cost standard for PECO's customer charge is based on the following components: O&M expense for (1) meters, meter reading, and customer accounting; (2) return, income tax and depreciation on meter and service investment (plus any investment directly related to customer accounting); (3) minus credits for customer deposits, late payment and reconnection fees, and related deferred federal income taxes. In my view, general overhead, such as administrative and general expense, and customer classified costs which are only weakly related to customer count, should be excluded from the customer charge computation, because these costs do not vary directly with number of customers.[23] The customer charge

[21] PECO Statement No. 1 at page 6, l. 8.

[22] See also, OCA St. 4, OCA witness Colton.

[23] The calculation of direct customer costs for my customer charge analysis includes limited employee benefit expense related to amount of direct customer–related personnel.

is compensatory so long as it recovers the expenses which are required to maintain the residential customer on the system. As stated by PECO, if a customer terminates service and is not replaced by another customer at the same premises, the only savings in customer-related costs would be the costs of "billing, meter reading and maintenance costs, and credit and collection costs."[24] These are the costs which vary directly with customer count and are narrower in scope than the basic customer cost calculation described above. As noted by the Company, associated overhead costs continue to be incurred when the customer leaves the system,[25] which confirms that the general overhead costs do not vary with the number of customers. My understanding is that the Commission historically favored a "basic customer cost" composed of costs for meter/service drops, meter reading, and billing.[26] I recommend that the Commission continue the approach taken in those historical cases which relied on the basic customer cost to evaluate the customer charge.

Q. HAVE YOU PERFORMED AN ANALYSIS OF THE APPROPRIATE BENCHMARK FOR EVALUATING PECO'S RESIDENTIAL CUSTOMER CHARGE?

A. Yes. I performed an analysis of costs which vary with customers, limited to meter/service drops, meter reading (AMI software), billing, appropriate components of call center costs[27], and employee benefits limited to those personnel. The residential customer charge developed by this analysis is **$7.94**. Importantly, this result is based on the Company's

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[24] PECO Response to OCA 6-35.

[25] Ibid.

[26] *See e.g. Re: West Pennsylvania Power Co.*, 69 PUR4th 470 (1985); *Re: West Pennsylvania Power Co.*, 119 PUR4th 110 (1990); In addition, the direct cost method is also supported by *PPL Gas Utilities Corporation* (2007) Docket No. R-00061398 and *Columbia Gas of Pennsylvania* (2011) Docket No. R-2010-2201974.

[27] The customer accounting cost includes call center calls limited to billing, initiating/terminating service, and credit, CAP assistance, but excludes emergency/outage calls.

return proposed in its filing, and is, therefore, conservative. At the OCA's recommended return, or any lower return authorized by the Commission, the direct cost of serving residential customers would be lower. Because the current customer charge, $10.50, exceeds this cost, the residential customer charge recovers direct customer costs and contributes a 32% margin to common costs.[28] Details regarding my analysis of the customer charge are shown on Schedule CJ-3.

Q. IS IT APPROPRIATE TO INCLUDE INDIRECT CUSTOMER COSTS IN A CUSTOMER CHARGE?

A. Generally speaking, no. As stated above, the inclusion of indirect costs in a customer charge provides customers with poor price signals while awarding the utility with a greater pool of guaranteed revenue. If any indirect customer costs are to be included in the customer charge, those costs must be carefully considered on a case-by-case basis, and the utility must justify why those costs are included in the customer charge.

Q. DID PECO JUSTIFY THE INCLUSION OF INDIRECT CUSTOMER COSTS IN ITS CUSTOMER CHARGE?

A. No. PECO provided no specific justification for the inclusion of indirect costs – including uncollectible expense and customer service and sales expense, among others – in its proposed customer charge.[29]

[28] $2.56 / 7.94 = 32%.
[29] PECO Statement 6 at 33-34.

Q. DID YOU INCLUDE UNCOLLECTIBLE EXPENSE OR CUSTOMER SERVICE AND SALES EXPENSE IN THE BASIC CUSTOMER CHARGE ANALYSIS?

A. No. The PECO proposed customer charge includes uncollectible expense within customer accounting, and also incorporates customer service and sales expense (A908 – 916). My calculation excludes uncollectible expense from the residential customer charge because the amount of uncollectible expense is determined by the size of customer bills which are unpaid. The inclusion of uncollectible expense in the customer charge occurs because uncollectible expense is recorded in customer accounting; however, the act of recording the expense in a customer account does not mean that the cost varies directly with number of customers.[30] Moreover, residential uncollectibles are overwhelmingly associated with unpaid variable charges. The base variable rate comprises 86% - 92% of residential distribution revenues, and bills of uncollectible accounts probably include a higher percentage of variable charges.[31] Furthermore, the uncollectible expense in Account 904 includes retail transmission and energy functional components of unpaid bills. In addition, I have excluded customer service and sales expense (FERC Accounts 908 – 916), which are indirect costs largely unrelated to billing. The largest component of this cost is LIURP,[32] and there is no reason that this cost should be recovered through the customer charge instead of the kWh rate. LIURP is an energy conservation program that targets low income customers, and therefore is more closely related to the kWh rate. In addition, the advertising, promotional, and economic development expenses recorded in these accounts are not appropriately recovered through a monthly customer charge.

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30 Note that the NARUC Electric Utility Cost Allocation Manual (CAM) specifically excludes uncollectible expense from the customer classification. CAM at 103.

31 PECO Exhibit JAB-4, page 1, proof of revenues at present and proposed rates.

32 PECO Exhibit TJJ-7, page 10.

Q. DOES ENERGY CONSERVATION POLICY FAVOR THE USE OF THE BASIC CUSTOMER CHARGE CALCULATION?

A. Yes. In weighing the appropriateness of limited or broad calculations of the customer charge, the Commission should consider the effect on energy efficiency policies. A high customer charge tends to inhibit energy conservation. Minimizing the customer charge provides the ratepayer with a greater ability to control his/her bill on the basis of usage. For that reason, an excessive customer charge can promote wasteful energy consumption. Pennsylvania's policy favors energy efficiency, as evidenced by directives requiring utility-funded energy efficiency conservation programs. Public utilities have an incentive to propose fixed charges because the charges produce less financial risk; however, they do not propose to compensate customers for the lower risk through a reduction in the allowable return on equity. Without such explicit compensation to ratepayers, the utilities' frequent argument in favor of the "revenue stability" aspect of fixed charges is not a reasonable policy basis for adopting methods that produce high customer charges.

Q. CAN YOU PROVIDE AN ILLUSTRATION OF THE IMPACT OF CUSTOMER CHARGE METHODS ON ENERGY EFFICIENCY CHOICES?

A. Yes. I performed a comparison of the net life cycle savings, as measured by the present value of bill savings net of appliance purchase price, for an Energy Star heat pump relative to a less-efficient heat pump option.[33] The heat pump is eligible for an incentive pursuant to PECO's energy conservation program, and I included the effect of the incentive. I

[33] I utilized Energy Star spreadsheets which were developed for the EPA and U.S. Department of Energy to calculate "net life cycle energy cost savings," which is based on the discounted bill savings, net of higher appliance purchase cost, over the life of the energy efficient appliance. The spreadsheet also calculates a payback period for purchasing the efficient appliance. In this example, I compared heat pumps with 13 SEER vs. 20 SEER.

prepared a comparison of net life cycle savings for purchasing the more efficient appliance in two different bundled variable rate scenarios. The variable rate differences reflect the difference in maintaining the $10.50 current customer charge versus the Company's proposed customer charge of $14.28, assuming no change in revenue requirement.[34] Assuming a constant residential class revenue requirement, the lower current customer charge places higher revenue recovery on the energy rate component, thereby increasing the incentive for customers to engage in energy efficiency actions. The difference in the residential variable energy resulting from different customer charge levels is approximately six-tenths of a cent per kWh. The higher customer charge level produces $216 lower net life cycle savings, over a period of 12 years, and a 6% longer payback period. This analysis illustrates that increasing the customer charge can discourage energy efficiency by increasing the consumer's payback period and decreasing net savings.

Q. WHAT IS YOUR RECOMMENDATION REGARDING THE RESIDENTIAL CUSTOMER CHARGE?

A. My primary recommendation is to maintain the residential customer charge at the current $10.50 level. The current residential customer exceeds my estimate of basic customer costs. Therefore, my position is that the ultimate revenue increase for the residential class should be recovered through the variable energy charge. If the Commission finds that residential rate design policy should be more reflective of energy conservation and low

[34] This analysis is based on the total bill, which is derived from proposed generation, transmission, and distribution residential variable rates.

income equity criteria, the residential customer charge can be reduced below its current level, so long as it exceeds the basic customer costs of $7.94.

Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?

A. Yes.

SUMMARY OF QUALIFICATIONS

CLARENCE JOHNSON

EDUCATION

Bachelor of Science, Political Science, University of Houston.

Master of Arts, College of Social Science (Interdisciplinary/Urban Studies), University of Houston.

EXPERIENCE

Mr. Johnson has more than 35 years' experience as an expert witness and analyst related to electric and telecommunications utility issues.

CURRENT EMPLOYMENT

Mr. Johnson currently provides professional consulting and analytical analyses regarding regulatory and public policies related to public utilities and the energy industry.

PREVIOUS EMPLOYMENT 1983-2008

From September 1983 to June 2008, Mr. Johnson was a Regulatory Analyst for the Office of Public Utility Counsel. He was the professional staff person with primary responsibility for advising the Public Counsel on economic and regulatory policy issues. His responsibilities included: presenting expert testimony on regulatory matters; research related to rate filings of regulated public utilities; acting as a non-testifying expert and advising attorneys in cross-examination of witnesses and development of trial exhibits for utility regulatory proceedings; analyzing policies and practices for regulating public utilities; and preparing comments on proposed Public Utility Commission rules; assisting financial and economic staff in the development and preparation of testimony; providing expert testimony on selected issues; preparation of reports to the Legislature regarding the utility regulatory process.

EMPLOYMENT BEFORE 1983

During the period 1977 to 1983, Mr. Johnson extensively engaged in analysis and supervision of public interest advocacy programs. He directed two non-profit corporations involved in public policy research from 1978 to 1980 and 1982 to 1983, respectively; responsibilities included overall management of the corporations, negotiation and management of grants and contracts, supervision of research activities, and presentations of research findings to legislative and administrative governmental entities. From 1980 to 1982, he also performed policy analysis and substantive research on the impact of governmental policies for two publicly-funded entities. His responsibilities for the statewide support center for legal services programs in Texas assessed the effect of federal and state regulatory changes upon indigent clients. As an analyst for the Texas State Senate's Natural Resources

Committee, Mr. Johnson was responsible for research related to low-level radioactive waste disposal and low-head hydropower, and the committee's staff's interim report on energy conservation.

AWARDS Mr. Johnson was the recipient of the first annual Texas Outstanding Public Service Award in 1988.

MEMBERSHIP American Economic Association.

TESTIMONY ON BEHALF OF TEXAS OFFICE OF PUBLIC UTILITY COUNSEL

Docket No. 6588, Re Southwestern Bell Telephone Company,
Subject: Declassification of Documents.

Docket Nos. 7195 and 6755, Re Gulf States Utilities Company,
Subject: Rate Design/Cost Allocation.

Docket No. 7510, Re West Texas Utilities Company,
Subject: Rate Design/Cost Allocation.

Docket No. 8095, Re Texas-New Mexico Power Company,
Subject: Rate Design/Cost Allocation.

Docket No. 8363, Re El Paso Electric Company,
Subject: Rate Design/Cost Allocation.

Docket No. 8425, Re Houston Lighting & Power Company,
Subject: Revenue Requirements.

Docket No. 8425, Re Houston Lighting & Power Company,
Subject: Rate Design/Cost Allocation.

Docket No. 8646, Re Central Power and Light Company,
Subject: Revenue Requirements.

Docket No. 8646, Re Central Power and Light Company,
Subject: Rate Design/Cost Allocation.

Docket No. 8646, Re Central Power and Light Company,
Subject: Interim Rate Relief.

Docket No. 8555, Proceedings Concerning Houston Lighting & Power Company on Remand From Cause No. C-5705 and Cause No. 352,044,
Subject: Determination of Remand Amount.

Docket No. 8928, Re Texas-New Mexico Power Company,
Subject: Rate Design/Cost Allocation.

Docket No. 8585, Re Southwestern Bell Telephone Company,
Subject: Revenue Requirements/Affiliates.

Docket No. 8585, Re Southwestern Bell Telephone Company,
Subject: Reply, Revenue Requirements/Affiliates.

Docket No. 8585, Re Southwestern Bell Telephone Company,
Subject: Reply, Rate Design.

Docket No. 8585, Southwestern Bell Telephone Company,
Subject: Proposed Non-Unanimous Stipulation.

Docket No. 9300, Texas Utilities Electric Company,
Subject: Revenue Requirement.

Docket No. 9300, Texas Utilities Electric Company,
Subject: Cost Allocation and Rate Design.

Docket No. 9300, Texas Utilities Electric Company,
Subject: Prudence of Plant Acquisition.

Docket No. 9561, Central Power and Light Company,
Subject: Revenue Requirement.

Docket No. 9561, Central Power and Light Company,
Subject: Cost Allocation and Rate Design.

Docket No. 9578, Sugar Land Telephone Company,
Subject: Inquiry into Sale.

Docket No. 9850, Houston Lighting & Power Company,
Subject: Revenue Requirement.

Docket No. 9850, Houston Lighting & Power Company,
Subject: Cost Allocation and Rate Design.

Docket No. 9850, Houston Lighting & Power Company,
Subject: Settlement Testimony: Revenue Requirement and Rate Design.

Docket No. 9981, Central Telephone Company,
Subject: Revenue Requirement/Affiliates.

Docket No. 10894, Gulf States Utilities Company,
Subject: Affiliate Transactions/Power Purchases.

Docket No. 11735, Texas Utilities Electric Company,
Subject: Revenue Requirement and Rate Design.

Docket No. 11892, General Counsel's Original Petition for Generic Proceeding Regarding Purchased Power,
Subject: Impact of Purchased Power on Cost of Capital.

Docket No. 12700, El Paso Electric Company,
Subject: Acquisition, Revenue Requirement and Rate Design.

Docket No. 12957, Houston Lighting & Power Company,
Subject: Contract Pricing Tariff.

Docket No. 13100, Texas Utilities Electric Company,
Subject: Competitive Pricing Tariffs.

Docket No. 13575, Texas Utilities Electric Company,
Subject: Demand Side Management and Purchase Power Recovery.

Docket No. 12065, Houston Lighting & Power Company,
Subject: Revenue Requirement/Plant Cancellation/Prudence.

Docket No. 12065, Houston Lighting & Power Company,
Subject: Cost Allocation and Rate Design.

Docket No. 13943, Gulf Coast Power Connect,
Subject: Transmission Line CCN.

Docket No. 13575, TUEC Application for Relief Regarding Recovery Solicitations,
Subject: DSM and Purchase Power Cost Recovery.

Docket No. 13369, West Texas Utilities Company,
Subject: Cost Allocation and Rate Design.

Docket No. 14435, Southwestern Electric Power Co.,
Subject: Rate Design.

Docket No. 14716, Texas Utilities Electric Company,
Subject: Wholesale Competitive Rate.

Docket No. 14965, Central Power and Light Company,
Subject: Cost Allocation, Rate Design and Competitive Issues.

Docket No. 14965, Central Power and Light Company,
Subject: Reply, Cost Allocation, Rate Design and Competitive Issues.

Docket No. 15560, Texas-New Mexico Power Company,
Subject: Competitive Issues.

Docket No. 16705, Entergy Gulf States, Inc.,
Subject: Cost Allocation, Rate Design and Competitive Issues.

Docket No. 16705, Entergy Gulf States, Inc.,
Subject: Reply, Cost Allocation, Rate Design and Competitive Issues.

Docket No. 16995, Central Southwest Corp.,
Subject: Integrated Resource Planning.

Docket No. 17751, Texas-New Mexico Power Company,
Subject: Rate Design and Competitive Issues.

Docket No. 18845, CPL, WTU, and SWEPCO,
Subject: Integrated Resource Planning.

Docket No. 21527, TXU Financing Order,
Subject: Cost Allocation.

Docket No. 21528, CPL Financing Order,
Subject: Cost Allocation.

Docket No. 21591, Sharyland Utilities Initial Rates & Tariffs,
Subject: Deferrals.

Docket No. 21956, Reliant Business Separation Plan,
Subject: Price to Beat and Capacity Auction.

Docket No. 22344, Generic Rate Design and Customer Classification for TDUs,
Subject: Rate Design.

Docket No. 22349, TNMP Unbundling,
Subject: Competitive Transition Charge and Revenue Requirements/Cost Allocation/Rate Design.

Docket No. 22350, TXU Unbundling,
Subject: Competitive Transition Charge.

Docket No. 22351, Southwestern Public Service Company Unbundling,
Subject: Cost Allocation/Rate Design.

Docket No. 22352, Central Power & Light Company,
Subject: Competitive Transition Charge.

Docket No. 22355, Reliant Unbundling,
Subject: Non-Bypassable Charges and Competitive Transition Charge/Cost Allocation/Rate Design.

Docket No.22356, Entergy Gulf States Utilities Unbundling,
Subject: Revenue Requirements/Cost Allocation/Competitive Transition Charge/Settlement Rate Design.

Docket No. 24194, Application of TNMP to Establish Price to Beat Fuel Factor,
Subject: Fuel and purchased power costs.

Docket No. 25230, Joint Application for Approval of Stipulation Regarding TXU Electric Company Transition to Competition Issues,
Subject: Retail Clawback Provisions of Non-Unanimous Agreement.

Docket No. 25314, Application of West Texas Utilities Company and Mutual Energy WTU to Establish a Fuel Reconciliation Methodology for Southwest Power Pool (SPP) Customers,
Subject: Fuel Cost Method.

Docket No. 24336, Application of Entergy Gulf States, Inc. for Approval of Price to Beat Factor,
Subject: Unaccounted for Energy.

Docket No. 23320, Petition of ERCOT for Approval of the ERCOT Administrative Fee,
Subject: ERCOT Fee Structure.

Docket No. 26194, El Paso Electric Company Fuel Reconciliation,
Subject: Purchased Power and Off-System Sales.

Docket No. 27576,	Application of Texas-New Mexico Power Company for Reconciliation of Fuel Costs,
Subject:	Fuel Reconciliation.
Docket No. 28813,	Inquiry Into Rates of Cap Rock Energy,
Subject:	Revenue Requirements/Cost Allocation/Rate Design.
Docket No. 28840,	Application of AEP Texas Central Company for Change in Rates,
Subject:	Cost Allocation/Rate Design/Affiliate Transactions.
Docket No. 30485,	Application of CenterPoint Energy Houston Electric, LLC For A Financing Order,
Subject:	Transition Charge Recovery.
Docket No. 30143,	Petition of El Paso Electric Company to Reconcile Fuel Costs (Initial and Rebuttal Testimonies),
Subject:	Fuel Reconciliation.
Docket No. 30706,	Application of CenterPoint Energy Houston Electric, LLC for A Competition Transition Charge,
Subject:	Competitive Transition Charge Structure.
Docket No. 31315,	Application of Entergy Gulf States, Inc. for Approval of Incremental Purchased Capacity Recovery Rider,
Subject:	Purchase Power Capacity Rates.
Docket No. 31544,	Application of Entergy Gulf States, Inc. for Recovery of Transition to Competition Costs,
Subject:	Allocation of Transition Costs.
Docket No. 31994,	Application of Texas-New Mexico Power Company's to Establish a Competition Transition Charge Pursuant to P.U.C. Subst. R. 25.263(N),
Subject:	Competition Transition Charge.
Docket No. 32475,	Application of AEP Texas Central Company for a Financing Order,
Subject:	Securitization of Stranded Costs.

Docket No. 32758,	Application of AEP Texas Central Company for a Competition Transition Charge Pursuant to P.U.C. Subst. R. 25.263(n),
Subject:	Competitive Transition Charge.
Docket No. 32795,	Staff's Petition to Initiate Generic Proceeding to Re-Allocate Stranded Costs Pursuant to PURA § 39.253(f),
Subject:	Stranded Costs Allocation.
Docket No. 32907,	Application of Entergy Gulf States, Inc. for Determination of Hurricane Reconstruction Costs,
Subject:	Cost Allocation.
Docket No. 32766,	Application of Southwestern Public Service Company for: (1) Authority to Change Rates; (2) Reconciliation of its Fuel Costs for 2004 and 2005; (3) Authority to Revise the Semi-Annual Formulae Originally Approved in Docket No. 27751 Used to Adjust its Fuel Factors; and (4) Related Relief,
Subject:	Cost Allocation/Rate Design.
Docket No. 33586,	Application of Entergy Gulf States, Inc. for a Financing Order,
Subject:	Financing Order Allocation.
Docket No. 32710,	Application of Entergy Gulf States, Inc. for Authority to Reconcile Fuel and Purchased Power Costs,
Subject:	Capacity Rider Allocation.
Docket No. 31461,	Application of AEP Texas North Company for a Competition Transition Charge Under to Subst. R. §25.263(N),
Subject:	Competition Transition Charge.
Docket No. 32795,	Staff's Petition to Initiate a Generic Proceeding to Re-Allocate Stranded Costs Pursuant to PURA § 39.253(f),
Subject:	Stranded Cost Allocation.
Docket No. 33309,	Application of AEP Texas Central Company for Authority to Change Rates,
Subject:	Rate Design and Energy Efficiency Costs.

Docket No. 33310,	Application of AEP Texas North Company for Authority to Change Rates,
Subject	Energy Efficiency Costs and Riders.
Docket No. 32902,	CenterPoint Energy Houston Electric, LLC Compliance Tariff,
Subject:	Allocation of Stranded Costs.
Docket No. 34077,	Joint Report and Application of Oncor and EFH Pursuant to § 14.101,
Subject:	Leveraged buyout of utility.
Docket No. 35105,	Compliance Tariff Filing of AEP Texas,
Subject:	Allocation of Stranded Costs.
Docket No. 35038,	Texas-New Mexico Power Company Tariff Filing in Compliance with the Final Order in Docket No. 33106,
Subject:	Allocation of Stranded Costs.
Docket No. 34800,	Application of Entergy Gulf States, Inc. for Authority to Change Rates and to Reconcile Fuel Costs,
Subject:	Cost Allocation & Rate Design.
*Docket No. 37482,	Application of Entergy Texas for a PCRF,
Subject:	Purchase Power.
*Docket No. 37744,	Application of Entergy Texas, Inc. for Authority to Change Rates,
Subject:	Cost allocation, rate design, proposed riders, & storm damage expense.
*Docket No. 38951,	Application of Entergy Texas, Inc. for Approval of CGS Tariff,
Subject:	Rate Design, Competitive Tariffs.
*Docket No. 46454,	Application of SPS for Revision of EECRF[1],
Subject:	Recovery of energy efficiency costs.

[1] Asterick (*) denotes testimony for Texas OPC as a consultant.

TESTIMONY ON BEHALF OF STEERING COMMITTEE OF ONCOR CITIES	Docket No. 35634, Subject:	Re Oncor Electric Delivery's Request for an Energy Efficiency Cost Recovery Factor, Energy Efficiency Cost Recovery.
	Docket No. 36958, Subject:	Application of Oncor Electric Delivery Company LLC for 2010 Energy Efficiency Cost Recovery Factor, Energy Efficiency Cost Recovery.
	Docket No. 39375, Subject:	Application of Oncor Electric Delivery Company LLC for 2012 EECRF, Energy Efficiency Cost Recovery.
TESTIMONY ON BEHALF OF ALLIANCE OF XCEL MUNICI-PALITIES	Docket No. 35664, Subject:	Application of SPS to Revise Interruptible Credit Option Tariff, Interruptible Rate Avoided Costs.
	Docket No. 35763, Subject:	Application of SPS to Change Rates and Reconcile Fuel and Purchased Power Costs, Energy Efficiency, Renewable Energy Credits, Power Cost Credits, and Interruptible Credits.
	Docket No. 37173, Subject:	Petition for Declaratory Order of Southwestern Public Service Company Regarding the Generation Demand Charge as a Cap on Compensation for Interruptible Resources Interruptible Curtailable Option ("ICO").
	Docket No. 43695, Subject:	Application of SPS to Change Base Rates, Cost Allocation / Rate Design/ Jurisdictional.
	Docket No. 47527, Subject:	Application of SPS to Change Base Rates, Cost Allocation / Rate Design/ Jurisdictional
TESTIMONY ON BEHALF OF CERTAIN TNMP CITIES	Docket No. 36025, Subject:	Application of TNMP for Authority to Change Rates, Cost Allocation and Rate Design.
	Docket No. 39362, Subject:	Application of TNMP for 2012 EECRF, Energy Efficiency Cost Recovery.

TESTIMONY ON BEHALF OF ST.LAWRENCE COTTON GROWERS	Docket No. 41474, Subject:	Application of Sharyland Utilities for Unbundled Delivery Rates, Cost Allocation, Rate Design, Unbundling.
TESTIMONY ON BEHALF OF LIVE OAK TENANTS	Docket No.41987, Subject:	Complaint Against Live Oak Resort, Sub Metering Complaint Case.
TESTIMONY ON BEHALF OF GULF COAST COALITION OF CITIES	Docket No. 38339, Subject:	Application of CenterPoint Energy Houston Electric, LLC for Authority to Change Rates, Cost Allocation, Rate Design, Riders.
TESTIMONY ON BEHALF OF PENNYSLVANIA OFFICE OF CONSUMER ADVOCATE	Docket No. R-2010-2161575, et. al., Subject:	PECO Energy Co.-Electric Division Base Rate Case, Cost Allocation and Rate Design.
	Docket No. R-2010-2179522, Subject:	Duquesne Light Company Base Rate Case, Cost Allocation and Rate Design.
	Docket No. R-2014-248745, Subject:	Met Edison General Base Rate Case, Cost Allocation and Rate Design.
	Docket No. R-2014-2478743, Subject:	Penelec Power General Base Rate Case, Cost Allocation and Rate Design.
	Docket No. R-2014-2478744, Subject:	Penn Power General Base Rate Case, Cost Allocation and Rate Design.
	Docket No. R-2014-248752,	West Penn Power General Base Rate Case,

Subject:	Cost Allocation and Rate Design.
Docket No. R-2016-2537349	Met Edison General Base Rate Case,
Subject:	Cost Allocation and Rate Design.
Docket No. R-2016-2537352	Penelec Power General Base Rate Case,
Subject:	Cost Allocation and Rate Design.
Docket No. R-2016-2537355,	Penn Power General Base Rates,
Subject:	Cost Allocation and Rate Design.
Docket No. R-2016-2537359	West Penn Power General Base Rate Case,
Subject:	Cost Allocation and Rate Design.
Docket No. R-2018-3000164	PECO General Rate Case
Subject:	Cost Allocation and Rate Design
Docket No. R-2021-3024601	PECO General Rate Case
Subject:	Cost Allocation and Rate Design
Docket No. R-2023-3044549	Peoples Gas Base Rate Case
Subject:	Cost Allocation and Rate Design

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TESTIMONY ON BEHALF OF SWEPCO CITIES	Docket No. 40443, Subject:	Application of SWEPCO for Rate Change, Cost Allocation, Rate Design, Fuel Rule, Revs.
TESTIMONY ON BEHALF OF SWEPCO CITIES (CARD)	Docket No. 46449, Subject:	Application of SWEPCO for Rate Change, Cost Allocation, Rate Design, Transmission.

*Gas Utility (*Railroad *Commission):*

TESTIMONY FOR CITY OF EL PASO	Docket No.10506 Subject:	Texas Gas Services Co.-West Texas Cost Allocation, Rate Design

TESTIMONY FOR CITY OF EL PASO	Case No OS22-9896 Subject:	Texas Gas Services Co.-Gas One Cost Allocation, Rate Design

Additional Electric Cases

TESTIMONY FOR CONNECTICUT CONSUMER COUNSEL	Docket No.14-05-06, Subject:	CL&P Rate Increase Application, Cost Allocation, Rate Design, Decoupling.
TESTIMONY FOR TEXAS COAST UTILITIES COALITION	Docket No.44572, Subject: Docket No. 47320, Subject:	CenterPoint Application for DCRF, Distribution Cost Recovery Factor. CenterPoint Application for DCRF, Distribution Cost Recovery Factor.
TESTIMONY FOR CITY OF EL PASO	Docket No.44941, Subject: Docket No. 46831 Subject: Docket No. 48181 Subject: Docket No. 52195 Subject:	El Paso Electric Co. Rate Request, Cost Allocation, Rate Design. EPEC Rate Case Cost Allocation/Rate Design EPEC Community Solar Waiver Regulatory Policy EPEC Rate Case Cost Allocation/Rate Design
TESTIMONY FOR TEXAS OPUC (2014 or later)	Docket No.44620, Subject: Docket No. 45414, (base rate) Subject: Docket No. 46025, (fuel)	Sharyland Utilities Good Cause Request, Transmission Cost Recovery. Sharyland Utilities Rate Inquiry, Rev Req/Allocation/Rate Design. Southwestern Public Service Co.,

Subject: Fuel and Purchased Power.

Docket No. 48371, Entergy Texas Rate Application

Class Allocation/Rate Design/Riders

Docket No. 49616, Southwestern Public Service Co.
Subject: Fuel Factor Methodology

Docket No. 50058, El Paso Electric Co. Fuel Reconciliation
Subject: Off System Sales Margin in Fuel

Docket No. 51625, Southwestern Public Service Co.
Subject: Fuel Factor Methodology; Gas Prices

TESTIMONY FOR CITIES SERVED BY AEP Docket No.49494, Application of AEP Texas to Adjust Rates
Subject: Cost Allocation/Rate Design

TESTIMONY FOR MD. OFFICE OF PEOPLE COUNSEL Case No.9610, Application of Baltimore Gas & Electric Co.
Subject: Gas/Electric Cost Allocation/Rate Design

OCA Revised Class Cost of Service Study

Distribution Base Revenues ($000s)	TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
Present Base Revenues	1,589,176	927,169	177,981	266,019	7,647	178,267	7,059	25,034
Filed Proposed Revs	2,052,568	1,116,203	272,125	363,869	10,921	248,725	11,645	29,082
Company CCOS incr.	463,392	189,034	94,144	97,850	3,274	70,458	4,586	4,048
Company Percent Incr.	29.2%	20.4%	52.9%	36.8%	42.8%	39.5%	65.0%	16.2%
Revised CCOS Revs	2,052,568	1,038,689	293,447	428,314	10,927	248,898	11,653	20,640
Revised CCOS Increase	463,392	111,520	115,466	162,296	3,280	70,631	4,594	(4,394)
Revised CCOS Pct. Incr.	29.2%	12.0%	64.9%	61.0%	42.9%	39.6%	65.1%	-17.6%

OCA BASE REVENUE INCREASE DISTRIBUTION

Distribution Base Revenues ($000s)	TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
Revised CCOS Result								
Present Base Revenues	1,589,176	927,169	177,981	266,019	7,647	178,267	7,059	25,034
Revised CCOS Increase	463,392	111,520	115,466	162,296	3,280	70,631	4,594	(4,394)
Revised CCOS Pct. Incr.	29.2%	12.0%	64.9%	61.0%	42.9%	39.6%	65.1%	-17.6%
Company Revenue Allocation								
Apply Limits	275,878		72,657	108,597	3,345	77,972	3,087	10,220
Adjust Remaining Classes	$ 463,392	$ 187,514	$ 72,657	$ 108,597	$ 3,345	$ 77,972	$ 3,087	$ 10,220
Percent Increase	29.2%	20.2%	40.8%	40.8%	43.7%	43.7%	43.7%	40.8%
Times System Average		69%	140%	140%	150%	150%	150%	140%

Gradualism Limits	
System Average Increase	**Increase Limit**
150%	43.74%
140%	40.82%
50%	14.58%

PECO Customer Charge Analysis

	Rate Base	
1	Meters & Services	528,711
2	Service Installations	6,391
3	AMI Software	4,838
4	Accum. Depreciation	288,357
5	Deferred Income Taxes	26,529
6	Cust. Deposits & Advances	60,180
	[1+2+3-4-5-6]	
7	Sub Total Rate Base	164,874
8	Return and Income Taxes	15,005
	Expenses	
9	Meter & Service O&M	16,917
10	A 926 Expense	6,102
11	Customer Accounts	84,797
12	Customer Rev Credits	(11,987)
13	Call Center Adjustment	(2,181)
14	Depreciation & Amort.	18,939
	[Sum 9 thru 14]	
16	Total Expenses	112,587
	[8+15]	
17	**Basic Customer Charge Cost**	127,592
18	Billing Units	16,065,289
	[16/17]	
	Customer charge	$ 7.94

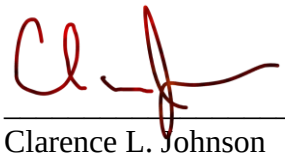
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Clarence L. Johnson, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 3, 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 17, 2024

Signature: 

Clarence L. Johnson

Address: CJ Energy Consulting
3707 Robinson Avenue
Austin, TX 78722

OCA STATEMENT 3R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket Number R-2024-3046931
	:	
	:	
PECO Energy Company—Electric Division	:	

REBUTTAL TESTIMONY
OF
CLARENCE L. JOHNSON

ON BEHALF OF
OFFICE OF CONSUMER ADVOCATE

July 16, 2024

REBUTTAL TESTIMONY OF CLARENCE L. JOHNSON

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Exhibit CJ-1R PECO RATE CASE NCP HISTORY

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Clarence L. Johnson. My business address is 3707 Robinson Ave, Austin, Texas 78722.

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

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

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A. Yes. My direct testimony was submitted as OCA Statement 3.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS CASE?

A. I will rebut the testimony of Ms. LaConte on behalf of Philadelphia Industrial Energy Users Group in PAIEUG Statement No. 1, Mr. Higgins on behalf of the Office of Small Business Advocate (OSBA) in OSBA Statement No. 1, and Mr. Crist on behalf of the Southeastern Pennsylvania Transit Authority in SEPTA Statement No. 1. I have focused on certain areas of disagreement, and the scope of this testimony does not indicate agreement with other statements by the witnesses which I did not rebut.

II. SUMMARY

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. My conclusions are as follows:

- Ms. LaConte's proposed replacement of actual non-coincident peak (NCP) demands should be rejected;

- Mr. Higgin's argument supporting the distribution system customer percentages and his proposal to classify transformers as customer-related should be rejected; and
- Mr. Crist's contention that rate classes HT and EP should pay no more than the system percent revenue increase should be denied.

III. PAIEUG PROPOSED DEMAND ADJUSTMENTS

Q. DOES PAIEUG WITNESS LACONTE ADDRESS POSSIBLE ADJUSTMENTS TO PECO'S CLASS COST OF SERVICE STUDY (CCOSS)?

A. Yes. PAIEUG's witness LaConte contends that PECO's CCOSS results diverge from the CCOSS results in previous cases, suggests potential adjustments to class demands in the CCOSS, and proposes that the demand adjustments should be implemented if the Company cannot adequately explain why current class demands vary from previous cases. Ms. LaConte asserts that remedies for this issue include denial of the rate request and/or modifying the class revenue allocation.[1] The gist of PAIEUG's position is that the Residential class should be allocated more costs because of a supposed unexplained problem with the actual test year class demands which causes a Residential relative rate of return (RROR) substantially above one.

Q. DO YOU AGREE WITH THIS ARGUMENT?

A. No. First, class demands vary from year to year based on many factors including weather, economic conditions during the test year, demand elasticity and other alterations to customer behavior, as well as customer growth. Actual demands used in the CCOSS should not be ignored or revised unless there is a clear reason why they are incorrect. Ms.

[1] PAIEUG Statement 1 at 8-15.

LaConte has not presented any such evidence. The actual demands should not be modified simply because the Company has not explained changes in class annual demands to PAIEUG's satisfaction. Second, the fact that a class was below cost in prior cases but is above cost currently does not indicate that the results of the current CCOSS are erroneous.[2] Indeed, if the Commission considers CCOSS in setting class rates in each case, one expects class RRORs to change over time. In my direct testimony, I stated that "the class cost of service results should be viewed as a snapshot of cost conditions that can change over time" and, as a result, "cost-based rates may be a moving target."[3] Because future economic conditions change over time, the potential arises that Commission decisions aimed at moving a class toward "cost" may overshoot the target. This probably explains why the Residential class RROR is substantially above cost.

Q. MS. LACONTE'S ANALYSIS RELIES, IN PART, UPON THE DIFFERENCE BETWEEN 2024 AND 2021 CLASS DEMANDS.[4] ARE YOU AWARE OF ANY UNUSUAL CIRCUMSTANCES WHICH MAY AFFECT THE DEMANDS IN THE 2021 PECO RATE CASE?

A. Yes. My direct testimony in the 2021 PECO rate case addressed this concern.[5] The test year demands are based on class maximum demands for the period Oct. 1, 2019 – Sept. 30, 2020. The significant events related to the COVID-19 pandemic affect seven of the 12 months during the test year for the 2021 rate case. My testimony in the 2021 rate case

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2 In PECO-PAIEUG Attachment III-1 (a), the Company demonstrates that the residential current RROR is within the ranges of residential RRORs produced by inserting Residential NCP demands from each rate case since 2010 into the current CCOSS model.

3 OCA Statement 3 at 22.

4 Ms. LaConte's testimony refers to the demands in the 2021 PECO rate case as 2022 demands, and in the current 2024 PECO rate case as 2025 demands. My testimony will refer to those demands by the rate case year.

5 PUC v. PECO Energy Co. (Electric Division) Docket No. R-2021-3024601, OCA Statement 3 page 23, 24 (2021). Available at https://www.puc.pa.gov/pcdocs/1717996.pdf

states, "This period is likely to be affected by economic changes and disruption caused by the pandemic… Comparing class NCP demand in the 2021 and 2018 CCOS studies, combined residential demand increased by 5.5%, commercial classes (GS, PD, HT) decreased by 7.4% - 13.9%, and electric propulsion decreased by 16.9%."[6] Generally, the pandemic resulted in more residential customers working from home, school closures, dramatic economic dislocation, and in some cases business closures. This would be expected to increase residential household electricity demand and reduce commercial and industrial electricity demand.

Q. MS. LACONTE STATES THAT THE CURRENT DEMAND DATA IS NOT "REPRESENTATIVE OF HISTORICAL DEMAND."[7] HAVE YOU EVALUATED THIS CLAIM?

A. Yes. The Company provided class demands used in the 2010, 2015, 2018, and 2021 PECO rate cases compared to the current 2024 PECO rate case.[8] For my evaluation, I calculated the mean Residential class NCP demand for the five rate cases. See Exhibit CJ-1R. The 2024 Residential NCP demand is within 2% of the average NCP demand for the period. I also calculated the standard deviation for the Residential class NCP in order to determine an upper (mean + 1 standard deviation) and lower (mean – 1 standard deviation) threshold for "outlier" years.

Q. WHAT DID YOU CONCLUDE FROM THIS ANALYSIS?

A. The 2024 Residential class demand is well within one standard deviation of the mean historical Residential demands. However, the 2021 Residential class demand exceeds one

6 Ibid.
7 PAIEUG Statement 1 at 9.
8 PECO-PAIEUG Attachment III-1 (a).

standard deviation from the average historical value and appears to be an outlier. I repeated the same type of evaluation for the sum of remaining non-residential classes (i.e., GS, PD, HV, EP, L). The 2024 non-residential class demands are within one standard deviation of the mean historical demands for those classes. However, the 2021 non-residential class demands fall below one standard deviation from the average historical value. The comparisons are shown on Exhibit CJ-1R. My conclusion is that the 2021 class NCP demands appear to be more of an "aberration" from historical data than 2024 class NCP demands. The 2024 class NCP demands used in the CCOSS are within the range of historical experience.

Q. DO YOU AGREE WITH THE WAY THAT MS. LACONTE USES LOAD FACTORS TO ADJUST THE CLASS NCP DEMANDS?

A. No. As stated by the Company: "Class load factor are neither calculated or utilized in PECO's class cost of service study."[9] Given that load factor is not an input to the CCOSS allocation process, the relevance of her proposed adjustment is unclear.[10] More importantly, the relevant allocation inputs—the NCP demands—are within the range of historical experience as discussed above.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATION.

A. No reasonable basis has been shown for changing the actual NCP demands during the test year in this case. Therefore, the results of the revised CCOSS displayed on Table 4 of Ms. LaConte's testimony should be rejected.[11]

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[9] PAIEUG-III-2

[10] Even if class load factors were shown to be aberrant in some way, this does not directly affect demand allocation factors. Load factor is the ratio of maximum demand to average energy use. If a problem exists, Ms. LaConte assumes that it is the NCP demand rather than energy sales which should be "corrected."

[11] PAIEUG Statement 1 at 15.

IV. OSBA CCOSS RECOMMENDATIONS

Q. DO YOU AGREE WITH OSBA WITNESS HIGGINS' CCOSS RECOMMENDATIONS?

A. No. Mr. Higgins supports the Company's customer classification of secondary facilities, and he recommends that a portion of transformer costs should be classified as customer-related.[12] My direct testimony opposed both positions.

Q. ON PAGES 7-8, MR. HIGGINS ASSERTS THAT PECO'S CUSTOMER CLASSIFICATION MAY NOT BE 'OPTIMAL' BECAUSE NO STUDY WAS PERFORMED TO SUPPORT THE CLASSIFICATION. IS THIS A REASONABLE BASIS FOR SUPPORTING THE COMPANY'S CUSTOMER CLASSIFICATION OF SECONDARY DISTRIBUTION FACILITIES?

A. No. Mr. Higgins' approach implicitly concedes that the Company's 100% customer classification of secondary facilities would not be justified by a minimum system study. To rationalize a more supportable customer percentage, Mr. Higgins sums the cost of both primary and secondary facilities and divides secondary customer costs into the total cost for both voltages.[13] Mr. Higgin claims that the resulting customer percentage falls within a reasonable range of "typical results" produced by customer classification studies. Not only has he failed to provide the percentage range of customer classification that he considers "reasonable," but more importantly his approach presumes that we can speculate on the results of customer classification studies which PECO never performed. As stated in my direct testimony, minimum system and zero intercept studies are frequently flawed.

[12] OSBA Statement 1 at 6-10.
[13] OSBA Statement 1 at 7.

But, even if one accepts the theory behind such studies, the results should be dependent on a number of Company-specific factors, such as types and sizes of distribution equipment used by the utility, load density, customer class composition, design of the distribution system, and geographic configuration of the service area. For example, Philadelphia is a densely populated area which may not be directly comparable to other utilities' service areas. Therefore, the Commission should not rely upon Mr. Higgins' opinion that the combined distribution customer percentage is reasonable without a PECO-specific study. I continue to advocate for 100% demand classification for secondary distribution facilities for the reasons discussed in my direct testimony.

Q. DOES MR. HIGGINS' CUSTOMER PERCENTAGE CALCULATION IMPLY THAT PECO SHOULD HAVE CLASSIFIED A PORTION OF PRIMARY DISTRIBUTION LINES AND POLES AS CUSTOMER-RELATED?

A. Yes. His calculated customer percentage ignores PECO's assertion that primary distribution costs are caused by demand. Primary distribution facilities are upstream of secondary facilities, serving aggregated loads of different customer classes taking power at different voltages. The principal objective of primary facilities is to transmit power from distribution substations to localized service areas. The facilities are sized to meet the aggregate demand of the areas served by primary feeders. Generally primary conductors are sized for greater load carrying capability and primary poles are larger to support heavier conductors. Therefore, system demand is the principal cost causation driver of primary costs.

Q. DO YOU AGREE WITH MR. HIGGINS' RECOMMENDATION ON PAGES 8-10 THAT TRANSFORMERS SHOULD BE CLASSIFIED PARTIALLY ON A CUSTOMER BASIS?

A. No. I do not object to PECO's classification of transformers as 100% demand related. In my view, demand and energy are more appropriate classifications for transformers, as opposed to customer. Line transformers are installed with a rated capacity that is sufficient to meet the equipment's design margins based on the expected demand and load connected to the transformer. The sizing of transformers is based on both maximum demand and the duration of load in order to minimize overload conditions. The frequency and duration of overloaded conditions determines the potential for transformer burn outs and outages. In addition, transformers are a major source of energy losses on the system, and energy efficiency is a consideration in the design of transformers. Therefore, maximum demand and energy are the cost causal drivers of transformer costs.

Q. IS IT REASONABLE AND EQUITABLE TO ALLOCATE TRANSFORMER COSTS BASED ON CLASS CUSTOMER COUNT?

A. No. The number of customers per transformer varies among the rate classes. For commercial customers, transformers typically may serve a single customer. However, it is not unusual for 4 – 10 residential customers to be connected to a single transformer. In the case of multi-family apartments the number of residential customers per transformer may be much higher. Unless an adjustment is made to the allocation factor to account for transformers per customer, utilizing the customer allocator for transformer cost is biased against the residential class. This problem is avoided if transformers are allocated on a demand basis.

Q. ON PAGE 10 OF HIS TESTIMONY, MR. HIGGINS OPINED THAT CUSTOMER ASSISTANCE PROGRAM (CAP) COSTS ARE APPROPRIATELY RECOVERED ONLY FROM RESIDENTIAL CUSTOMERS. DO YOU HAVE A RESPONSE TO THIS POSITION?

A. Yes. I understand from counsel that the OCA has not challenged PECO's proposed allocation of costs in this proceeding. However, I also understand from counsel that the OCA's choice, to not challenge the allocation of CAP costs in this proceeding, should not be viewed as the OCA's agreement with Mr. Higgins' position that these costs should be allocated only to residential customers, or that allocation of universal service costs to other customer classes is not appropriate.

V. SEPTA REVENUE ALLOCATION POSITION

Q. DO YOU AGREE WITH MR. CRIST'S TESTIMONY REGARDING CLASS REVENUE ALLOCATION?

A. No. On page 9, Mr. Crist proposes that the HT and EP classes pay a percent increase no higher than the system percentage revenue increase. I disagree with this recommendation because it gives no weight to the results of the class cost of service study. According to both my recommended CCOSS and the Company's CCOSS, both classes produce revenues below unity relative rate of return. My recommended class revenue allocation implements moderation of the cost-based results and caps the revenue allocation for HT and EP at 150% of the system average percentage increase.

Q. DOES MR. CRIST PROVIDE A RATIONALE FOR IGNORING THE CCOSS RESULTS?

A. Yes. He asserts that the primary distribution facilities should be allocated on the PECO system coincident peak demand (1 CP), which is based on class shares of the demand at the time of system peak. PECO instead uses the class maximum diversified demand, also called class NCP, to allocate distribution facility costs. Mr. Crist states that using 1 CP would benefit SEPTA because the transportation authority's electricity peak occurs in the winter rather than the summer, when the system peak occurs.[14]

Q. DO YOU AGREE WITH HIS CONTENTION THAT DISTRIBUTION FACILITIES SHOULD BE ALLOCATED BASED ON 1 CP INSTEAD OF CLASS NCP?

A. No. PECO uses 1 CP only to allocate transmission costs among classes, because the transmission function is designed to serve the total system load. However, PECO uses class NCP to allocate distribution facilities because those facilities are sized to serve localized loads. For example, primary distribution equipment must be sized to meet the aggregate loads of the primary feeder lines for the area surrounding the substation. The relative mix of class loads is not likely to be the same for each substation area. Space heating load may constitute a larger portion of the local maximum demand for the areas around some substations.[15] The maximum demand of industrial load may be a larger

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14 SEPTA Statement 1 at 7-8.

15 *Electric Cost Allocation for a New Era: A Manual*, 2020 Regulatory Assistance Project. The manual notes that a residential area may contain a mix of single family, multi-family, space heating and solar usage, and the primary distribution plant in these areas must be designed for combined peak demand "which may be the late afternoon summer cooling peak, the late evening winter heating and lighting peak, or some other time—but it will be the same time for all of the customers in the area." (page 152). Available at https://www.raponline.org/wp-content/uploads/2023/09/rap-lazar-chernick-marcus-lebel-electric-cost-allocation-new-era-2020-january.pdf

contributor to the local peak in other areas. In the absence of more granular demand data, the class maximum demand is believed to roughly approximate class contributions to localize peak demands. However, the system peak demand is less relevant for distribution facility design because the facilities are sized for local area peak demands.

Q. WHAT IS YOUR CONCLUSION?

A. PECO has utilized a reasonable allocation method for primary voltage distribution facilities, and Mr. Crist's recommendation should be rejected.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY AT THIS TIME?

A. Yes.

PECO Rate Case NCP History

	Residential NCP
2024	3,601,870
2021	3,955,972
2018	3,547,555
2015	3,843,142
2010	3,453,657
Avg.	**3,680,439**
Std Dev.	210,744
SD Upper	3,891,183
SD Lower	3,469,695

	C&I NCP SUM
2024	4,471,180
2021	4,289,718
2018	4,764,371
2015	5,206,215
2010	5,537,016
Avg.	**4,853,700**
Std Dev.	515,646
SD Upper	5,369,346
SD Lower	4,338,053

Source: Attach PAIEUG III-(a)

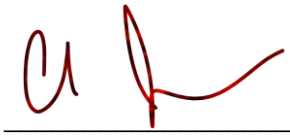
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Clarence L. Johnson, hereby state that the facts above set forth in my Rebuttal Testimony, OCA Statement 3R, 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 16, 2024

Signature: 

Clarence L. Johnson

Address: CJ Energy Consulting
3707 Robinson Avenue
Austin, TX 78722

OCA STATEMENT 3SR

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket Number R-2024-3046931
	:	
	:	
PECO Energy Company—Electric Division	:	

SURREBUTTAL TESTIMONY
OF
CLARENCE L. JOHNSON

ON BEHALF OF
OFFICE OF CONSUMER ADVOCATE

August 2, 2024

SURREBUTTAL TESTIMONY OF CLARENCE L. JOHNSON

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VI. RESIDENTIAL CUSTOMER CHARGE 11

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Clarence L. Johnson. My business address is 3707 Robinson Ave, Austin, Texas 78722.

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

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

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A. Yes. My direct and rebuttal testimony was submitted as OCA Statements 3 and 3R.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY IN THIS CASE?

A. I will respond to the rebuttal testimony of Ms. LaConte on behalf of Philadelphia Area Industrial Energy Users Group (PAIEUG) in PAIEUG Statement No. 1R, Mr. Bisti and Ms. Jamison on behalf of PECO in PECO Statements 6R and 7R, Mr. Crist on behalf of the Southeastern Pennsylvania Transportation Authority (SEPTA) in SEPTA Statement 1R, and Mr. Higgins on behalf of the Office of Small Business Advocate (OSBA) in OSBA Statement No. 1R. I have focused on certain areas of disagreement, and the scope of this testimony does not indicate agreement with other statements by the witnesses which I did not rebut.

II. SUMMARY

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. My recommendations are as follows: (1) The Commission should reject the objections of Mr. Higgins, Ms. LaConte, and Ms. Jamison with respect to distribution customer classification. In particular, OCA's proposed demand classification of secondary facilities should be adopted. (2) The Commission should reject Ms. Jamison's cost basis for the residential customer charge and adopt OCA's direct cost analysis of customer charge costs. (3) Mr. Bisti's proposed residential customer charge increase (from $10.50 to $14.28) is excessive and will reduce customer incentives to undertake energy efficiency measures.

III. OSBA WITNESS HIGGINS

Q. DOES OSBA WITNESS MR. HIGGINS FILE REBUTTAL TESTIMONY DISAGREEING WITH YOUR DIRECT TESTIMONY?

A. Yes. Mr. Higgins disagrees with my recommendation to classify secondary distribution facilities as 100% demand related. His disagreement with my revenue allocation recommendation is due to differences between my CCOSS and PECO's CCOSS. Mr. Higgins also points to a lack of clarity in my revenue allocation recommendation for the lighting class.

Q. PLEASE RESPOND TO MR. HIGGINS' ARGUMENT AGAINST 100% DEMAND CLASSIFICATION OF SECONDARY FACILITIES.

A. Mr. Higgins' rebuttal argument is essentially the same as the discussion in his direct testimony, which was addressed in my rebuttal testimony, OCA Statement 3R. Because PECO does not have a study to support its 100% customer classification of secondary

distribution facilities, Mr. Higgins combines the primary and secondary classification percentages and contends that the resulting total percentage is similar to the total distribution classification percentages of other electric utilities. However, this is simply not a reasonable analysis because other utilities use classification studies which are specific to each utilities' characteristics. PECO did not perform such studies, and if the Company did so, the secondary percentage certainly would not be a 100% customer classification. Mr. Higgins' approach is speculative because we don't know what percentages a classification study specific to PECO would show, nor do we know which electric utilities are used by Mr. Higgins to determine a reasonable range of classification percentages.

Q. DID MR. HIGGINS IDENTIFY AN ERROR IN EXHIBIT CJ-2?

A. Yes. Exhibit CJ-2 is the recommended class revenue allocation attached to OCA Statement 3. As stated in my direct testimony, I recommend applying a 50% of system average revenue increase floor to the Lighting class. However, due to a cell reference error, 140% of system average revenue increase was applied to the Lighting class in Exhibit CJ-2. I have attached REVISED Exhibit CJ-1S, which corrects the error in the Lighting class revenue recommendation. In revising Exhibit CJ-2, Exhibit CJ-1S decreases the Lighting revenue increase percentage to 14.6% and increases the Residential revenue increase percentage to 20.9%. This change does not affect any other classes.

IV. CUSTOMER CLASSIFICATION REBUTTAL OF MS. LACONTE AND MS. JAMISON

Q. DOES THE REBUTTAL TESTIMONY OF PAIEUG WITNESS LACONTE AND PECO WITNESS JAMISON DISAGREE WITH YOUR RECOMMENDATION TO CLASSIFY SECONDARY LINES AND POLES AS 100% DEMAND?

A. Yes. Both witnesses assert that the customer classification should be applied to secondary distribution facilities. Ms. LaConte and Ms. Jamison both attempt to justify the Company's 100% customer classification for secondary distribution plant by comparing the total (primary plus secondary) classification percentages for PECO with other electric utilities. This is the same flawed reasoning I addressed with respect to Mr. Higgins' testimony above and in my rebuttal testimony. First, it is entirely speculative to assume that the company-specific special studies performed by other companies would produce the same results for PECO. Second, Ms. Jamison's comparison based on combining primary and secondary functions contradicts her direct testimony that distribution investment operating at primary voltage is considered demand-related.[1] If 100% demand is the appropriate classification for primary voltage plant, then the appropriate comparison is between PECO's secondary voltage classification and the percentage secondary voltage classification of other electric utilities. Inserting primary facilities into the comparison would not be consistent with PECO's previous conclusion that primary facilities are demand related. Third, although the Commission has approved customer classification percentages for other utilities' distribution plant, those orders are approving the application of minimum system or zero

[1] PECO Statement 6 at line 15, page 14.

intercept studies. Ms. Jamison has not provided evidence that the Commission approves classification percentages unsupported by any studies. PECO has no study which quantifies the basis for its 100% customer classification for secondary facilities. Indeed, Ms. Jamison avers that the common criticisms of minimum system studies do not apply to PECO because PECO chose not to perform a minimum system study.[2]

Q. MS. JAMISON ASSERTS THAT PECO'S APPROACH SHOULD BE ADOPTED BECAUSE PECO HAS USED 100% CUSTOMER CLASSIFICATION OF SECONDARY INVESTMENT IN PREVIOUS COST OF SERVICE STUDIES. WHAT IS YOUR RESPONSE?

A. I have been a witness in each PECO Electric rate case since 2010 and objected to PECO's customer classification in each case. Each of those cases was settled without a Commission determination of the appropriate customer classification for secondary plant. My understanding is that settled rate proceeding generally should not be used as precedent or evidence of adoption of any particular parties' positions.

Q. MS. LACONTE CITES THE NARUC COST ALLOCTION MANUAL (CAM) TO SUPPORT HER POSITION ON CUSTOMER CLASSIFICATION. IS THIS DISPOSITIVE?

A. No. First, the NARUC CAM expounds on classifying distribution investment based on the results of a minimum system or zero intercept study. PECO has not performed such studies, and therefore it is incorrect to cite the NARUC CAM as support for PECO's approach. Second, reliance upon the NARUC CAM should be placed in appropriate

[2] PECO Statement 6R at 5.

perspective. The NARUC CAM is useful as an informative guide, but it is not intended to be applied in an unquestioned manner. The preface to the NARUC CAM sets out its objectives, including "The writing style should be non-judgmental, not advocating any one particular method, but trying to include all currently used methods with pros and cons."[3] The NARUC manual may have reflected prevailing practice at its publication date in 1991, but nine years later NARUC commissioned a report that concluded that the majority of regulatory commissions have adopted the demand classification for most distribution delivery facilities, exclusive of meters and services.[4]

Q. MS. JAMISON ASSERTS THAT THE LENGTH OF INSTALLED CONDUCTORS AND, THEREFORE, THE NUMBER OF CUSTOMER LOCATIONS ARE A COST DRIVER FOR SECONDARY FACILITIES. DO YOU AGREE WITH THIS VIEW?

A. No. This statement ignores the possibility of differing customer densities within a service territory, which weakens or precludes a direct relationship between the number of customers and distribution facilities. This is explained in Dr. James Bonbright's discussion of the customer classification issue. He notes that the customer classification:

> … is defended on the ground that, since they vary directly with area of the distribution system (or else with the lengths of the distribution lines, depending on the type of distribution system), they therefore vary indirectly with the number of customers.
>
> What this last-named cost imputation overlooks, of course is the very weak correlation between the area (or the mileage) of a distribution system and the number of customers served by this

[3] NARUC Electric Utility Cost Allocation Manual (1992) at page ii.

[4] "Charges for Distribution Service: Issues in Rate Design," (2000) Regulatory Assistance Project report for NARUC.

> system. For it makes no allowance for the density factor (customers per linear mile or per square mile). Indeed, if the company's entire service area stays fixed, an increase in number of customers does not necessarily betoken any increase whatever in the costs of a minimum-sized distribution system.[5]

Q. IS CUSTOMER DENSITY A MAJOR FACTOR FOR THE PECO SERVICE AREA?

A. Yes. The City of Philadelphia is one of the more densely populated urban areas in the country. As suggested in my direct testimony, this density likely distinguishes PECO from the service areas of other electric utilities in Pennsylvania. And customer density varies considerably within the PECO service area, which confounds the use of a distribution allocation based on customer count. Based on information provided by PECO, I examined the number of customers per mile of conductors for Philadelphia and the remainder of the service area.[6] For secondary overhead lines, Philadelphia has 89% more customers per mile than the remainder of the service area. For secondary underground distribution, Philadelphia has 22% more customers per mile than the remainder of the service area. Moreover, facilities in densely populated areas are designed to accommodate additional customers with little or no additional cost, as described in Dr. Bonbright's statement. Similar differences in customer density are likely to exist between the residential and commercial classes. Given the disparities in customer density, an allocation based on customer count is unlikely to directly vary with secondary facility mileage. In the absence

[5] James Bonbright, Principals of Public Utility Rates 347-48 (1961).

[6] Data from Exhibit TJJ-7 page 4 and PECO Response to OCA 16-17.

of weighted customer allocation factors which are adjusted for demand density, the customer classification is inappropriate for secondary distribution plant.

Q. MS. JAMISON ASSERTS THAT PENNSYLVANIA ELECTRIC UTILITIES CLASSIFY 48% - 89% OF SECONDARY DISTRIBUTION PLANT ON A CUSTOMER BASIS. DOES THIS SUPPORT HER POSITION?

A. No. PECO classifies 100% of secondary distribution plant on a customer basis which falls outside that range. This justification would make more sense if she proposed a compromise, such as allocating one half of secondary voltage plant on a customer basis.[7]

Q. MS. JAMISON SAYS THAT PECO MUST INCUR COSTS TO CONNECT ALL SECONDARY CUSTOMERS REGARDLESS OF THEIR DEMAND. DOES THIS SUPPORT PECO'S SECONDARY CLASSIFICATION?

A. No. First this does not explain why PECO classifies 100% of secondary distribution plant on a customer basis. Second, she assumes that any factor affecting the incurrence of distribution infrastructure which is not fully demand-related must be customer-related. My direct testimony acknowledges that many factors affect the incurrence of distribution costs which are not completely caused by demand. The lists of factors can be quite long: geographic circumstance, topology, soil conditions, location of roads and highways, economies of scale, customer density, load forecasting uncertainty, safety standards, minimization of energy losses, corporate standards, etc. But it is incorrect to take the cost impacts of these factors and dump them in the bin of customer costs solely because they are not directly linked to demand. The Company's argument treats customer allocation as

[7] For example, if the customer classification was applied only to secondary overhead lines and poles and not to underground lines, the secondary customer percentage would be 43%.

the default method for any causal relationship that can't be clearly defined. That approach is consistent with Dr. Bonbright's concern that cost study analysts inappropriately use "the category of customer costs as a dumping ground for costs that he cannot plausibly impute to any of his other categories."[8]

V. REVENUE ALLOCATION

Q. DOES OSBA WITNESS HIGGINS DISAGREE WITH YOUR REVENUE ALLOCATION PROPOSAL, WHICH IS ATTACHED AS EXHIBIT 1S?

A. Yes. Mr. Higgins' rebuttal is based on his disagreement with OCA's CCOSS. He claims that OCA's revenue allocation over-recovers costs from the GC class, based on PECO's CCOSS. Therefore, his disagreement is nothing more than a restatement of his objection to the demand classification of secondary facilities in OCA's CCOSS.

Q. MR. BISTI SAYS HE AGREES WITH GRADUALISM BUT DISAGREES WITH THE GRADUALISM CONSTRAINTS IN YOUR REVENUE ALLOCATION. HOW DO YOU RESPOND?

A. The implementation of gradualism is a subjective process and I disagree with his notion that gradualism is limited to a specific range of limitations. Mr. Bisti favors a 200% (2.0x) limit but admits that my 150% (1.5x) limit falls within the range of Commission practice.[9] Given the magnitude of PECO's requested total increase, a tighter range of class revenue increases is justified. Furthermore, if the Commission adopts my proposed change to the classification of secondary facilities, a more limited 140% (1.4x) constraint is justified to

[8] Bonbright, James, *Principles of Public Utility Rates*, at 349, Columbia University Press, 1961.

[9] PECO Statement 7R at page 6.

limit the impact on secondary classes. Mr. Bisti also contends that my limitation on class revenue decreases rests on equitable rather than cost grounds.[10] Obviously any gradualism constraint – whether PECO's or mine – is a departure from setting rates purely at cost. My limitation on revenue increases recognizes cost of service because classes which otherwise would receive a revenue decrease still receive an increase that is one-half of system average. Rate design is sometimes referred to as an "art as well as science." My recommended approach to gradualism is consistent with Bonbright's criteria for a sound rate design, which is widely cited by rate design experts and regulatory commissions.[11] Public acceptance of sizeable revenue increases is enhanced if all classes are perceived as sharing responsibility for contributing to the total revenue increase.

Q. DO YOU AGREE WITH SEPTA WITNESS CRIST'S CRITICISM OF YOUR RECOMMENDATION?

A. No. He claims that I reallocated secondary revenue requirement to primary classes which is contrary to cost causation.[12] This is simply incorrect and must reflect a misunderstanding of my testimony. The OCA CCOSS does not reallocate the costs of any secondary facilities to the primary class. The impact of the secondary classification issue in the OCA CCOSS affects only the secondary classes. The revenue allocation proposal shown in Exhibit CJ-1S applies gradualism limits to avoid excessive revenue increases to any classes. My revenue increase proposal applies a 150% of system average gradualism limit on the

[10] PECO Statement 7R at page 7.
[11] *Principles of Public Utility Rates*, Bonbright, Columbia Press (1960) at 191.
[12] SEPTA Statement 1R at page 2.

revenue increases for primary classes (PD, HV, and EP). To the extent that this is a departure from the OCA CCOSS results, it involves a benefit for those classes.

VI. RESIDENTIAL CUSTOMER CHARGE

Q. DO PECO REBUTTAL WITNESSES OPPOSE YOUR POSITION TO MAINTAIN THE CURRENT $10.50 CUSTOMER CHARGE?

A. Yes. Ms. Jamison and Mr. Bisti argue that the residential customer charge should be increased to $14.28. Ms. Jamison, in particular, opposes my position that the customer charge cost standard should be based only on components which vary directly with changes in the number of customers.

Q. MS. JAMISON REFERS TO COMMISSION DECISIONS WHICH APPROVED CUSTOMER CHARGES THAT INCLUDED INDIRECT COSTS. WHAT IS YOUR RESPONSE?

A. My understanding is that the Commission does not *require* PECO to include such costs nor does it prevent a deeper review of the appropriateness of costs in the customer charge. Contrary to Ms. Jamison's position and consistent with my critique of her computation of a cost-based customer charge, the 2023 Columbia Water Company decision rejected a customer charge which is comprised of components which do not vary directly with the number of customers:

> We agree with the OCA that the Company's analysis includes numerous overhead costs that cannot reasonably be considered "direct costs" required to connect and maintain a customer's account. Rather, they are simply overhead costs that Columbia Water incurs in rendering service to its customers. The fact that some of these costs may be fixed, does not in and of itself make them direct costs that should be collected from a customer charge. Rather, the appropriate test is "whether the costs would increase

with the addition of a customer and decrease with the subtraction of a customer." [13]

Q. PLEASE RESPOND TO MS. JAMISON'S SPECIFIC CRITICISMS OF YOUR DIRECT CUSTOMER COST CALCULATION.

A. With respect to call center expenses related to outages and emergency calls, these calls are related to the safety and reliability of the system. These costs are more appropriately viewed as demand-related instead of customer-related. Reliability ensures that the delivery system is capable of meeting current demand, and therefore is associated with the demand classification. Moreover, timely identification of outages and safety problems provides a system benefit that extends beyond the customer who reports the issue. Ms. Jamison objects to my exclusion of uncollectible cost. She states that uncollectible expense is related to the number of customers without providing any evidence of such a correlation. The amount of uncollectible expense is a function of the size of bills which are unpaid, and the amount of such bills is connected to the customer's kWhs of electricity usage. To the extent that high bills lead to non-payment, the energy charge is a more significant contributor to high bills than the fixed $8.45 customer charge. Ms. Jamison also supports the inclusion of sales and marketing costs in the customer charge. Accounts 908 – 915 relate to the Low Income Usage Reduction Program (LIURP) and marketing/information dissemination related to Act 129 Energy Efficiency programs. LIURP and energy efficiency advertising are energy or demand related activities rather than customer costs properly includable in the customer charge. These usage related activities are more appropriately recovered in the residential energy charge.

[13] Columbia Water Company Docket No. R-2023-3040258, Order at 155, Jan. 18, 2024.

Q. DOES MR. BISTI'S REBUTTAL TESTIMONY INDICATE THAT THE COMPANY HAS CONSIDERED THE IMPACT OF THE CUSTOMER CHARGE INCREASE ON ENERGY EFFICIENCY?

A. No. Mr. Bisti's only discussion of energy efficiency is a passing reference to Mr. Colton's testimony.[14] Mr. Colton, in his direct and surrebuttal testimonies, demonstrates the impact of the customer charge increase on low-income customers' energy efficiency efforts, specifically. Mr. Bisti claims there is no support for asserting that the customer charge increase will impair energy efficiency efforts. The customer charge level affects the amount of cost recovered through the energy rate and thereby impacts the cost-effectiveness of energy efficiency measures. My direct testimony analyzed the impact of increasing the customer charge on the financial benefit of installing a high efficiency heat pump.[15] The Company's proposal to increase the customer charge reduces the life cycle net energy savings by $216 and increases the heat pump's pay back period by 6%. These are tangible energy efficiency incentives associated with pricing the customer charge at a minimum level.

Q. DOES THS CONCLUDE YOUR TESTIMONY AT THIS TIME?

A. Yes.

[14] Mr. Bisti's rebuttal testimony also addresses the impact on low income customers, and OCA witness Mr. Colton will respond to Mr. Bisti's claims regarding the effect of customer charge increases on low income households.
[15] OCA Statement No. 3 at 30.

OCA BASE REVENUE INCREASE DISTRIBUTION

Distribution Base Revenues ($000s)	TOTAL ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
Revised CCOS Result								
Present Base Revenues	1,589,176	927,169	177,981	266,019	7,647	178,267	7,059	25,034
Revised CCOS Increase	463,392	111,520	115,466	162,296	3,280	70,631	4,594	(4,394)
Revised CCOS Pct. Incr.	29.2%	12.0%	64.9%	61.0%	42.9%	39.6%	65.1%	-17.6%
Company Revenue Allocation								
Apply Limits	269,308		72,657	108,597	3,345	77,972	3,087	3,650
Adjust Remaining Classes	$ 463,392	$ 194,084	$ 72,657	$ 108,597	$ 3,345	$ 77,972	$ 3,087	$ 3,650
Percent Increase	29.2%	20.9%	40.8%	40.8%	43.7%	43.7%	43.7%	14.6%
Times System Average		72%	140%	140%	150%	150%	150%	50%

Gradualism Limits
150%
43.74%
140%
40.82%
50%
14.58%

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Clarence L. Johnson, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 3SR, 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 2, 2024

Signature: _____

Clarence L. Johnson

Address: CJ Energy Consulting
3707 Robinson Avenue
Austin, TX 78722

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

Direct Testimony of Roger Colton

on behalf of

Pennsylvania Office of Consumer Advocate

OCA Statement 4

June 17, 2024

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Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, Massachusetts.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am owner of 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, Massachusetts, Connecticut, Maryland, Pennsylvania, Ohio, Michigan, Wisconsin, Missouri, Illinois, Oregon and Washington, as well as in the Canadian provinces of Nova Scotia and British Columbia. My clients include state agencies (e.g., Pennsylvania Office of Consumer Advocate, Maryland Office of People's Counsel, Connecticut Office of Consumers Counsel), federal agencies (e.g., the U.S. Department of Health and Human Services), community-based organizations (e.g., Cleveland Legal Aid Society, Legal Action of Chicago, Sierra Club), and public and private utilities (e.g., Toledo Water, BC Hydro). Examples of my work include my current projects to assist the Connecticut Office of Consumers Counsel (OCC) in the annual generic review of the

low-income affordability initiatives of that state's utilities by the Public Utilities Regulatory Authority. I am also assisting the Massachusetts Attorney General's Office (AGO) in the generic investigation by the Department of Public Utilities (DPU) into the design of low-income affordability programs. I am currently under contract to develop a universal service plan for Nova Scotia. In addition to state-specific and utility-specific work, I engage in national work throughout the United States. For example, I have recently completed a project with the Natural Resources Defense Council to develop a tool by which to assess the financial impact of differing types of low-income bill assistance. A brief description of my professional background is provided in Exhibit RDC-1.

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. A summary of my publications is included in Exhibit RDC-1.

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. My testimony has specifically included testimony in various proceedings involving low-income program design and operation, along with various rate design issues as they affect low-income customers. I have also testified in regulatory proceedings in 43 states (other than Pennsylvania) and various Canadian provinces on a wide range of utility issues. A list of the jurisdictions in which I have testified is listed in Exhibit RDC-1.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR DIRECT TESTIMONY.

A. The purpose of my Direct Testimony is to review the impact of PECO Energy Company's (Electric Division) ("PECO (Electric)" or "Company") rates on low-income customers. More specifically, I will examine:

- The overall affordability of PECO (Electric) rates;
- The impact that the unaffordability of bills has on collections by PECO (Electric);
- A series of recommendations regarding the appropriate PECO (Electric) response to the unaffordability of its bills to low-income customers;
- The necessity to revise certain PECO (Electric) tariffs and practices to comply with PUC regulations;
- The reasonableness of the residential customer charge proposed by PECO (Electric); and
- The reasonableness of the PECO (Electric) request to increase its return on equity due to claims of "superior" management.

Q. PLEASE SUMMARIZE THE RECOMMENDATIONS YOU MAKE THROUGHOUT YOUR TESTIMONY WHICH FOLLOWS.

A. Based on the data and analysis I present throughout my testimony below, I recommend that:

- PECO (Electric) modify its policies and procedures regarding the identification of "confirmed low-income" customers to conform with the PUC's regulations. PECO (Electric) should include these modified policies and procedures in its residential tariff. The modified policies and tariff should explicitly state that: (1) PECO (Electric) will recognize a customer as a "confirmed low-income" customer when the Company is provided information that would "reasonably place" the customer in a low-income designation; (2) the information can be provided by the customer through self-certification and need not be accompanied by "proof of income documentation"; (3) the information can include income information or other information attesting to his or her eligibility for state benefits; and (4) the information would be used to establish the customer's eligibility for a payment arrangement of up to five years in length (i.e., income at or below 150% FPL) pursuant to Section 1405(b) of Chapter 14 of the Public Utility Code.

- Prior to the disconnection of a Confirmed Low-Income customer, PECO (Electric) adopt a procedure, developed in collaboration with its Universal Service Advisory Group (USAG), under which it will seek to make personal contact with the customer subject to disconnection. In that personal contact, the Company shall offer the Confirmed Low-Income customer the opportunity to apply for the Company's CAP and arrearage forgiveness program. If the customer expresses a desire to apply, PECO (Electric) shall postpone the disconnection for a reasonable period of time to allow the application process to be completed. Once disconnected, prior to being reconnected, and being required to pay either a fee or a portion of the arrears which gave rise to the disconnection, customers who are Confirmed Low-Income customers at the time of disconnection should be required to affirmatively acknowledge that they do not wish to participate in CAP (along with its arrearage forgiveness program) prior to being reconnected and required to pay either a portion of their outstanding arrears or any reconnection fee.

- Before PECO (Electric) enters into a payment arrangement with a customer which the Company either: (1) knows to be a Confirmed Low-Income customer; or (2) has generated information through the payment arrangement process documenting that the customer is in the Tier 1 income range (at or below 150% FPL), it should be required to provide the customer a stand-alone Plain English notice to that customer of the customer's right to enter into CAP and an explanation of the advantages of CAP's arrearage forgiveness benefits. PECO (Electric) should develop this Plain English notice in collaboration with its USAG. Moreover, before entering in a payment arrangement with such low-income customers, PECO (Electric) should obtain written acknowledgement from the customer evidencing an informed consent that the customer is choosing to enter into the payment arrangement rather than enrolling in CAP (with its arrearage forgiveness provisions).

- PECO (Electric) adopt a procedure under which it will provide a stand-alone Plain English notice to customers found to be without heating service at the time of the Company's Cold Weather Survey of the customer's right to enter into CAP and an explanation of CAP's arrearage forgiveness benefits. PECO (Electric) should develop the Plain English notice in collaboration with its Universal Service Advisory Group.

- When Confirmed Low-Income customers accrue an unpaid balance of $300, PECO (Electric) provide a stand-alone written Plain English notice informing those customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

- In those instances where PECO (Electric) would otherwise request a cash security deposit from a Confirmed Low-Income customer, the Company should, as an alternative to that deposit demand, provide a stand-alone written Plain English notice informing these customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

- PECO (Electric) be directed to extend any future use of speech analytics software to assist with the quality monitoring of phone calls involving, or potentially involving, universal service programs and other low-income customer issues. The Company should be directed to involve its USAG in the identification and selection of Low-Income and Universal Service Terms to be detected by the system in order to confirm that phone calls are properly being identified and handled. Regular six-month reports on the results of the Speech Analytics reviews should be provided to the Company's USAG.

- PECO (Electric)'s Tariff be modified to add the following language: "The Company uses a commercially recognized credit scoring methodology that is within the range of generally accepted industry practice, *provided that the methodology does not directly, or have the effect of, discriminating based on a protected class as set forth in the federal Equal Credit Opportunity Act.*" (new language emphasized).

- PECO (Electric) conduct a root cause analysis to determine what is driving this disproportionate level of utility disconnections within the zip codes with the highest penetration of Black households. Once this root cause analysis is conducted, PECO (Electric) should commit to taking steps to address the cause with the commitment of reducing disproportionate disconnections within these zip codes. The extent to which PECO (Electric) mitigates the disproportionate disconnection of service for nonpayment in zip codes with high penetrations of Black households should be reviewed in the next PECO (Electric) base rate case.

- The PECO (Electric) risk analysis methodology, both that which underlies its disconnection of service and that which underlies its cash security deposits, be subject to a public review by BCS with an opportunity provided to stakeholders to assess whether those risk assessment methodologies have a direct or indirect discriminatory effect.

- PECO (Electric) amend its tariff Rule 17.4, Payment Processing, to permit combined customers to designate all or part of their combined PECO bill payment be applied to electric service – including past due balances and current charges – before being applied to natural gas service, or vice versa. Permitting such prioritization would bring PECO (Electric) into line with other EDCs, which are not permitted to terminate customers for non-payment of natural gas bills.

- The residential customer charge determined by OCA witness Clarence Johnson be approved, as set forth in OCA Statement 3.

- The recommendation of OCA witness David Garrett (OCA Statement 2) regarding an appropriate return on equity be adopted.

- The PECO (Electric) proposed modification to the CAP offset be denied. However, in the event that the PECO (Electric) bad debt modification is adopted, the corresponding modification to the working capital offset should be adopted as well. If that is done, there would be no net change in the CAP offset from that which currently exists.

Part 1. The Affordability of PECO (Electric) Rates.

Q. PLEASE DESCRIBE THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. This section of my testimony examines the affordability of bills to the residential customers of PECO (Electric). I begin with an examination of the affordability of PECO (Electric) bills over time. I next consider the affordability to low-income residential customers generally. I consider the disproportionately adverse impact that inflation has on low-income customers. I finally examine the impact of PECO (Electric) bills on residential customers in general.

A. PECO (Electric) Rates Over Time.

Q. PLEASE DESCRIBE THE FIRST PART OF YOUR AFFORDABILITY ANALYSIS.

A. I begin my review using the utility-specific data reported to the Energy Information Administration through EIA's "Form 861"[1] for 2016 through 2024. I multiply the average residential revenue per kWh times a standard usage of 9,000 kWh per year (750 kWh per month).

Q. HOW DOES THE PUC DEFINE AN AFFORDABLE ELECTRIC BURDEN?

A. The PUC's CAP Policy Statement defines an affordable burden to be 2% of income for electric baseload customers at 0 – 50% of FPL, and 4% for customers at 50 – 150% of FPL. The CAP Policy Statement defines an affordable for electric heating customers to be 6% for customers at 0 – 50% of FPL, and 10% for customers at 50 – 150% of FPL.

[1] Available at https://www.eia.gov/electricity/data/eia861/

Q. HOW HAS THE AFFORDABILITY OF PECO (ELECTRIC) BILLS CHANGED OVER TIME?

A. While "unaffordability" has declined to a minor extent from 2016 through 2024,[2] burdens on PECO (Electric) low-income customers remain well above the PUC's affordability standards. As seen in Table 1 below, which shows the affordability of PECO (Electric) bills over that time:

- At the lowest range of Federal Poverty Level (FPL) (0 – 50%), electric burdens exceeded the affordable burden defined by the PUC. While burdens were 12.5% in 2016, those burdens had decreased to 10.3% in 2021, before increasing to 11.6% in 2023 and 11.1% in 2024. In 2023, in other words, electric burdens for the lowest income customers of PECO (Electric) were nearly three times higher than the affordable baseload burden defined by the PUC, while in 2024, they remained substantially more than two times higher than the affordable baseload burden.

- In contrast, at the highest FPL range (100 – 150% FPL), while electric burdens were 5.0% in 2016, they had declined to 4.1% of income by 2021, before increasing to 4.5% and 4.6% in 2022 - 2024. These burdens remain in excess of the affordable burden for baseload customers with income in this FPL range.

- In the mid-range (50 – 100% FPL), electric burdens for the Company's baseload customers were more than two times higher than the PUC's defined affordable burden of 4% beginning in in 2016 (8.3% vs. affordable burden of 4.0%). As with the other FPL ranges, the burdens declined to a low in 2021 (6.9%), before once again increasing in 2022 through 2024. The mid-range burdens remained well in excess of the PUC's affordable burden of 4% in all years.

[2] Again, "2024" refers to prices through March 2024 applied to a standard annual usage of 9,000 kWh (750 kWh per month).

Table 1. PECO (Electric) Bills and Burdens
(2016 – 2024) (shading simply to improve readability)

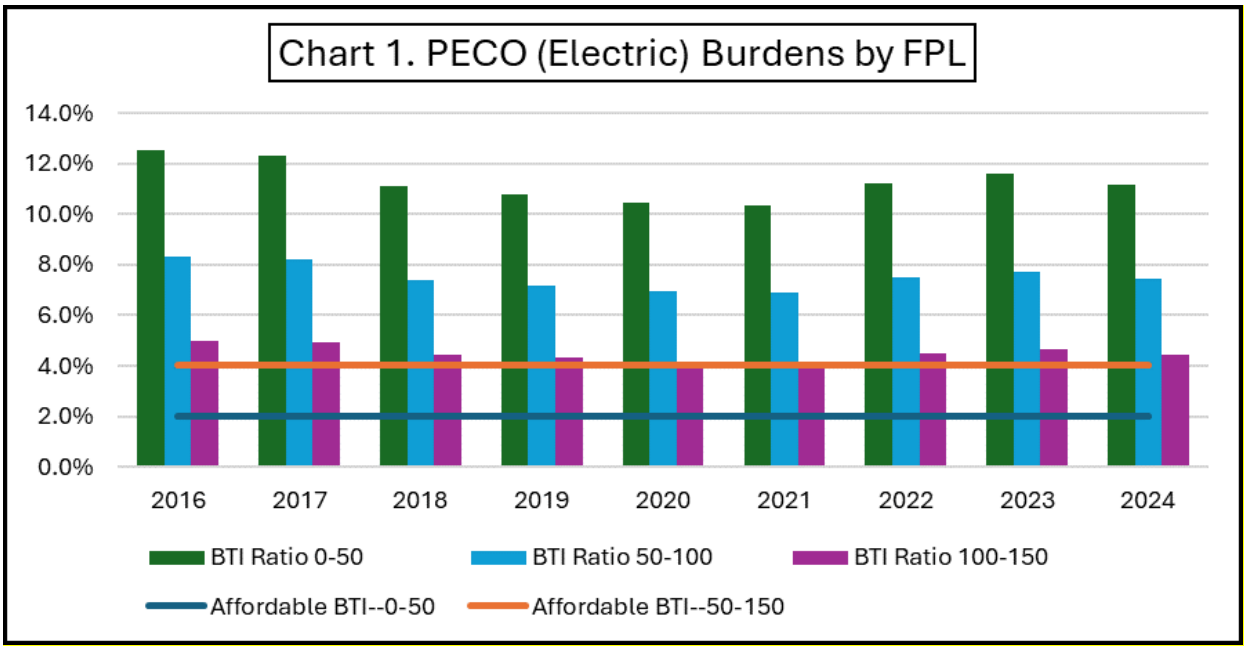
		Affordable Electric Burden		Electric Burden by FPL Range		
	Bills (9,000 kWh)	0 – 50% FPL	50 – 150% FPL	0 - 50% FPL	50 - 100% FPL	100 - 150% FPL
2016	$1,262	2% (2019 CAP Policy Statement)	4% (2019 CAP Policy Statement)	12.5%	8.3%	5.0%
2017	$1,260			12.3%	8.2%	4.9%
2018	$1,182			11.1%	7.4%	4.4%
2019	$1,142			10.8%	7.2%	4.3%
2020	$1,148			10.5%	7.0%	4.2%
2021	$1,164			10.3%	6.9%	4.1%
2022	$1,329			11.2%	7.5%	4.5%
2023	$1,043			11.6%	7.7%	4.6%
2024 (YTD March)	$1,439			11.1%	7.4%	4.5%

Q. HOW WOULD YOU EXPLAIN THE PERCEIVED IMPROVEMENT IN THE AFFORDABILITY OF THE HEATING BURDEN FOR HOUSEHOLDS AT 100-150% FPL?

The improved affordability for these households at the higher ranges (100-150% FPL) may be somewhat misleading. Net household resources will not necessarily increase as household income increases. As household income becomes higher and higher, for example, households increasingly lose access to income supplements. While non-cash benefits (e.g., Food Stamps, housing and medical assistance) are not counted as "income"

in determining program eligibility for other assistance programs, the loss of such benefits reduces the ability of a household to pay its home energy bills.

Chart 1 below graphically portrays the same basic information as Table 1. Chart 1 is important in that it shows how, after a dip in the Company's electric burdens in 2018 through 2021, those burdens again began to increase, with a sharp increase in 2022. The rate increase proposed in this proceeding will drive bills even higher. During the most recent three-year period shown in the graph, burdens at all three ranges of "low-income" (0-50% FPL, 50-100% FPL, 100 – 150% FPL) were above the burden defined as affordable by the PUC. At the lowest end of the FPL ranges, baseload burdens in these three recent years were substantially higher than the level defined by the PUC to be affordable.



All-in-all, the data above demonstrates that the Company's electric bills (using 750 kWh per month) have remained unaffordable for each year since 2016. While burdens declined somewhat in 2018 through 2021, they have been increasing since. To

summarize, the low-income customers of PECO (Electric) will face increasingly unaffordable burdens given the Company's ongoing rate increases.

B. The Affordability of Bills to Low-Income Customers.

Q. HAVE YOU ASSESSED THE AFFORDABILITY OF PECO (ELECTRIC) RATES TO LOW-INCOME CUSTOMERS IN PARTICULAR?

A. Yes. In Table 2 below, I examine the home energy bills imposed by PECO (Electric) heating bills at different levels of Federal Poverty Level (FPL) for both heating and non-heating customers. I note that the PUC has established affordable electric heating burdens of 6% for income at 0% to 50% of FPL, and at 10% for customers with income at 50% to 150% FPL. Affordable non-heating burdens were set at 2% for customers at 0% to 50% of FPL and at 4% for customers at 50% to 150% FPL. Bills in excess of the PUC's affordability benchmarks are in red text in the Table.

Table 2. PECO (Electric) Burdens at Existing and Proposed Rates
(monthly bills at mean over two 12-month periods) (OCA-II-15)

		Electric Non-Heating (2% burden at 50-100% 4% burden at 100-150%)		Electric Heating (6% burden at 50-100% 10% burden at 100-150%)	
		Existing Rates	Proposed Rates	Existing Rates	Proposed Rates
February 2022 – January 2023	0 – 50% FPL	12.7%	14.5%	15.9%	18.4%
	50 – 100% FPL	8.4%	9.7%	10.6%	12.3%
	100 – 125% FPL	5.6%	6.4%	7.1%	8.2%
	125 – 150% FPL	4.6%	5.3%	5.8%	6.7%
February 2023 – January 2024	0 – 50% FPL	12.4%	14.0%	11.6%	13.2%
	50 – 100% FPL	8.3%	9.4%	7.7%	8.8%
	100 – 125% FPL	5.5%	6.2%	5.1%	5.9%
	125 – 150% FPL	4.5%	5.1%	4.2%	4.8%

Table 2 shows that the Company's bills are unaffordable for non-heating customers with income in all four ranges of FPL studied for both time periods examined. For heating customers with income in the two lower ranges of FPL, PECO (Electric) bills are unaffordable at both existing and proposed rates in Period 1.

The Table further shows the degree to which the rates proposed by PECO (Electric) in this proceeding will have a particularly increased adverse impact on the lowest income customers. For customers with income at or below 100% FPL, the amount of the proposed increase in rates, standing alone, would have increased burdens by between roughly 1.5% (from 10.6% to 12.3%) for non-heating customers and 2.5% (from 15.9% to 18.4%) for heating customers.

Q. HOW DID YOU COMPLETE YOUR ANALYSIS TO CREATE TABLE 2?

A. I used the median monthly bills which the Company provided for the 24 months February 2022 through January 2024[3] for residential customers. The Company provided the median monthly bills for those 24 months at both existing and proposed rates. As can be seen in the Table, I divided that 24-month period into two 12-month periods and calculated the annual bills for each period by summing the monthly bills.

It is important to remember, however, that Table 2 is based on bills *at the middle* (i.e., median bills). Median bills are those bills where half of all customers have bills that are higher and half have bills that are lower. In contrast, Table 3 sets out annual bills at differing ranges of median usage. Each 25% increase in non-heating customer usage (e.g., from median to 125% of median) costs customers roughly $230 at existing rates. Each 25% increase in usage costs roughly $260 at proposed rates. For heating customers, each 25% increase in usage costs roughly $290 at existing rates, and roughly $320 at proposed rates.

Table 3. PECO (Electric) Annual Bills at Existing and Proposed Rates And at Different Levels of Median Usage (OCA-II-44, OCA-II-45)

	Non-Heating		Heating	
	Existing Rates	Proposed Rates	Existing Rates	Proposed Rates
50% median usage	$701.25	$809.45	$589.63	$692.03
75% median usage	$988.03	$1,127.90	$820.60	$951.68
Median usage	**$1,274.86**	**$1,446.32**	**$1,051.87**	**$1,211.64**
125% median usage	$1,561.98	$1,765.08	$1,282.56	$1,472.06
150% median usage	$1,849.51	$2,084.29	$1,515.06	$1,732.33

[3] OCA-II-15.

Q. DOES THIS DATA SHOW ANNUAL HEATING BURDENS?

A. Yes. However, it is important to avoid focusing exclusively on *annual* bills and *annual* burdens. Even if annual bills represent an affordable percentage of income, the seasonal variation in PECO (Electric) bills can present an unaffordable payment obligation in any given month. Over the course of a year, even if monthly *average* bills might be affordable (as calculated based on an annual energy burden), the actual monthly bills can push payment obligations far beyond a low-income customer's ability-to-pay.

Q. DOES THE COMPANY'S CUSTOMER ASSISTANCE PROGRAM (CAP) AS A PERCENTAGE OF INCOME PAYMENT PLAN INSULATE CUSTOMERS FROM UNAFFORDABLE BURDENS?

A. No. While the PECO (Electric) Customer Assistance Program (CAP) operates as a Percentage of Income Payment Plan (PIPP), which will largely protect CAP participants from the harms of increasing rates, CAP is only helpful for those low-income customers who, indeed, are program participants. The data, however, shows that the Company serves a relatively small proportion of its low-income customer base. While I make specific recommendations below with respect to how the Company might increase that participation, my observation here is limited to the fact that even given the Company's CAP, there is a significant low-income customer population that is *not* participating in CAP that will be adversely affected by the Company's proposed rate increase. According to the Company, for example, it has identified 152,722 Confirmed Low-Income customers on its system. (OCA-02-01). Of those Confirmed Low-Income customers, however, 125,701 are CAP participants (electric only) and 23,014 are CAP participants (dual gas and electric service). (OCA-02-01).

This number, however, understates the problems facing low-income customers on the Company's system. According to the Company's most recent annual report to the PUC's Bureau of Consumer Services (BCS)[4] PECO (Electric) has an estimated 373,243 low-income customers on its system. PECO (Electric), in other words, has confirmed the low-income status of only 41% of its estimated low-income customer base.[5] Overall, PECO (Electric) has enrolled only 40% of its estimated low-income customer population into CAP[6].

Q. IS YOUR OBSERVATION THAT PECO (ELECTRIC) ENROLLS LESS THAN 40% OF ITS LOW-INCOME CUSTOMERS IN CAP A CRITIQUE OF THE COMPANY'S CAP OUTREACH?

A. While I will make specific recommendations regarding CAP enrollment later in my testimony, my purpose here is *not* to critique or criticize the Company's CAP outreach. Instead, my purpose here is to observe that when CAP misses 60% of the low-income population, the existence of CAP cannot be used as a reason to ignore the broader implication of proposed rates of PECO (Electric) on the low-income population as a whole.

[4] OCA-II-01; BCS (Sept. 2023). Universal Service Programs and Collections Performance, 2022 Report, available at https://www.puc.pa.gov/media/2573/2022-universal-service-report-final.pdf

[5] 152,722 / 373,243 = 0.409.

[6] 23,543 / 373,423 / (125,701 + 23,104) = 0.398.

Q. WHAT DO YOU CONCLUDE?

A. A consideration of affordability is a critical task to undertake within the structure of any utility rate case. As bills become increasingly unaffordable, the payment difficulties of those customers who face unaffordability become increasingly substantial as well. As I will demonstrate later in this testimony, this conclusion can be well-documented for PECO (Electric). One impact of the unaffordability I discuss, in other words, is its impact on the operating costs (e.g., collection costs, working capital, uncollectible expenses) that are then normalized and passed on to other ratepayers. Also, the PECO (Electric) proposals such as increasing the residential customer charge and seeking an increased return on equity for management performance, have disproportionate adverse effects on low-income customers who already are facing substantial unaffordability.

Moreover, establishing a return on equity is fundamentally predicated on balancing customer and investor interests. It is necessary for the Pennsylvania PUC to understand the customer interests in order to appropriately balance them against the competing investor interests. The obligation of the Commission in deciding on the appropriate return on equity (ROE) and the reasonable mix of debt and equity securities should balance consumer and investor interests. (*FPC v. Natural Gas Pipeline Co.*, 315 U.S. 575, 606-607 - 608 (1942)). Indeed, of the consumer issues that are important drivers of the just and reasonable ROE determination, one of the most significant is the concern about affordability. If a sizable portion of customers cannot afford to pay the rates imposed by the PUC, the PUC can hardly be said to have approved just and reasonable rates. Such concerns should bear directly on the determination of the fair ROE. In addition, as a utility such as PECO (Electric) adds more and more expensive plant, this increases rates,

which may in turn put downward pressure on the just and reasonable ROE not for financial reasons, but because of affordability concerns.

In sum, the concerns I identify with respect to the unaffordability of the rates of PECO (Electric) can (and should) be considered even outside the consideration of the specific proposals I advance with respect to specific low-income initiatives.

C. The Disproportionate Impact of Inflation on Low-Income Customers.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the testimony of PECO (Electric) witnesses regarding the impacts of inflation on the Company and its investors. In its Statement of Reasons for the rate increase, for example, PECO (Electric) argues that "Inflation and interest rates have also risen at a historic pace, which has raised the cost of investment and led to increases in the Company's labor, contracting, and materials expense. . ."[7] That Statement goes on to say "the Company faces significant increases in a variety of areas that are not within PECO's control. These include inflation and other financial costs. . ."[8] PECO (Electric) witness Humphrey argues that "inflation and interest rates have risen at a historic pace, which has raised the cost of investment and continues to increase the Company's labor, contracting, and materials expense,"[9] while PECO (Electric) rate of

[7] PECO (Electric). Statement of Specific Reasons for Proposed Increase in Electric Rates, at 4.

[8] Id.

[9] PECO (Electric) St. 2, at 4).

return witness Moul states that "my cost of equity analysis reflects the impact of high levels of inflation, which have not been seen for four decades."[10]

Despite this testimony, PECO (Electric) has *not* considered the impact of inflation on its customers.[11] No balancing has thus occurred.

Q. SHOULD THE PUC CONSIDER THE IMPACT OF INFLATION ON RATEPAYERS WHEN SETTING RATES?

A. Yes. As I testified above, the process of setting reasonable rates, however, does not exclusively consider the interests of investors. Instead, for example, the courts have noted that setting a reasonable return on equity must involve a balancing of the interests of investors and ratepayers. To the extent that the impacts of inflation on investor interests are considered, therefore, the impacts of inflation on ratepayer interests must be considered as well. Moreover, decisions on issues such as the appropriate level of the residential customer charge, involve the PUC making explicit policy choices about how to allocate risks between ratepayers and the Company. The adverse impacts of inflation on ratepayers should be one component of those considerations.

In summary, as I will explain below, the testimony of PECO's (Electric) witnesses does not present a complete story about the stress which inflation has placed on utility ratepayers, especially low-income customers. Inflation is disproportionately affecting lower-income households. The higher return on equity sought by PECO (Electric) in this

[10] PECO (Electric) St. 5, at 6.

[11] OCA-VIII-04.

proceeding, which would have the impact of driving up rates, will exacerbate this problem. Given the PUC's obligation to balance the interests of investors and ratepayers in setting a reasonable return on equity, the PUC should consider the greater adverse impacts that inflation has imposed on low-income ratepayers when setting rates.

Q. DOES INFLATION HAVE A PARTICULARLY ADVERSE IMPACT ON LOWER INCOME HOUSEHOLDS?

A. The impact of inflation is felt most severely by low-income households. Research by the U.S. Department of Labor's Bureau of Labor Statistics, the agency that calculates and reports the "rate of inflation" (i.e., the Consumer Price Index [CPI]) each month, reports that "consumers with different incomes experience inflation quite differently."[12] According to this research, households earning the lower incomes spend a higher share of their household budget on household necessities such as rent, food and medical care.

[12] Klick and Stockburger (December 2022). Spotlight on Statistics: Inflation Experiences for Lower and Higher Income Households, U.S. Department of Labor, Bureau of Labor Statistics, available at https://www.bls.gov/spotlight/2022/inflation-experiences-for-lower-and-higher-income-households/home.htm

Table 4. Household budget shares of expenditure items for lowest and highest income quartiles, 2017–2018[13]		
Expenditure	Lowest Income Quartile	Highest Income Quartile
Rent (including owner's equivalent rent	34.93%	27.93%
Food at home	9.44%	6.58%
Medical care	8.36%	8.09%
Household utilities	4.36%	2.73%
Motor fuels	3.46%	3.42%
Motor vehicle operation	3.44%	3.40%
Telephone service	2.32%	2.00%

While low income households pay more of their budgeted income for this basket of essential goods, it is also important to note that the BLS researchers found that "prices for motor fuel, medical care, fuel and utilities, and shelter rose faster than the overall average. . ."[14] Thus, "[b]ecause the lowest income households dedicate more of their spending on these categories," the BLS researchers found, "their overall inflation rates grew faster than highest income households."

[13] Id.

[14] Id.

Table 5. Average price change by item, 2005–2020
(starred items defined by BLS to be household necessities)

Item	2005–2020 average 12-month change (%)
Tuition, other school fees, and childcare	4.03
Motor Fuel*	3.45
Medical Care*	3.28
Rent*	3.06
Food away from home	2.86
Fuel and utilities*	2.71
All items	2.00
Food at home*	1.89
Lodging away from home	1.16
Recreation	0.74
New and used motor vehicles	0.43
Apparel	-0.10
Telephone services*	-0.20

The Federal Reserve Bank of Dallas similarly found that

> Families have grappled with surging prices over the past 18 months, as the cost of meeting basic needs rose. Consumer prices were 7.1 percent higher in November 2022 than one year earlier.
>
> Although inflation may have peaked, prices remain elevated, with food costs up 10.6 percent, gasoline rising 10.1 percent, rent increasing 7.9 percent and medical care services up 4.4 percent.

> Drawing upon recent household survey data, we show that high inflation is disproportionately hurting low-income households, including Black and Hispanic households and renters.[15]

Q. DO LOW-INCOME HOUSEHOLDS HAVE THE SAME TOOLS TO ADAPT TO HIGHER PRICES, RESULTING FROM INFLATION, AS NON-LOW-INCOME HOUSEHOLDS?

A. No. The Federal Reserve researchers found that the "stress" being placed on households by high inflation is much greater for low-income households. They explained:

> Prior research suggests that inflation hits low-income households hardest for several reasons. They spend more of their income on necessities such as food, gas and rent—categories with greater-than-average inflation rates—leaving few ways to reduce spending. When prices rise, middle-income households may react by consuming cheaper goods and buying more generic brands. Low-income households do not have the same flexibility; in many cases, they are already consuming the cheapest products.
>
> Additionally, many low-income households lack the ability of higher-income households to stock up when prices are discounted, buy in bulk and save, delay purchases if there is an opportunity to save in the future or buy more cheaply online. Low-income households are also likely to have smaller cash buffers to tide them over a period of high inflation.
>
> The recent Household Pulse Survey data confirm these tendencies. Households with incomes ranging from $25,000 to $35,000 in 2021 were about 19.3 percentage points more likely to be very stressed by inflation than households with incomes in the $75,000 to $100,000 range.

The data is clear and it is consistent. Lower income families expend a greater share of their income on necessities (which tend to have higher inflation rates); have smaller

[15] Jayashankar and Murphy (January 2023). High inflation disproportionately hurts low-income households, Federal Reserve Bank of Dallas, available at https://www.dallasfed.org/research/economics/2023/0110#:~:text=Low%2Dincome%20households%20most%20stressed,few%20ways%20to%20reduce%20spending%20.

financial cushions to mitigate the impact of inflation; and may have less of an ability to switch to lower-priced alternatives. As Lael Brainard, a member of the Board of Governors of the Federal Reserve System, concluded, "All Americans are confronting higher prices, but the burden is particularly great for households with more limited resources."[16]

Q. WHAT DO YOU CONCLUDE?

A. The testimony of the witnesses for PECO (Electric) presents an incomplete story about the stress which inflation has placed on utility stakeholders. Just as inflation may have placed stress on the utility, it has also placed stress on utility ratepayers. Indeed, the inflation experienced in recent years has placed far more stress on lower income ratepayers than it has placed on others. Given that inflation is disproportionately affecting lower-income households, the Commission must consider the fact that the higher return on equity sought by PECO (Electric) in this proceeding will only exacerbate the problem by unnecessarily driving up rates. The PUC is obligated to balance the interests of investors and ratepayers in setting a reasonable return on equity. In so doing, the PUC should consider the greater adverse impacts that inflation has imposed on low-income ratepayers.

[16] Brainard (April 2022). Variations in the inflation experiences of households, available at https://www.federalreserve.gov/newsevents/speech/brainard20220405a.htm

D. The Affordability of Bills to Residential Customers Generally.

Q. DO YOU HAVE CONCERNS ABOUT THE IMPACT OF THIS PECO (ELECTRIC) RATE REQUEST OUTSIDE OF THE LOW-INCOME CONTEXT?

A. Yes. The PUC is not simply to consider the impacts of rate changes on low-income customers, but also to consider the impacts of consumer interests generally. To consider the impacts of the PECO (Electric) rate case on consumers generally, I use county-wide data provided by United for ALICE[17] through the ALICE (Asset Limited, Income Constrained, Employed) Report for Pennsylvania. ALICE data signals the ability of households to afford the basics required for self-sufficiency.

Q. WHAT DOES THE ALICE DATA SHOW A FAMILY OF FOUR WOULD NEED TO EARN TO COVER ESSENTIAL EXPENSES?

In the 2024 report, using data from 2022, in Pennsylvania, a family of four would need an annual income of $83,700 to cover essentials needed to live and work, pay rent, and pay utilities, an increase from $65,796 using 2021 data.[18]

Q. WHAT ALICE DATA HAVE YOU EXAMINED?

A. I have reviewed the 2022 ALICE survival budgets for a four-person household for the six counties which PECO (Electric) serves (Bucks, Chester, Delaware, Montgomery, Philadelphia, York). Based on this data, the households in PECO's (Electric) service territory would need to earn at or above two times the federal poverty level to afford the

[17] An overview of United for Alice is available at https://unitedforalice.org/overview.

[18] https://www.unitedforalice.org/Household-Budgets/Pennsylvania

rate increase requested by PECO (Electric) and be able to afford to live and work in the current economy.

The budgets for these counties are: $73,404 (Bucks County), $79,335 (Chester County), $65,082 (Delaware County), $74,565 (Montgomery County), $53,428 (Philadelphia County), and $59,574 (York County). I next separately considered median household incomes (MHIs) for the total population (MHI-All) and for the total Black population (MHI-Black). Of these PECO (Electric) counties, while the MHI-All is above the ALICE survival budget in all six counties, the MHI-Black is *below* the ALICE survival income in five of the six PECO (Electric) counties (Bucks, Chester, Delaware, Philadelphia, York). The five counties where the MHI-Black is below the ALICE survival budget have a total population of 1,551,101 *households*. Those counties have a poverty rate of 15.5%, but have an ALICE rate of 31.3%.

In addition, I compared the ALICE survival budget to the average income for households in the Second Quintile of income.[19] In all six counties, households in the Second Quintile had average incomes less than the ALICE survival budget. In all PECO (Electric) counties, in other words, unaffordability as measured by the ALICE survival budget reaches up to 40% of the households.

[19] The Census Bureau rank orders households by income from lowest to highest. It then divides that ordering into five equal parts, each part of which is called a "quintile." The one-fifth of households with the lowest income are the First Quintile. The one-fifth of households falling into the Second Quintile fall between the 20th and 40th percentile.

Q. DO YOU HAVE OTHER CONCERNS ABOUT THE IMPACTS OF THE PECO (ELECTRIC) RATE REQUEST ON CONSUMERS GENERALLY?

A. Yes. The adverse impacts to consumers arise not exclusively because of what burdens the PECO (Electric) rates are imposing, but also because of the cumulative impacts of the group of utilities serving the same customers. In 2024, it is not merely PECO (Electric) that is seeking higher rates. Multiple utilities serving overlapping service territories are seeking substantial rate hikes. In 2024:

- Aqua Pennsylvania (Aqua PA) has filed a rate case that would increase typical residential water bills from $78.21 to $97.61 per month ($20.50), $246 per year, or by 26.2%. Additional rate hikes were sought for sewer bills.
- PECO (Gas) has filed a rate case that will increase residential bills by $16.15 per month, or ($193.80) per year.

These natural gas, water and wastewater (sewer) rate increases, on top of the PECO (Electric) requested rate increase of $16.67 per month ($200.04 per year), would increase *total* utility bills for the customers by $640 per year to customers in overlapping service territories.

Q. HAVE YOU IDENTIFIED THE EXTENT OF THE OVERLAP?

A. Yes. Each utility has provided a list of the zip codes which comprise its respective service territory. By matching those lists, I identified the zip codes that are served by all three utilities. Of the 166 zip codes in which PECO (Electric) has matching Census data, all 166 are also served by PECO (Gas). Of the 166 PECO (Electric) zip code, 116 are served also by both PECO (Gas) and Aqua (PA). These zip codes in which all three utilities overlap have 858,818 households.

Q. HAVE YOU BEEN ABLE TO ASSESS WHAT THE IMPACT ON RESIDENTIAL CUSTOMERS WILL BE FROM THIS CUMULATIVE SET OF RATE INCREASES?

A. Yes. Given the utility rate increases sought in 2024, in other words, residents seeking rental units in Chester, Delaware, Philadelphia and York Counties would need an additional income of $2,133 each year simply to pay their utility bill hikes.

Q. HOW DID YOU REACH THIS CONCLUSION?

A. The National Low-Income Housing Coalition (NLIHC) publishes an annual reported titled "Out of Reach: The High Cost of Housing" (OOR).[20] I examine the results of the most recent OOR (2024) for Chester, Delaware, Philadelphia and York counties, a geographic area where the overlap of the three utilities is substantial and the MDI-Black is lower than the ALICE income. The mean renter hourly wage in these areas is $24.70 for Chester County, $20.13 for Delaware County, $30.19 for Philadelphia County, and $17.26 for York County. The annual Area Median Income (AMI) is $114,000 for Chester, Delaware, and Philadelphia Counties, and $97,600 for Montgomery County. Those earning at the AMI level can afford to rent at $858 per month in Chester, Delaware and Philadelphia Counties and $732 in York County. The rent affordable at the mean renter wage (given a full-time job) is $1,694 for Chester County, $1,226 for Delaware County, $1,114 for Philadelphia County, and $1,187 for Lancaster County. Given this information, *without* considering the cumulative impacts of the three utility rate increases sought in 2024, OOR reports that the income needed to afford housing is:

[20] https://reports.nlihc.org/oor/pennsylvania

- $48,720 for a one-bedroom unit in Chester, Delaware and Philadelphia Counties, and $35,320 for a one-bedroom unit in York County;
- $58,800 for a two-bedroom unit in Chester, Delaware and Philadelphia Counties, and $45,120 for York County;
- $71,500 for a three-bedroom unit in Chester, Delaware and Philadelphia Counties, and $58,720 in York County.

Given the requested utility rate increases, however, the income that would be needed to afford housing in these three areas served by PECO (Electric), would be:

- $74,320 for a one-bedroom unit in Chester, Delaware, and Philadelphia Counties, and $60,920 in York County;
- $84,400 for a two-bedroom unit in Chester, Delaware, and Philadelphia Counties, and $70,720 in York County; and
- $97,160 for a three-bedroom unit in Chester, Delaware and Philadelphia Counties, and $84,320 in York County.

At the mean renter wage, just to pay the increased utility bills being sought, renters would need to work an ***additional*** 86 hours a year (2.2 work weeks) in Chester County above and beyond their current job (40 hours/week x 52 weeks per year), an additional 106 hours each year (2.6 work weeks above and beyond their current job) in Delaware County, an additional 70 hours per year (1.7 work weeks) in Philadelphia County each year above and beyond their current job) (2.8 work weeks) just to pay the ***increase*** in their utility bills, and an additional 124 hours a year (3.1 work weeks) in York County. Any other increase in the cost of living would be in addition to this need to increase the renter work week.

Part 2. Affordability and the Ability-to-Collect by PECO (Electric).

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I expand upon my discussion of the impact which an increase in PECO (Electric) rates would have on low-income customers. In particular, I examine the collections performance of PECO (Electric) with respect to the Company's Confirmed Low-Income customers.

Q. PLEASE EXPLAIN THE FIRST COLLECTIONS METRIC YOU EXAMINE.

A. The first metric I examine involves the average arrears. Table 6 presents data for the average arrears of residential customers and the average arrears of Confirmed Low-Income customers by year for the three years 2020 through 2022.[21] As can be seen, in 2020, the average arrearage for a Confirmed Low-Income customer was nearly one-quarter larger than for a residential customer generally. From 2020 through 2022, the average arrears for a Confirmed Low-Income customer was from 35% to nearly 80% higher than residential arrears generally. Accompanying the unaffordability of PECO (Electric) bills to its low-income population, in other words, is the increased nonpayment of those bills.

[21] 2022 is the last year of data reported.

Table 6. Average Arrears: Residential vs. Confirmed Low-Income (2020 – 2022)
(BCS 2021 & 2022 Report on Universal Service Programs and Collections Performance)[22]

	Residential	Confirmed Low-Income	Ratio (Conf'd LI to Residential)
2020	$487.06	$1,145.54	2.35
2021	$687.94	$1,679.33	2.44
2022	$532.99	$1,479.30	2.78

Higher arrears impose costs on the utility, costs which must be paid by remaining ratepayers. Even setting aside any collection efforts that PECO (Electric) would direct toward customers in arrears, the higher arrears would impose a higher working capital cost. For each week/month that a bill remains unpaid, PECO (Electric) would incur either an out-of-pocket expense for borrowing replacement money, or would incur the corresponding opportunity cost for not having those funds to invest.

Q. PLEASE EXPLAIN THE SECOND COLLECTIONS METRIC YOU EXAMINE.

A. The second metric I examine involves service disconnections for non-payment (DNPs). According to the BCS 2022 Report on universal service programs and collections performance, "Termination of public utility service is the most serious consequence of customer nonpayment and is viewed as a last resort when customers fail to meet their payment obligations."[23] As with the level of arrears, the unaffordability of Company bills has a particular adverse impact on the Company's low-income customers. In the past two

[22] Available at https://www.puc.pa.gov/filing-resources/reports/universal-service-programs-and-collections-performance-reports/

[23] According to the annual BCS report: "The **termination rate** is calculated by dividing the number of service terminations by the number of residential customers, allowing for a comparison of termination activities regardless of the number of residential consumers. Any significant increase in a termination rate could indicate a trend or pattern that the Commission may need to investigate."

years, Confirmed Low-Income customers of PECO (Electric) have had service disconnected for nonpayment at a rate between 2.7 and 3.3 times higher than the rate of service disconnections for residential customers as a whole.

Table 7. Termination Rate: Residential vs. Confirmed Low-Income (2020 – 2022) (BCS 2022 Report)

	Residential	Confirmed Low-Income	Ratio (Conf'd LI to Residential)
2020*	***	***	***
2021	5.3%	14.8%	2.79
2022	5.6 %	18.7%	3.34

* Disconnection rates were nearly non-existent due to COVID-related disconnection restrictions imposed by the PUC.

As with carrying arrears, nonpayment service disconnections have a rate impact on remaining customers. Not only is there an out-of-pocket cost associated with the process of disconnection, but there is the likelihood of lost future revenue as well.

Q. HAVE YOU EXAMINED ANY FINAL METRIC?

A. Yes. The third metric I have examined involves the gross write-off ratio for residential customers and Confirmed Low-Income customers. The data is set forth in the Table below. The PECO (Electric) data clearly shows that Confirmed Low-Income customers impose dollars of gross write-offs on the utility at a rate that is substantially higher than the rate at which residential customers impose gross write-offs. From 2020 through 2022, the gross write-off ratio for Confirmed Low-Income customers was between two and four times higher than the ratio for residential customers.

Table 8. Gross Write-Off Ratios: Residential vs. Confirmed Low-Income (2020 – 2022) (BCS 2022 Report)			
	Residential	Confirmed Low-Income	Ratio (Conf'd LI to Residential)
2020	0.8%	3.2%	4.0
2021	1.5%	3.3%	2.2
2022	1.5%	5.0%	3.3

Q. BASED ON YOUR EXAMINATION OF THESE METRICS, WHAT DO YOU CONCLUDE?

A. The data from the metrics examined above is not presented to criticize the credit and collection efforts of PECO (Electric). Instead, the lessons to be learned are two-fold. First, there is considerable opportunity for PECO (Electric) to use its universal service programs to address the nonpayment problems of Confirmed Low-Income customers on its system. Second, in a related, although not identical line, the use of universal service programs to address collections problems does not exclusively benefit the low-income customers participating in these programs. The use of universal service programs can also operate to help PECO (Electric) manage the costs of payment difficulties which are passed on to all other ratepayers. In the next section, I turn my attention to how PECO (Electric) could, and should, do precisely that.

Part 3. Specific Recommendations to Respond to Low-Income Unaffordability.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF OUR TESTIMONY.

A. In this section of my testimony, I consider a series of recommendations that PECO (Electric) should adopt to respond to the unaffordability of electric bills that I have identified above. In my discussion below, I do not recommend changes to the structure or operation of the PECO (Electric) universal service program as filed in its most recent

Universal Service and Energy Conservation Plan (USECP). Instead, I have reviewed the procedures and operations outside of the PECO (Electric) USECP to assess the ways in which such procedures and operations can be improved to integrate total Company operations more fully with the Company's USECP.

Q. PLEASE EXPLAIN THE ROLE WHICH SUCH RECOMMENDATIONS PLAY IN A BASE RATE PROCEEDING.

A. The role of providing affordable service in a base rate proceeding has been identified throughout my discussion above. When rates are unaffordable to low-income customers, that unaffordability affects the rates charged to other customers. I have documented, for example, how the unaffordability of bills leads to higher levels of arrears by low-income customers. Those higher levels of arrears not only lead to PECO (Electric) incurring out-of-pocket expenses devoted to the collection of those arrears, they lead to higher levels of expenses such as the higher levels of working capital associated with the revenue that has been billed but not collected. Since working capital is a capital expense, there is also an equity return associated with it, with a corresponding additional tax impact. The rate impact, in other words, is greater than the impact on the initial level of working capital expense. I have also documented above how the unaffordability of the rates of PECO (Electric) leads to a stream of lost revenue. This lost revenue occurs as low-income customers have service disconnected with no reconnection. This process not only causes PECO (Electric) to lose the revenue that is comprised of the unpaid bills at the time of disconnection, but also causes the Company to lose any revenue associated with the bills that would have been associated with future bills. Moreover, even when service is

reconnected, each day that a low-income customer remains off-system prior to the reconnection represents a lost sale (and thus lost revenue).

My recommendations below recognize these impacts which low-income unaffordability has on rates. Without needing to propose modifications to the structure of the PECO (Electric) USECP, the recommendations explain how PECO (Electric) can improve the service it offers to low-income customers to mitigate the adverse rate impacts of unaffordable bills.

A. Identifying Confirmed Low-Income Customers.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I identify how the Company fails to comply with PUC regulations regarding the identification of "confirmed low-income" customers. I recommend changes that would bring PECO (Electric) into compliance with the PUC's regulations.

Q. HOW DOES PECO (ELECTRIC) CURRENTLY IDENTIFY "CONFIRMED LOW-INCOME" CUSTOMERS?

A. When asked to "please provide a detailed written description of how the Company 'confirms' the low-income status of the Company's customers, including a detailed list of the information accepted to confirm low-income status, PECO (Electric) responded by stating that:

> Household income – which is used by the Company to calculate a customer's Federal Poverty Level (FPL) pursuant to Section 1405 of Title 66 – can be provided by the customer verbally to a Company representative. The

> Company "confirms" low-income status when the customer provides supporting Proof of Income documentation.[24]

This procedure used by PECO (Electric) is too limited. It fails to comply with the PUC's regulations regarding how to define a "confirmed low-income" customer. The PUC's regulations explicitly define a "confirmed low-income" customer for Electric Distribution Companies. The PUC regulations define "confirmed low-income residential accounts" as "Accounts where the EDC has obtained information that would reasonably place the customer in a low-income designation."[25] While the definition for electric utilities does not provide the explanation that the definition for natural gas utilities does, further guidance can be obtained from the natural gas regulation which states in relevant part:

> This information may include receipt of LIHEAP funds (Low-Income Home Energy Assistance Program), *self-certification by the customer*, *income source* or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination).[26]

(emphasis added). As can be seen, under the regulation, the PECO (Electric) procedure for identifying a "Confirmed Low-Income" customer falls short in several ways. First, "self-certification" may include not merely self-certification of the actual *level* of income, but certification of the *source* of income as well. For example, customers who receive SNAP (Supplemental Nutrition Assistance Program, formerly known as Food Stamps) assistance, Medicaid, Temporary Aid to Needy Families (TANF), free School Lunch, and other similar benefits will, by the very receipt of those benefits, be "reasonably place[d]. .

[24] OCA-II-18.

[25] 52 Pa. Code § 54.72.

[26] 52 Pa. Code § 62.2.

.in a low-income designation." Moreover, the regulation does not require a customer to provide "proof of income documentation." Instead, "self-certification" is adequate.

A customer's self-attestation of the receipt of public assistance (e.g., Supplemental Nutrition Assistance Program [SNAP], welfare, Supplemental Security Income [SSI], Medicaid), for example, would all place a customer in a "low-income designation." For purposes of establishing the customer's "Confirmed Low-Income" status, it would not matter what specific dollar level of income allows the customer to receive such assistance. The mere fact of receiving such assistance would be sufficient to meet the PUC's definition. A customer need not provide actual dollars of income (i.e., under the stated procedure of PECO (Electric), "household income. . .can be provided by the customer verbally to a Company representative. . .")

Appropriately and accurately identifying the Company's "confirmed low-income" customers is not only important from the perspective of CAP outreach, but also qualifies such customers for various fee waivers. Moreover, the PUC's regulations provide that a customer is exempt from a cash security deposit "when the customer provides *income documents or other information* that he or she is eligible for state benefits based upon household income eligibility requirements that are consistent with those of the public utility's customer assistance program."[27] (emphasis added).

[27] 56 Pa. Code § 56.41(4).

Q. WHAT DO YOU RECOMMEND?

A. PECO (Electric) should modify its policies and procedures regarding the identification of "confirmed low-income" customers to conform with the PUC's regulations. PECO (Electric) should include these modified policies and procedures in its residential tariff. The modified policies and tariff should explicitly state that: (1) PECO (Electric) will recognize a customer as a "confirmed low-income" customer when the Company is provided information that would "reasonably place" the customer in a low-income designation; (2) the information can be provided by the customer through self-certification and need not be accompanied by "proof of income documentation"; (3) the information can include income information or other information attesting to his or her eligibility for state benefits; and (4) the information would be used to establish the customer's eligibility for a payment arrangement of up to five years in length (i.e., income at or below 150% FPL) pursuant to Section 1405(b) of Chapter 14 of the Public Utility Code.

B. Nonpayment Disconnections of Confirmed Low-Income Customers.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I address the need of PECO (Electric) to take more effective actions to use its universal service program to prevent the disconnection of service for nonpayment to Confirmed Low-Income customers. This discussion addresses not the structure of the PECO (Electric) USECP, but rather addresses how PECO (Electric) interacts with customers who do ***not*** participate in the programs.

Q. WHY DO YOU ADDRESS THE DISCONNECTION OF SERVICE IN PARTICULAR?

A. There are several reasons why the disconnection of service should be considered in particular. First, in all the ways I have discussed in detail above, the disconnection of service has rate implications for all customers. Minimizing disconnections would also minimize these adverse rate impacts. Second, as BCS notes in its most recent annual report on universal service programs and collection performance that "Termination of public utility service is the most serious consequence of customer nonpayment and is viewed as a last resort when customers fail to meet their payment obligations."[28] It is thus appropriate to assess whether service terminations are, in fact, being used by PECO (Electric) as a "last resort." Third, as BCS states: "Universal Service is a collective name applied to the policies, protections and services that *help low-income customers maintain electric and natural gas service*. . ." (emphasis added).[29] Given that "universal service" is intended to "help low-income customers maintain electric. . .service," it is appropriate to assess whether that objective is being achieved.

Q. IS THE PECO (ELECTRIC) UNIVERSAL SERVICE PROGRAM SUCCESSFUL IN "HELPING LOW-INCOME CUSTOMERS MAINTAIN ELECTRIC SERVICE"?

A. Not entirely. There is significant information documenting the extent to which the Company's universal service program is not helping low-income customers to maintain

[28] 2022 BCS Report, at 15.

[29] Id., at 3, citing Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. § 2803 and Natural Gas Choice Competition Act, 66 Pa. C.S. § 2202.

electric service. For example, I consider the extent to which PECO (Electric) is disconnecting service to Confirmed Low-Income customers. The data shows not only that the Company is continuing to disconnect service to a substantial number of Confirmed Low-Income customers, but also that the average arrears at the time of disconnection remains substantial as well. The data below shows that from January 2021 through January 2024, PECO (Electric) disconnected 6,245 Confirmed Low-Income customers (not in CAP).[30]

The dollars lost at the time of disconnection can be considerable. For Confirmed Low-Income customers who had service disconnected, the average arrears at the time of disconnection ranged from a low of $1,172 (July) to a high of $2,632 (May) in 2021; from a low of $1,290 (November) to a high of $2,288 (May) in 2022; and from a low of $1,160 (October) to a high of $1,988 (April) in 2023. Typical arrearage balances ranged from $1,500 to $3,000.

[30] OCA-II-16.

Table 9. Confirmed Low-Income Disconnections and Average Arrears at Time of Disconnection (OCA-II-21)

	2021	2022	2023
Jan*	$0	$0	$0
Feb*	$0	$0	$0
Mar*	$0	$0	$0
Apr	$2,538	$2,097	$1,988
May	$2,632	$2,288	$1,978
Jun	$1,566	$1,399	$1,245
Jul	$1,172	$1,477	$1,361
Aug	$1,272	$2,042	$1,353
Sep	$1,525	$1,352	$1,383
Oct	$1,476	$1,356	$1,160
Nov	$1,500	$1,290	$1,167
Dec*	$0	$0	$0

NOTE:
*PECO (Electric) does not disconnect service to Confirmed Low-Income customers during cold weather months.

To assume that PECO (Electric) has effectively communicated the possibility of enrolling in CAP, and making pre-program arrears subject to forgiveness, to Confirmed Low-Income customers, one would need to assume that more than 6,200 Confirmed Low-Income customers –remember a "Confirmed Low-Income" customer is a customer from whom the Company has already received information that would reasonably identify that customer as "low-income"—would ***choose*** to have their service disconnected rather than to enroll in the Company's CAP. One would further need to assume that these nearly 6,200 customers would choose to pay all or part of their arrears in order to reconnect their service, and to retain those pre-disconnection arrears on their accounts to be paid in the future rather than subjecting those arrears to forgiveness.

This data is consistent with the data presented in Table 7 above. That Table shows that the termination rate (i.e., number of nonpayment disconnections divided by the number of customers) remains considerably higher for Confirmed Low-Income customers than it is for residential customers in general.

Despite the number of Confirmed Low-Income customers who are disconnected *without* subsequently being reconnected, the data shows that more than 90% of all Confirmed Low-Income customers experiencing a disconnection are reconnected. These reconnections demonstrate that the Company can and does make contact with these Confirmed Low-Income customers throughout the disconnection process.

Q. WHAT DO YOU FIND?

A. The data above demonstrates that current procedures PECO (Electric) uses to enroll Confirmed Low-Income customers –i.e., those customers that PECO (Electric) *knows* to be low-income – are not effectively working to help these customers enroll in CAP to retain utility service (i.e., in the words of the Electric Generation Customer Choice and Competition statute, to "help low-income customers maintain electric. . .service"). Notwithstanding the statutory goal for the PECO (Electric) universal service program, thousands of Confirmed Low-Income customers are having their service disconnected for nonpayment, and a proportion of those disconnected customers do not have their service reconnected.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that, prior to the disconnection of a Confirmed Low-Income customer, PECO (Electric) adopt a procedure, developed in collaboration with its Universal Service

Advisory Group (USAG), under which it will seek to make personal contact with the customer subject to disconnection. In that personal contact, the Company shall offer the Confirmed Low-Income customer the opportunity to apply for the Company's CAP and arrearage forgiveness program. If the customer expresses a desire to apply, PECO (Electric) shall postpone the disconnection for a reasonable period of time to allow the application process to be completed. Once disconnected, prior to being reconnected, and being required to pay either a fee or a portion of the arrears which gave rise to the disconnection, customers who are Confirmed Low-Income customers at the time of disconnection should be required to affirmatively acknowledge that they do not wish to participate in CAP (along with its arrearage forgiveness program) prior to being reconnected and required to pay either a portion of their outstanding arrears or any reconnection fee.

C. Deferred Payment Agreements for Confirmed Low-Income Customers.

Q. PLEASE EXPLAIN YOUR THIRD RECOMMENDATION.

A. My third recommendation is that Confirmed Low-Income customers who are negotiating a deferred payment agreement (DPA) with the Company, as well as customers from whom the Company receives information placing them in an income tier of 0% to 150% FPL, should be provided a stand-alone written Plain English notice informing those customers of their right, in the alternative, to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions). Through that opportunity, rather than needing to agree to retire their arrears over an extended period of time, the Confirmed Low-Income customer would be allowed to enroll in CAP and, upon making appropriate payments, receive forgiveness of their underlying arrearages. This

written communication would be provided to Confirmed Low-Income customers, those customers from whom PECO (Electric) had either previously, or during the process of discussing a payment arrangement, received sufficient information to reasonably establish their low-income status.

Q. IS THERE A STATUTORY BASIS FOR IMPOSING THIS REQUIREMENT?

A. Yes. Pennsylvania statutes provide that:

> No public utility shall, directly or indirectly, by any device whatsoever, or in anywise, demand or receive from any person, corporation, or municipal corporation a greater or less rate for any service rendered or to be rendered by such public utility than that specified in the tariffs of such public utility applicable thereto. The rates specified in such tariffs shall be the lawful rates of such public utility until changed, as provided in this part. *Any public utility, having more than one rate applicable to service rendered to a patron, shall, after notice of service conditions, compute bills under the rate most advantageous to the patron*.[31]

(emphasis added). PECO (Electric) should not, in other words, require a customer, known to be a Confirmed Low-Income customer, to pay off arrears through a payment arrangement which arrears would be subject to forgiveness under the Company's CAP.

Q. PLEASE EXPLAIN THE SUBSTANTIVE NEED FOR SUCH COMMUNICATION.

A. PECO (Electric) reports that it enrolls significant numbers of Confirmed Low-Income customers in deferred payment arrangements through which customers agree to retire arrearages over an extended period of time. The data shows that PECO (Electric) entered into 18,043 newly-initiated payment arrangements with Confirmed Low-Income

[31] 66 Pa. Stat. and Cons. Stat. Ann. § 1303 (West).

customers in from February 2021 – January 2022; 18,004 newly-initiated payment arrangements with Confirmed Low-Income customers from February 2022 – January 2023, and 31,572 newly-initiated payment arrangements with Confirmed Low-Income customers from February 2023 – January 2024.[32]

These payment arrangements, however, are not often successful. PECO (Electric) reports that in the years 2021 through 2023, while the Company had 76,725 low-income (i.e., income tier of 0 – 150% FPL) payment arrangements which were successful, it had 511,173 low-income payment arrangements which defaulted. In other words, nearly seven times (6.6) more low-income payment arrangements defaulted than succeeded.

Table 10. Residential Payment Arrangements, Successful Payment Arrangements, and Defaulted Payment Arrangements (Income Tier: 0 – 150% FPL) (2021 – 2023) (OCA-II-022)

	2021	2022	2023
Payment Arrangements	94,841	47,965	46,758
Defaulted Payment Arrangements	199,400	185,744	126,029
Successful Payment Arrangements	48,421	21,060	7,244

Additional insights can be gained into the number of Confirmed Low-Income customers that default on their payment plans by examining the number of "payment-troubled customers." According to BCS, "A payment troubled customer is a customer who has failed to maintain one or more payment arrangements in a 1-year period." The PECO (Electric) data reported to BCS on payment-troubled Confirmed Low-Income customers is set forth in Table 11 below.

[32] OCA-II-17. The time period represents the most recent 36 months at the time discovery was propounded. The 36-month period was divided into three periods of 12 months each. The 12-month periods did not precisely coincide with calendar years.

Table 11. Average Number of Confirmed Low-Income Customers On Payment Arrangement and Number of Payment-Troubled Customers (Confirmed Low-Income Customers) (PECO (Electric)) (2021 – 2023) (OCA-II-017)

Feb. 2021 – Jan 2022[33]		Feb 2022 –Jan 2023		Feb 2023 – Jan 2024	
On Arrangement (avg)	Payment Troubled	On Arrangement (avg)	Payment Troubled	On Arrangement (avg)	Payment Troubled
6,367	12,276	7,205	8,032	8,729	4,646

As can be seen, in two of the most recent three years for which data is available (February 2021 – January 2024), the number of Confirmed Low-Income customers who are "payment-troubled" (i.e., had defaulted on one or more payment plans in a 12-month period) exceeded the average number of Confirmed Low-Income customers who newly entered into payment plans.

Q. HOW SHOULD PECO (ELECTRIC) USE THIS DATA?

Company customer service representatives should generate information through the DPA process that would demonstrate whether a customer would be eligible for CAP. As I noted above, PECO (Electric) stated that its procedure is:

> Household income – which is used by the Company to calculate a customer's Federal Poverty Level (FPL) pursuant to Section 1405 of Title 66 – can be provided by the customer verbally to a Company representative. The Company "confirms" low-income status when the customer provides supporting Proof of Income documentation.[34]

[33] Customers were not being defaulted from payment arrangements during a set of emergency COVID protections through most of 2021.

[34] OCA-II-18,

Pursuant to Section 1405, a customer's income level determines the length of the payment arrangement the Company would offer.[35] If, however, customer service representatives know that a household's income and household size would place the customer in Income Tier 1 (at or below 150% FPL) for purposes of negotiating a DPA, they would also know that the customer's income and household size would qualify that customer for CAP (and the corresponding arrearage forgiveness).

Q. WHAT DO YOU FIND?

A. Offering a low-income customer a deferred payment arrangement, even a long-term deferred payment arrangement, is not a recipe for success if the reason the customer is in arrears in the first instance is that bills for current service are unaffordable. In those situations, all a deferred payment arrangement does is to begin with the unaffordable bill and *add* an additional installment payment through which to retire the arrears. In those instances, it should not be surprising that far fewer Confirmed Low-Income payment arrangements succeed in any given year than do not. It is no surprise that there are significant numbers of Confirmed Low-Income customers that are "payment-troubled," thus indicating their failure to complete the payment arrangements they entered into with PECO (Electric). The remedy for unpaid bills by low-income customers is not to place those customers on a deferred payment arrangement, but rather to enroll those customers in CAP (with its arrearage forgiveness provisions). Through that remedy, PECO (Electric) would not merely address the unpaid bill, but would also address the

[35] OCA-II-21.

underlying cause of the unpaid bill. Doing so would not only benefit the low-income customer, but would also benefit the Company and its remaining customers as well.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that before PECO (Electric) enters into a payment arrangement with a customer which the Company either: (1) knows to be a Confirmed Low-Income customer; or (2) has generated information through the payment arrangement process documenting that the customer is in the Tier 1 income range (at or below 150% FPL), it should be required to provide the customer a stand-alone Plain English notice to that customer of the customer's right to enter into CAP and an explanation of the advantages of CAP's arrearage forgiveness benefits. PECO (Electric) should develop this Plain English notice in collaboration with its USAG. Moreover, before entering in a payment arrangement with such low-income customers, PECO (Electric) should obtain written acknowledgement from the customer evidencing an informed consent that the customer is choosing to enter into the payment arrangement rather than enrolling in CAP (with its arrearage forgiveness provisions).

D. Cold Weather Survey CAP Enrollment.

Q. PLEASE EXPLAIN YOUR FOURTH RECOMMENDATION.

A. My fourth recommendation is that customers who have had service disconnected for nonpayment, and who remain disconnected at the time of the Company's Cold Weather Survey (CWS) undertaken for the PUC, should be provided a written, stand-alone, Plain English notice of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

Q. UPON WHAT DO YOU BASE THIS RECOMMENDATION?

A. I have reviewed the results of the PUC's Cold Weather Survey performed at the beginning of the winter heating season each year.[36] I examined data from the three years 2021 through 2023. The data in Table 12 below shows the extent to which residential customers which the Company has disconnected during the non-cold weather months remain without service at the beginning of the next cold weather heating season. Over the past three years, between 4,200 (2022) and 4,400 (2023) customers who had service terminated for nonpayment remained without heating service at the beginning of the cold weather season. While the percentage of customers remaining without heating service was relatively stable in 2022 relative to 2021 (from 32.6% to 33.8%), the percentage of customers that had service disconnected, and who remained disconnected, increased again in 2023 (from 32.6% to 41.0%). Between roughly one-third (33.8%, 32.6%) and nearly 2-in-5 (41.0%) PECO (Electric) customers surveyed remained without heating at the start of the cold weather months each year for the past three years.

[36] Electric, Gas and Water Cold Weather Survey Results, available at https://www.puc.pa.gov/filing-resources/reports/electric-gas-water-cold-weather-survey-results/

Table 12. Cold Weather Survey Results (2021 – 2023) (PECO-Electric)[37]			
	2021	2022	2023
Number surveyed	11,258	12,311	10,808
Vacant	1,622	976	710
Reconnected (DPA or other)	3,934	5,024	3,722
Not contacted	3,469	4,120	4,274
Occupied with service off	286	176	152
Using alternative source of heating	206	47	56
No heating	3,675	4,167	4,426
Percent without heat	32.6%	33.8%	41.0%

It would seem unreasonable to assume that, if given a meaningful choice either to enter the cold weather season without heating service or to enroll in a program that would not only limit their future bills to an affordable percentage of income, along with providing a forgiveness of their pre-existing arrears, customers would choose to enter the winter months without heating service.

Q. WHY SHOULD PECO (ELECTRIC) FIND IT IMPORTANT TO OFFER CAP ENROLLMENT AS AN OPTION TO CUSTOMERS WHO WOULD OTHERWISE ENTER THE COLD WINTER MONTHS WITHOUT HEATING SERVICE?

A. As I note above, the statutory purpose of Pennsylvania's universal service programs is to "help low-income customers maintain electric and natural gas service. . ."[38] This purpose

[37] The Cold Weather Survey for PECO does not distinguish between gas and electric customers.

[38] BCS 2022 Report, at 3, citing Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. § 2803 and Natural Gas Choice Competition Act, 66 Pa. C.S. § 2202.

would be furthered by helping to identify customers who have had their heating service disconnected by PECO (Electric), and who remain without heat, as low-income and then facilitating their enrollment in CAP (along with its arrearage forgiveness).

Q. WHAT DO YOU RECOMMEND?

A. I recommend that PECO (Electric) adopt a procedure under which it will provide a stand-alone Plain English notice to customers found to be without heating service at the time of the Company's Cold Weather Survey of the customer's right to enter into CAP and an explanation of CAP's arrearage forgiveness benefits. PECO (Electric) should develop the Plain English notice in collaboration with its Universal Service Advisory Group.

E. Confirmed Low-Income Customers with Substantial Arrears.

Q. PLEASE EXPLAIN YOUR FIFTH RECOMMENDATION.

A. My fifth recommendation is that Confirmed Low-Income customers achieving a minimum arrears should receive a stand-alone written Plain English notice of their right to enter into CAP along with an explanation of CAP's arrearage forgiveness benefits.

There is no question that PECO (Electric) has substantial numbers of Confirmed Low-Income customers that have high arrears. According to the Company's own data, in the 24 months ending January 2024, as set forth in Table 13 below, PECO (Electric) had between 4,900 (September 2023) and nearly 10,300 (January 2023) Confirmed Low-Income customers with arrears exceeding $300 in any given month. The Company had

an average of more than 7,000 (7,023) Confirmed Low-Income customers with more than $300 in arrears in that 25-month period.[39]

Table 13. Number and Percent of Confirmed Low-Income Customers with Arrears >$300 by Month for Most Recent 24 Months (OCA-02-14)

Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
7,298	7,663	7,057	6,691	6,276	7,293	6,329	5,953	6,028	6,641	8,102	9,652
69%	69%	63%	58%	54%	58%	60%	55%	56%	54%	62%	71%
Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
10,289	9,710	8,871	7,645	5,493	5,406	6,238	5,471	4,926	5,452	6,643	7,433
75%	73%	71%	62%	51%	51%	53%	52%	51%	53%	61%	68%

I choose $300 as the lower threshold to examine because 18 of the 36 months between January 2021 and December 2023 had a median Confirmed Low-Income arrears of between $200 and $400 for PECO (Electric).[40] As I noted above, the PUC has previously observed how enrollment of low-income customers into CAP can be expected to help low-income customers improve their payment patterns. I cited above where the Commission reasoned that "enrolling low-income customers into CAPs as early as possible generally puts them in the best position to maintain good payment habits and avoid accruing utility debt."

Consistently through their annual reporting on CAP programs to BCS, Pennsylvania utilities have found that enrollment in CAP will improve the percentage of bills paid. The

[39] OCA-II-014.

[40] OCA-II-11.

data for PECO (Electric), for example, shows that CAP participants over the past two years have paid 87% of the total CAP bills they have received.

Table 14. Percentage of CAP Bills Paid by Year (2019 – 2023) (electric only) (OCA-II-01)

	2022	2023
CAP Bills	$101,903,991	$81,552,561
CAP Pyts	$88,656,472	$70,950,728
Pct Paid	87%	87%

This payment pattern is precisely what the PUC was referencing when it observed that CAP "would generally put [low-income customers] in the best position to maintain good payment habits and avoid accruing utility debt." My recommendation below is designed to place the Confirmed Low-Income customers of PECO (Electric) in the best position to maintain good payment habits and avoid accruing *additional* utility debt.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that when Confirmed Low-Income customers accrue an unpaid balance of $300, PECO (Electric) provide a stand-alone written Plain English notice informing those customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

F. Request for Deposits from Existing Customers.

Q. PLEASE EXPLAIN YOUR SIXTH RECOMMENDATION.

A. My sixth recommendation is tied to the Company's Tariff setting forth provisions regarding deposits for residential customers. The current PECO (Electric) tariff reads:

> The Company may charge a security deposit before it will render service to an applicant or before the Company will continue to render service to a customer for whom the Company provides Consolidated EDC Billing or Separate EDC Billing. The Company may charge deposits to applicants and customers if they have bad credit, lack creditworthiness or as otherwise permitted by Commission statutes, rules, regulations, and as required by Federal Bankruptcy Law.

The PECO (Electric) tariff further provides that:

> The Company's credit and application procedures for applicants are as follows: (1) positive identification of applicant obtained from previous customer record or through one of the major credit reporting bureaus or through in-person identification; (2) determination of liability for a past due balance; (3) determination if a deposit is required based upon applicant's previous account history if available or through third party credit scoring of applicant. The Company's credit scoring methodology and standards are as follows: The Company uses a commercially recognized credit scoring methodology that is within the range of generally accepted industry practice. The applicant's or customer's utility payment history determines the credit score. The Company uses this customer-specific credit score to either request or waive a security deposit.

(PECO (Electric) Rule 5.7, Tariff page no. 13, 14).

My testimony above establishes, in detail, that PECO (Electric) has thousands of Confirmed Low-Income customers who are substantially in arrears; who have negotiated, but defaulted on, a deferred payment arrangement (i.e., are "payment-troubled"); or who have had service terminated and seek reconnection. Having been identified as a "Confirmed Low-Income customer" means that, by definition, the customer has provided

the Company with sufficient information to reasonably lead PECO (Electric) to conclude that the customer is low-income.

By PUC regulation, these customers should be exempt from having a cash security deposit imposed. (52 Pa. Code § 56.41(B)(4)). PECO (Electric), however, should also take the opportunity to solicit the enrollment of such Confirmed Low-Income customers into CAP. I recommend that, in those instances where PECO (Electric) would otherwise request a cash security deposit from a Confirmed Low-Income customer, the Company should, as an alternative to that deposit demand, provide a stand-alone written Plain English notice informing these customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

Q. PLEASE EXPLAIN WHY YOUR RECOMMENDATIONS ABOVE ARE NOT DUPLICATIVE OF EACH OTHER?

A. My recommendations above *are*, in fact, duplicative of each other. Indeed, they are intentionally duplicative. Experience in multiple programs documents that more effective program outreach is associated with making multiple "touches" with the potential participant population. Through adoption of the recommendations I advance above, PECO (Electric) increases the number of touches with its Confirmed Low-Income customers, and does so in different, yet interdependent, circumstances. The recommendations involve PECO (Electric) telling its Confirmed Low-Income customers: (1) enrollment in CAP is an alternative to having your service disconnected for nonpayment; (2) enrollment in CAP is an alternative to entering into an unaffordable deferred payment arrangement; (3) enrollment in CAP is an alternative to entering the winter heating season without heating service; and (4) enrollment in CAP is an alternative

to continuing to carry arrears (with the costs and stresses that those arrears impose). The multiple touches through adoption of these four recommendations can reasonably be expected to increase CAP enrollment without need to adopt modifications to the Company's underlying universal service program. As I have discussed throughout my testimony, this improved enrollment not only benefits the low-income customers who choose to enroll in CAP, but will also benefit the Company and all remaining ratepayers by reducing costs and enhancing revenues.

G. Utilizing Speech Analytics to Identify Potential CAP Enrollees.

Q. PLEASE EXPLAIN YOUR SEVENTH RECOMMENDATION.

A. My final recommendation involves the use of technology by PECO (Electric) to help the Company's customer service representatives to identify low-income customers who might be eligible for enrollment in CAP. In particular, this technology could be used in particular to help identify customers who are low-income and facing payment difficulties.

Q. PLEASE EXPLAIN YOUR FOCUS ON IDENTIFYING LOW-INCOME CUSTOMERS HAVING PAYMENT DIFFICULTIES.

A. In its 2019 Order revising the CAP Policy Statement, the PUC discussed the role of payment-troubled status in enrolling low-income customers in CAP.[41] While the general consensus of the parties providing comments to the PUC was that payment-troubled status should not be an eligibility requirement for CAP,[42] the Commission was

[41] Penn PUC, Final Policy Statement and Order, Docket M-2019-3012599 (September 19, 2019).

[42] Id., at 42, 43 – 45 (Most EDCs and NGDCs do not currently require income-eligible households to be payment-troubled to qualify for their CAPs.)

encouraged to use payment-troubled status as a ***targeting*** criterion. Available technology can assist PECO (Electric) in fulfilling the goal of CAP to "maintain good payment habits" by identifying customers potentially eligible for CAP early in the process of responding to payment difficulties. By identifying these customers early in the process, not only will PECO (Electric) best serve its low-income customer base, but it will also maximize the use of CAP to help control the costs of nonpayment that I have discussed throughout my testimony (e.g., collection costs, uncollectibles, working capital, and the like).

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Q. WHAT "TECHNOLOGY" WOULD ASSIST PECO (ELECTRIC) TO IDENTIFY LOW-INCOME CUSTOMERS HAVING PAYMENT DIFFICULTIES?

A. One important technology which Pennsylvania utilities are adopting is the use of software using speech and linguistics analysis to identify the extent to which either in-house customer service representatives, or contracted call center personnel, are identifying customers contacting the companies with particular attributes or problems. The use of such speech and linguistic analytics can, in particular, assist the Company identify customers who are having payment difficulties and who are potentially low-income.

PECO (Electric) states that it currently uses speech analytics to improve its call center operations. It states: "The PECO Call Center employs a natural language processing analytics solution. The analytics solution allows us to better understand reasons for calls, identify opportunities to improve processes and identify customer service representative performance improvement opportunities. . .Both in-house and third-party contractor Care Center staff utilize the same analytics tool."[43] This software, however, is not currently used to identify customers having payment difficulties or customers who can reasonably be expected to be low-income. When PECO (Electric) was asked for the terms it searches for through use of its software, the Company responded: "See below for the terms searched for by PECO's third-party analytics software."

- "Newspaper", "News Channel", "News" and "Paper" – Evaluating if call volume has increased based on news publications;
- "Rate Change" and "Price Change" – Evaluating if changes in the price of the electrical service have negatively or positively impacted customer sentiment;
- "Can't Hear" – Evaluating potential audio and technical issues during a call;
- "System Upgrade", "System Change", "System Error" – Evaluating if changes or upgrades to PECO's Customer Information System is driving call volume changes.[44]

In addition, while not generating written reports based on such reviews, PECO (Electric) stated that its "Care Center analysts do review call samples with negative sentiment scores as measured by the third-party software."[45]

[43] OCA-III-025.

[44] OCA-III-026.

[45] OCA-III-027

Q. WOULD IT BE DIFFICULT FOR PECO (ELECTRIC) TO ADD OR MODIFY SEARCH TERMS IN ITS USE OF SPEECH ANALYTICS SOFTWARE?

A. No. According to the Company, the terms which it will search for through its speech analytics software are within the discretion of the Company's call center personnel. PECO (Electric) stated: "PECO's Call Center determines which terms and phrases to utilize in its ad-hoc searches by identifying and reviewing internal and external trends, including but not limited to, changes in practices, in service, in system functionality, and socioeconomic impacts within PECO's service territory."[46] Moreover, employing additional or modified terms would result in no cost to the Company. "Phrases, terms, or other speech patterns are not and have not been modified. The use of the software search engine is employed on an ad-hoc search basis only. . .Ad-hoc searches result in no additional costs or modification to the software."[47]

Q. HOW COULD SPEECH ANALYTICS SOFTWARE BE USED TO FACILITATE CAP ENROLLMENT AND THE IDENTIFICATION OF CONFIRMED LOW-INCOME CUSTOMERS?

A. PECO (Electric) currently uses its speech analytics software only "to improve customer satisfaction." It does so "by leveraging the built in AI sentiment analysis where each call ingested into the platform is assigned a sentiment score ranging from -20 to 20. On a weekly and monthly basis PECO reviews samples of calls with negative sentiment scores. These reviews are relayed to the PECO Call Center Customer Service

[46] OCA-III-028.

[47] OCA-III-029.

Representatives via coaching to reinforce current procedures and best practices while encouraging improvements, such as soft skills, to provide a better customer experience."[48]

Speech pattern analytics, however, could also be used by the Company to determine whether calls to the Company's call center are handled properly for purposes of identifying Confirmed Low-Income customers and customers who would benefit from enrollment in the Company's universal service programs. Terms, phrases and speech patterns associated with low-income status, payment difficulties, unaffordability, or seeking low-income assistance for energy or other life necessities (e.g., food, housing, medical care) could be identified such that the linguistics analysis software would search for them to identify universal service calls. Proper handling would include approving delays in collection activities pending applications for and approval of program enrollment; identification in the Company's information technology of Confirmed Low-Income customers; and extending available low-income protections.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that PECO (Electric) be directed to extend any future use of speech analytics software to assist with the quality monitoring of phone calls involving, or potentially involving, universal service programs and other low-income customer issues. The Company should be directed to involve its USAG in the identification and selection of Low-Income and Universal Service Terms to be detected by the system in order to confirm that phone calls are properly being identified and handled. Regular six-month

[48] OCA-III-030.

reports on the results of the Speech Analytics reviews should be provided to the Company's USAG.

Part 4. Modifications to the Residential Tariff and Practices of PECO (Electric).

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. In this section of my testimony, I identify certain aspects of PECO (Electric) residential tariffs and practices which need to be modified to bring them into compliance with PUC regulations. These modifications are not part of the Company's Universal Service and Energy Conservation Plan (USECP) and, even if they are, incorporation of these practices into the USECP would not ameliorate the need bring the tariff and practices into regulatory compliance.

Q. WHAT PROBLEM HAVE YOU IDENTIFIED?

A. The residential tariff of PECO (Electric) addresses from which customers the Company will require cash security deposits. The tariff (page 12) provides: "The Company may charge a security deposit before it will render service to an applicant or before the Company will continue to render service to a customer for whom the Company provides Consolidated EDC Billing or Separate EDC Billing. The Company may charge deposits to applicants and customers if they have bad credit, lack creditworthiness or as otherwise permitted by Commission statutes, rules, regulations, and as required by Federal Bankruptcy Law." PECO (Electric) goes on to state in its tariff that "The Company retains the right to charge customers additional deposits based upon continued bad credit or lack of creditworthiness and increased usage." PECO (Electric) finally states with respect to "applicants" that:

> The Company's credit and application procedures for applicants are as follows: (1) positive identification of applicant obtained from previous customer record or through one of the major credit reporting bureaus or through in-person identification; (2) determination of liability for a past due balance; (3) determination if a deposit is required based upon applicant's previous account history if available or through third party credit scoring of applicant. The Company's credit scoring methodology and standards are as follows: The Company uses a commercially recognized credit scoring methodology that is within the range of generally accepted industry practice. The applicant's or customer's utility payment history determines the credit score. The Company uses this customer-specific credit score to either request or waive a security deposit.

In explaining when a deposit will be returned or refunded to a customer, PECO (Electric) states:

> Deposits secured from a residential Customer shall be returned with accrued interest, in accordance with 66 Pa. C.S.§1404(C) and applicable Pennsylvania Public Utility Commission regulations. In cases of discontinuance of service, deposits will be returned with accrued interest upon payment of all service charges and guarantees or with deduction of unpaid accounts. . .The first annual review of the customer's payment status will occur 24 months after the initial deposit date. Any residential or commercial customer having secured the return of a deposit may be required to make another deposit, in accordance with Commission statutes, regulations, or Federal Bankruptcy Law, if the Customer demonstrates bad credit or lacks creditworthiness subsequent to the return of the initial deposit.

These tariff provisions, standing alone, carry with them an elevated risk of discriminatory results, even if unintentionally so. Under federal equal credit opportunity law, for example, it is unlawful to discriminate against a person in a credit transaction --the Equal Credit Opportunity Act (ECOA) makes clear a utility transaction is a "credit transaction" under the statute—based on the consumer's receipt of public assistance. To the extent that the PECO (Electric) "credit scoring methodology" considers whether a consumer is employed and, if so, for how long, that reliance on the lack of employment (or the lack of

long-term employment) may have the effect of discriminating against consumers who lack employment because they receive public assistance (one of the protected classes under ECOA).

In addition, any consideration of whether a consumer is a homeowner, as well as about whether a consumer is banked or unbanked, has a high probability of having racially disparate impacts. It will come as no surprise, for example, that the National Association of Realtors found that the homeownership gap for Blacks and Hispanics has grown even bigger in recent years.[49] So, does the question of whether a consumer has a bank account (credit card, loan or other credit reference) have distinct racial implications.[50]

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the PECO (Electric) Tariff be modified to add the following language: "The Company uses a commercially recognized credit scoring methodology that is within the range of generally accepted industry practice, *provided that the methodology does not directly, or have the effect of, discriminating based on a protected class as set forth in the federal Equal Credit Opportunity Act.*" (new language emphasized).

Q. IS THERE A SECOND PROBLEM YOU HAVE IDENTIFIED?

A. Yes. PECO (Electric) was to "provide a detailed description of all factors taken into consideration in deciding how, when or whether to schedule crews to perform service

[49] Meredith Dunn, et al. 2023). 2023 Snapshot of Race and Home Buying in America, National Association of Realtors.

[50] Fairness in Financial Service: Racism and Discrimination in Banking, Testimony of Lisa Rice, President and CEO of National Fair Housing Alliance, Before the Committee on Banking, Housing and Urban Affairs, U.S. Senate, December 1, 2022.

disconnections for nonpayment in a particular geographic area (however defined). Separately provide all procedures manuals or other written guidance discussing the extent to which, and the order in which, those factors are taken into account in scheduling crews performing nonpayment disconnections." The Company replied:

> Work is scheduled for crews performing service disconnections in the following manner:
>
> - Identify termination goal for shift date in question. (Termination targets are set annually to achieve certain levels of bad debt reduction so as to reduce the amount of money that other customers have to pay for those customers that do not pay.)
> - Identify how many terminations per Field Technician will be needed to achieve termination goal.
> - Consult the eligible job list developed by the Market Switch system, as described in the response to OCA-II-36, which consists of the accounts that have been reviewed and approved for termination:
> - Review eligible job list to assign work in most efficient manner, reducing drive time for each technician.
> - Review those routes to determine if there are accounts near the routes that are eligible for 72hr/48hr notifications; the Field Technicians will pivot to providing these required notices if/when the shift goal for terminations is reached.
> - Assign the routes to the Field Technicians; terminations are assigned first and then 72hr/48hr notifications.
>
> The number of jobs assigned per Field Technician varies based on the individual technician's abilities.[51]

[51] OCA-II-042 (attached as Exhibit RDC-2).

PECO concedes that two of the factors it considers in deciding whether to accelerate the disconnection of service include: (1) the level of arrears; and (2) the age of arrears.[52] The risk assessment tool used by PECO has never been presented to BCS for review, let alone to the Commission for review and approval.[53]

PECO places its customers into one of four risk classifications. The Company explains: "Residential customers are placed into one of four risk classifications depending on the presence of a combination of risk factors."[54] Risk Classifications include: (1) High Risk; (2) Medium/High Risk; (3) Medium/Low Risk; and (4) Low Risk.[55] While PECO (Electric) asserts a confidentiality protection for the "number of days difference in timing that a notice of disconnection of service for nonpayment is accelerated for customers deemed to be higher risk through application of various factors," the Company does publicly state that there *is* a difference.[56] As can be seen, PECO (Electric) states that the timing of a notice of disconnection "is accelerated for customers deemed to be higher risk. . ."

[52] OCA-II-038 (attached as Exhibit RDC-4). See also, OCA-II-036 (attached as Exhibit RDC-5). ("Cut out non-payment orders are generated in the customer billing system after all regulatory noticing is satisfied. The MarketSwitch system then uses the factors listed below to build a cut list, with the goal of optimizing the collection of accounts receivable (A/R) greater than 60 days past due. Optimization using A/R greater than 60 days past due is done because the likelihood of collection decreases as the A/R ages. The Field Collections vendor uses the MarketSwitch cut list to schedule disconnects.").

[53] OCA-II-041.

[54] OCA-II-039 (attached as Exhibit RDC-6).

[55] Id.

[56] OCA-II-040 (attached as Exhibit RDC-7).

Finally, while PECO (Electric) states that: "Geographic location is not considered when creating a list of eligible customers for collections, nor is geography a factor in the customer notice phase of collections," that is not entirely accurate. The Company goes on to state that "However, when scheduling disconnections, work is assigned to field crews based on the area they support each day, across all five counties. Work is then scheduled in each county based upon the number of accounts that are eligible to be disconnected for nonpayment as well as proximity to available technicians. See response to OCA-II-42.[57]

Q. SUMMARIZE WHAT THE ABOVE DISCUSSION DOCUMENTS WITH RESPECT TO PECO (ELECTRIC) NONPAYMENT SERVICE DISCONNECTIONS.

A. Let me review the impacts of the PECO (Electric) process when the process is viewed as an interconnected whole, rather than as a series of independent decisions. First, PECO (Electric) establishes a "termination goal" for each shift. To meet this goal, PECO (Electric) then identifies "how many terminations per Field Technician will be needed to achieve termination goal." One of the factors that is then explicitly considered in deciding how to reach this "termination goal" is the size of arrears. Another factor that is explicitly considered in deciding how to reach this "termination goal" is the "proximity" of potential disconnections to available technicians. That proximity is "based upon the number of accounts that are eligible to be disconnected for nonpayment. . ." The "number of accounts that are eligible to be disconnected" is based on the size and age of arrears.

[57] OCA-II-043 (attached as Exhibit RDC-8).

PECO (Electric) states that it has undertaken no study or survey that examines the demographic characteristics (e.g., race, ethnicity, income, age) of the Company's disconnections for nonpayment, payment-troubled customers, incidence of arrears, or level of arrears (amongst other things).[58] Nor has it considered the effectiveness of, disaggregated by race or ethnicity, the Company's notices or an impending disconnection for nonpayment, promotion of CPA enrollment, LIHEAP outreach, or the promotion of the negotiation of deferred payment arrangements as a response to arrears.[59]

Q. WHAT PROBLEM HAVE YOU IDENTIFIED?

A. The PECO (Electric) focus on the dollar and age of arrears will, by its very nature, tend to focus collection efforts on low-income customers. Consider that, as documented in Table 19, the average arrears of Confirmed Low-Income customers in 2021 was $1,679 as compared to the average arrears of residential customers as a whole ($688). In 2022, the average arrears of Confirmed Low-Income customers was $1,479 as compared to the average arrears of residential customers as a whole ($533). Moreover, PECO (Electric) data shows that while over the most recent 37 months for which data is available, an average of 56.1% of residential arrears were 60+ days old,[60] and 74.4% of the arrears of Confirmed Low-Income customers were 60+ days old.[61] In 31 of the 37 months, more

[58] OCA-III-32 (attached as Exhibit RDC-9).

[59] OCA-III-33 (attached as Exhibit RDC-10).

[60] OCA-II-032.

[61] OCA-II-033.

than 50% of the residential arrears were 60+ days old, with no month exceeding 67.2%.[62] In contrast, in 35 of the 37 months, more than 70% of Confirmed Low-Income arrears were 60+ days old, with no month being *less* than 68.5%.[63] Given the "termination goals" identified by PECO (Electric) each year, and the fact that those goals are set in part by the size and age of arrears, and by the "proximity" of potential disconnections to available technicians. . .based upon the number of accounts that are eligible to be disconnected for nonpayment. . .," it thus comes as no surprise that, again as set forth in Table 19, that the nonpayment disconnection rate for residential customers in 2021 was 5.3% (compared to the nonpayment disconnection rate for Confirmed Low-Income customers of 14.8%), while the nonpayment disconnection rate for residential customers in 2022 was 5.6% (compared to the nonpayment disconnection rate for Confirmed Low-Income customers was 18.7%.

Q. ARE THERE RACIAL IMPLICATIONS TO YOUR FINDINGS ABOVE?

A. Yes. On average, 21.2% of householders in the zip codes served by PECO (Electric) are Black or African-American owned. Of the 236 PECO (Electric) zip codes with matching Census data, 38 have a percentage of Black householders that equals or exceeds this 21.2% number. These 38 zip codes have 29.9% of the total number of householders in the PECO (Electric) service territory. In contrast, of the 237,997 residential nonpayment disconnections that PECO (Electric) performed in the months of January 2021 through January 2024 (37 months), 148,448 (62.4%) occurred in these 38 zip codes. At the same

[62] OCA-II-032.

[63] OCA-II-033.

time, 862,141 of the 1,606,949 nonpayment disconnection notices (53.7%) were issued in these 38 zip codes. Not only were these disproportionately Black zip codes receiving a disproportionate share of the disconnection notices, in other words, they were experiencing a disproportionate rate of disconnections. Indeed, while residential customers generally experienced roughly 14.8 disconnections for each 100 disconnection notices issued, customers in the disproportionately Black zip codes experienced 17.2 disconnections for each 100 disconnection notices issued.

Q. PLEASE EXPLAIN WHY THIS DATA AND INFORMATION IS RELEVANT IN THIS CASE?

A. This information is relevant to quality-of-service concerns and the provision of service on fair and equitable terms within the PECO (Electric) service territory. PECO (Electric) may not even be aware of this correlation, and I think it is important to shed light onto it to ensure that it can be remedied in the near term.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that PECO (Electric) conduct a root cause analysis[64] to determine what is driving this disproportionate level of utility disconnections within the zip codes with the highest penetration of Black households. Once this root cause analysis is conducted, PECO (Electric) should commit to taking steps to address the cause with the commitment of reducing disproportionate disconnections within these zip codes. The extent to which PECO (Electric) mitigates the disproportionate disconnection of service for nonpayment

[64] The proper conduct of a root cause analysis is further explained in the testimony of OCA witness DeMarco, OCA Statement 5.

in zip codes with high penetrations of Black households should be reviewed in the next PECO (Electric) base rate case.

I finally recommend that the PECO (Electric) risk analysis methodology, both that which underlies its disconnection of service and that which underlies its cash security deposits, be subject to a public review by BCS with an opportunity provided to stakeholders to assess whether those risk assessment methodologies have a direct or indirect discriminatory effect.

Q. HAVE YOU IDENTIFIED A FOURTH PROBLEM REGARDING PECO'S (ELECTRIC) TARIFF?

A. Yes. Specifically, the manner in which Rule 17.4, Billing and Payment Options, of PECO's (Electric) tariff interacts with Rule 16.7, Payment Terms, of PECO's (Gas) tariff – which pertain to how PECO prioritizes partial payments – creates significant issues for customers who receive both electric and gas service.

Q. PLEASE EXPLAIN WHY THIS POLICY CAN BE PROBLEMATIC.

A. In short, both PECO and PECO's customers benefit from the ease of having a single bill for combined gas and electric service, if the customer receives both. However, PECO (Electric) does not state in its tariff that customers may designate a partial payment towards their monthly PECO bill as being for gas or electric service if that payment would not cover the total amount of their bill. Instead, partial payments are applied first to past-due amounts, second to current charges, and third to non-basic services. [65]

[65] OCA-I-41.

Ultimately, this means that dual service customers can pay more than the full amount of their PECO (Electric) bill – including past-due amounts – and still have their electric service terminated if they are unable to pay their PECO (Gas) bill in full each month.[66]

Q. IF PECO DID NOT ADMINISTER A SINGLE BILL FOR COMBINED CUSTOMERS, WOULD THIS ISSUE EXIST?

A. No. For example, some PECO (Electric) customers receive gas service from Philadelphia Gas Works and not PECO (Gas). Customers who pay their PGW bill in full each month would not have their PGW service terminated if the customer fell behind in making their PECO (Electric) payments. It is primarily PECO customers who receive combined gas and electric service who are threatened with termination of both gas *and* electric service for nonpayment of gas *or* electric bills.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend that PECO (Electric) amend its tariff Rule 17.4, Payment Processing, to permit combined customers to designate all or part of their combined PECO bill payment be applied to electric service – including past due balances and current charges – before being applied to natural gas service, or vice versa. Permitting such prioritization would bring PECO (Electric) into line with other EDCs, which are not permitted to terminate customers for non-payment of natural gas bills.

This recommended tariff change would primarily benefit low-income customers and those at or below the ALICE thresholds who need the month-to-month flexibility to make

[66] OCA-I-40.

partial payments on the service they believe takes priority until they are able to pay their past-due balance. Due to the significant seasonal volatility of natural gas bills, a customer remitting a partial payment may need to apply that payment to the utility service which they believe is more essential in a given month. For example, if a combined customer uses PECO (Electric) service to heat their home and PECO (Gas) service for household appliances, that customer may wish to prioritize their PECO (Electric) payments during winter months to ensure that they are able to continue to heat their home, even if it means falling behind in their PECO (Gas) bill. PECO (Electric) customers may need to choose between continued gas or electric service if they cannot afford to make full payments for both; such a difficult choice should not come at the cost of both services.

Part 5. Proposed Residential Customer Charge.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. This section of my testimony addresses the PECO (Electric) proposed increase to its fixed, residential customer charge by 36%, from $10.50 to $14.30 per month.[67] The PECO (Electric) proposal will have a disproportionate, adverse impact on low-income customers. Particularly given the affordability issues I have discussed in detail above relating to the Company's low-income customers, this additional burden on these customers should not be approved.

As I discuss above with respect to the overall increase in rates, the offer of a percentage of income-based CAP by PECO (Electric) does not adequately protect low-income

[67] PECO(Electric) St. 7, at 7.

customers. Only a small fraction of the Company's low-income customers participates in the Company's CAP. As I explained above, six-of-ten of the Company's estimated number of low-income customers are not enrolled in CAP.

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 CAP will be passed through to other ratepayers on a dollar-for-dollar basis. While individual (percentage of income) CAP participants may be 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.

Q. DOES THE PECO (ELECTRIC) PROPOSAL TO INCREASE ITS RESIDENTIAL CUSTOMER CHARGE IMPOSE PARTICULAR HARMS ON LOW-INCOME CUSTOMERS?

A. Yes. The proposed 36% increase in its fixed monthly charge will have serious implications for the low-income customers of PECO (Electric). Increasing the fixed monthly customer charge increases the portion of a bill that a low-income customer cannot avoid by adjusting the customer's usage. The dollars of annual residential bills

that are comprised of unavoidable fixed charges clearly increase with the Company's proposed increase in the residential customer charge. As Table 15 documents below, the percentage of revenues derived from fixed charges increases from roughly nine percent of residential revenues to roughly 11%.

Table 15. Percentage of Residential Revenue from Fixed and Volumetric Rates (Existing Rates and Proposed Rates) (OCA-02-048, OCA-02-049)

	Existing Rates		Proposed Rates	
	% Residential Revenue from Fixed Charges	% Residential Revenue from Volumetric Charges	% Residential Revenue from Fixed Charges	% Residential Revenue from Volumetric Charges
2023	9.5%	90.5%	11.5%	88.5%
2024	9.1%	90.9%	10.4%	89.6%
2025	9.2%	90.8%	10.8%	89.2%
2026	9.3%	90.7%	10.6%	89.4%

This increase in the part of the total bill that is comprised of fixed charges impedes the ability of low-income customers to control their bills through a reduction in their usage.

Q. WHAT DO YOU MEAN WHEN YOU DISCUSS LOW-INCOME EFFORTS TO "REDUCE CONSUMPTION?

A. "Reducing consumption" is not merely associated with energy efficiency improvements. 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. Available research documents that low-income households also seek to reduce bills by reducing consumption, through 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. The National Energy Assistance Directors Association (NEADA) performs a periodic Congressionally-funded survey of the impacts of unaffordable home energy bills. The most recent survey, known as the National Energy Assistance (NEA) Survey, was performed in 2018 (published in December 2018).[68] Data on three actions which low-income households take to reduce their energy consumption when they do not have sufficient money to pay their utility bills is presented in the Table below.

Two observations are readily apparent from this data. First, taking dramatic actions to reduce home energy consumption is not at all uncommon within the low-income population when those customers do not have sufficient money to pay their home energy bills. From one-in-five (21%: 100 – 150% of Poverty) to one-in-three (34%: 0 – 50% of Poverty) customers close off parts of their home in almost every month, or in "some months," when they cannot afford to heat their homes. From one-in-four customers (26%: 0 – 50% of Poverty) reduce the temperature in their homes to unsafe or unhealthy levels in almost every month or in some months. One-in-ten (or more) low-income customers use their kitchen stove or oven to heat their homes when they have insufficient money to pay their utility bills. Second, the extent to which these actions occur increases as incomes decrease in nearly every instance. Households with incomes less than 50% of the FPL more frequently take these actions in almost every month or some months than do households with income at 100% to 150% of FPL.

[68] Apprise, Inc., 2018 National Energy Assistance Survey, Final Report, available at RESOURCE LIBRARY – Selected Reports – Energy Survey Research and Policy Analysis – APPRISE – Applied Public Policy Research Institute for Study and Evaluation

Table 16. Energy Reduction Actions in Response to Inability-to-Pay
by Range of Federal Poverty Level
(each attributed to "not having enough money to pay energy bill")[69]

	Closed Off Part of Home			Kept Temp at Unsafe or Unhealthy Level			Used Kitchen Stove or Oven to Heat		
	0-50%	51-100%	100-150%	0-50%	51-100%	100-150%	0-50%	51-100%	100-150%
Almost every month	10%	14%	7%	8%	3%	3%	1%	1%	1%
Some months	24%	13%	14%	18%	12%	10%	14%	11%	8%
1 – 2 months	12%	10%	11%	7%	8%	9%	22%	19%	14%
Never / No	54%	63%	67%	67%	76%	76%	63%	69%	77%
Don't know/refused	0%	0%	<1%	0%	1%	2%	0%	0%	1%

As this Table exemplifies, in their efforts to reduce bills to more affordable levels, low-income customers frequently take unsafe and unhealthy actions. It is unreasonable for PECO (Electric) to make it even more difficult for low-income households to reduce their bills when those households are already forced to resort to heating their homes (or only a portion of their homes) using their kitchen stove or oven. It is unreasonable to make it even more difficult for low-income households to reduce their bills when they are already being forced to keep their homes at unsafe or unhealthy temperatures because they cannot afford to pay their bills.

These households who are forced into engaging in these unsafe and unhealthy activities in their struggle to keep their home energy bills affordable are impeded in their efforts by the Company's proposal to increase its fixed monthly customer charge by 36%. The PECO (Electric) proposal makes a higher part of the customer's monthly bill unavoidable

[69] Apprise, Inc., 2018 National Energy Assistance Survey, Final Report, available at RESOURCE LIBRARY – Selected Reports – Energy Survey Research and Policy Analysis – APPRISE – Applied Public Policy Research Institute for Study and Evaluation

through reduced consumption. Those low-income customers taking such actions, in other words, will face a smaller bill reduction as a result of their action should the PECO (Electric) proposed increase in the fixed monthly customer charge be approved, potentially incentivizing more dangerous usage-reduction measures.

Q. TO WHAT EXTENT DO LOW-INCOME CUSTOMERS AND THOSE AT OR BELOW THE ALICE THRESHOLDS FACE AN INABILITY-TO-PAY?

A. In addition to my examination of energy burdens discussed above, I have also considered inability-to-pay by reference to Pennsylvania data report in the Census Bureau's most recent PULSE Household Survey. As of the time I write this testimony, the most recent PULSE Household Survey was for the time period ending April 1, 2024.[70] While the Census Bureau does not report data for specific utility service territories, it does provide state-specific information or Pennsylvania.

The Pennsylvania PULSE Survey data shows that one-of-three households (33.7%) with annual income less than $25,000 had a "very difficult" time paying for their usual household expenses "in the past seven days" (as of the time of the Survey). Three-of-five households (59.6%) at that income level had either a "very difficult" time or a "somewhat difficult" time paying their usual household expenses. As incomes increased, the difficulty in paying usual household expenses decreased, but nonetheless remained high. For households with annual income between $25,000 and $35,000, one-quarter (23.7%) had a "very difficult" time, but 55.6% had either a "very difficult" or a "somewhat difficult" time in paying their usual household expenses. It was not until annual incomes exceeded

[70] Available at https://www.census.gov/data/tables/2024/demo/hhp/cycle03.html

$35,000 that the percentage of households finding it "not at all difficult" or just "a little difficult" exceeded the percentage of households finding it "somewhat difficult" or "very difficult" to pay their usual household expenses.

Table 17. Difficulty Paying for Usual Household Expenses in Last 7 Days (Pennsylvania) (period ending April 1, 2024)

	Difficulty paying for usual household expenses in the last 7 days				
	Not at all difficult	A little difficult	Somewhat difficult	Very difficult	Total
Less than $25,000	21.1%	19.3%	25.9%	33.7%	100.0%
$25,000 - $34,999	14.7%	29.8%	31.7%	23.8%	100.0%
$35,000 - $49,999	25.6%	36.1%	21.5%	16.8%	100.0%
$50,000 - $74,999	37.1%	30.3%	20.0%	12.5%	100.0%
$75,000 - $99,999	39.7%	28.6%	14.5%	17.2%	100.0%
$100,000 - $149,999	45.1%	36.7%	12.0%	6.2%	100.0%
$150,000 - $199,999	68.8%	21.2%	4.1%	5.9%	100.0%
$200,000 and above	74.0%	14.6%	6.8%	1.7%	97.2%[71]

Given this PULSE Household Survey data, it is unreasonable to make it even more difficult for the residential customers of PECO (Electric) to be able to reduce their monthly utility bills by reducing their consumption.

Q. CAN YOU PLACE THE PROPOSED INCREASE IN THE PECO (ELECTRIC) RESIDENTIAL CUSTOMER CHARGE INTO SOME CONTEXT RELATING TO ITS IMPACT ON LOW-INCOME CUSTOMERS?

A. Yes. PECO (Electric) serves an estimated 373,243 low-income customers in its customer base. An increase in the residential monthly customer charge from $10.50 to $14.28

[71] Total does not equal 100% because some respondents did not report.

($3.78 per month), therefore, imposes an increased financial burden on these customers of $45.36 per year. The low-income customer base, therefore would be charged an additional $16.938 million each year in unavoidable charges (373,423 * 45.36 = $16,938,467). Remember, this is *not* the total customer charge, but rather is *only* the *increase* in the customer charge. To place this dollar figure in context, PECO (Electric) customers received $11.2 million in LIHEAP cash grants in the 2020-2021 program year, $16.3 million in the 2022-2023 program year, and $12.4 million in LIHEAP cash grants in the 2023 – 2024 program year to date (through April). (OCA-02-34).[72]

[72] Comparisons should not be made to the 2021 – 2022 LIHEAP program years. In those years, federal LIHEAP appropriations were significantly increased in response to the economic crisis associated with the COVID-19 health pandemic. For example, one White House announcement stated:

> Pennsylvania has received a record $480.5 million for the Low Income Home Energy Assistance Program (LIHEAP) available this fiscal year (October 2021 to September 2022). As part of a state-by-state breakdown of funding, the Administration reported that in addition to an annual appropriation of $182.8 million for Pennsylvania, the state received an additional $297.7 million in funds from the American Rescue Plan – *more than double the state's typical annual funding*. The total of $480.5 million *is the highest amount Pennsylvania has ever received in LIHEAP* to help families struggling with the costs of home heating.

(emphasis added), available at LIHEAP-pennsylvania.pdf (whitehouse.gov). According to a White House announcement, the American Rescue Plan more than doubled LIHEAP funding nationally. It noted that "This is the largest appropriation in a single year since the program was established in 1981." (Id.)

Table 18. LIHEAP Cash Grants Received by PECO (Electric) Customers (OCA-II-34)	
Program Year	Cash
2020-2021	$11,198,032
2021-2022	$25,219,217
2022-2023	$16,267,734
2023-2024 (YTD)	$12,430,763

The increase in the unavoidable charges that would be imposed on low-income PECO (Electric) customers due to the proposed increase in the residential customer charge, in other words, would have represented 43% of the ***total*** LIHEAP cash funding available for basic cash grants in 2020-2021, and 29.8% of the total LIHEAP cash grants in 2022-2023. The increase in the unavoidable charges would represent 38.9% of the LIHEAP cash grants received by low-income customers of PECO (Electric) thus far in Program Year 2024 (through April 2024).[73] In the 2023 – 2024 program year, in other words, for every $1 in LIHEAP funding that is being provided to the low-income customers of PECO (Electric), the Company proposes to take nearly $0.40 away from those low-income customers in the form of an increased, unavoidable fixed monthly customer charge.

[73] Low-income customers would have received additional LIHEAP Crisis and Supplemental funding. This funding, however, is not generally used to pay bills for current service, but rather used to help retire arrears which lead to the loss, or threatened loss, of service due to nonpayment disconnections.

Q. DO YOU HAVE REASON TO BELIEVE THE IMPACT WOULD BE EVEN GREATER THAN YOU DISCUSS ABOVE?

A. Yes. PECO (Gas) and PECO (Electric) provided identical dollar figures for the amount of LIHEAP benefits received by their customers. This leads me to believe that these LIHEAP benefits were not devoted exclusively to electric accounts. The percentage of LIHEAP benefits effectively taken from electric accounts would thus be substantially higher. If the PECO (Gas) and PECO (Electric) customer charge increases are summed, PECO is taking from 135% to nearly 200% of the LIHEAP benefits over the last four years simply through the increase in the customer charges.

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 when viewed as a whole. In large 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 associated with the fixed monthly customer charge.

Q. DO INCREASES TO THE FIXED MONTHLY CUSTOMER CHARGE PROPOSED BY PECO (ELECTRIC) ALSO IMPEDE USING LOW-INCOME ENERGY EFFICIENCY TO REDUCE OVERALL BILL INCREASES?

A. Yes. The types of barriers to low-income investments in energy efficiency are precisely the types of barriers that are made even more problematic by an increase in the fixed monthly customer charge. In assessing these barriers to low-income energy efficiency

investments, I matched the zip codes which PECO (Electric) listed as comprising its service territory[74] to Census data for the same zip codes. This data analysis demonstrates that:

- The PECO (Electric) zip codes have high penetrations of low-income and very low-income households.[75] At these income levels, PECO (Electric) customers have insufficient discretionary funds to invest in energy efficiency, even if such investments would be cost-effective in the short- or medium-term. The extent of low-income households in the PECO (Electric) service territory was discussed in detail above. The increase in fixed monthly customer charges makes it more difficult for investments to be cost-effective, making the lack of discretionary investment income an even greater impediment.
- The PECO (Electric) zip codes reveal high mobility within the low-income population. Mobility is primarily measured by the percentage of households that have changed residences within the past year.[76] Frequent mobility makes it more difficult for low-income households to invest in energy efficiency. A low-income household will not make an energy efficiency investment that has a three-year payback if that household does not expect to live in its home for three years.
- PECO (Electric) zip codes have an extremely high prevalence of low-income households with high and extremely high shelter burdens.[77] High burdens are shelter burdens that exceed 30% of income. Extremely high burdens are shelter burdens that exceed 50% of income. Data for the PECO (Electric) service territory demonstrates that as household incomes decrease, the prevalence of high shelter burdens, and extremely high shelter burdens, dramatically increase. High shelter burdens make it difficult for low-income households to invest in energy efficiency. A low-income household that is struggling to pay its underlying housing costs does not have the discretionary income to invest in usage reduction measures, even if that investment might

[74] OCA-II-03.

[75] The number of households by income are provided in Table B19001 of the American Community Survey (5-year data). The population by Poverty Level is provided in ACS Table C17002 (5-year).

[76] American Community Survey, 5-year, 2020, Table B07010.

[77] American Community Survey, 5-year, 2020, Table B25074.

be cost-effective. Since, by definition, fixed monthly customer charges cannot be reduced by reducing consumption, increasing the fixed monthly customer charge by 36% makes it less likely that energy efficiency investments would be cost-effective in a time period that would allow low-income households to recover their investment in a resource-constrained environment.

Q. HAVE YOU BEEN ABLE TO REVIEW THE HARMS THAT ARISE FOR LOW-INCOME CUSTOMERS AS A RESULT OF THEIR INABILITY TO RESPOND TO BILL UNAFFORDABILITY BY REDUCING BILLS THROUGH REDUCED USAGE?

A. Yes. I have examined various indicators of bill payment difficulties for low-income customers as compared to residential customers as a whole. The data is presented in the Table below. Overall, the payment patterns of PECO (Electric) Confirmed Low-Income customers are consistently worse than the payment patterns of the Company's residential customers as a whole. The average arrearage level for Confirmed Low-Income customers is consistently substantially higher than the average arrearage level for residential customers as a whole. The disconnection rate is three or more times higher. The write-off ratio is two or more times higher. As can be seen, the very customers for whom the Company is making it more difficult to respond to an inability-to-pay are those customers that have the greatest payment difficulties.

Table 19. PECO (Electric) Collections: Residential vs. Confirmed Low-Income (2021 – 2022)

	Residential		Confirmed Low-Income	
	2021	2022	2021	2022
Average arrears	$688	$533	$1,679	$1,479
Nonpayment disconnection rate	5.3%	5.6%	14.8%	18.7%
Write-off ratio	1.5%	1.5%	3.3%	5.0%

As I have previously noted, not only are more low-income customers (than residential customers) behind on their bills, but those that are behind, are further behind than residential customers generally.

Q. DO THESE PAYMENT DIFFICULTIES COST LOW-INCOME CUSTOMERS ADDITIONAL MONEY IN INCREASED BILLS?

A. Yes. When low-income customers have an inability to pay their bills in a full and timely fashion, as is documented above, the Company's response is to increase those unpaid bills even further. The Company imposes a late payment charge of 1.5% a month on the full, unpaid balance. This monthly fee is an annualized fee of 19.56% per year.

Q. WHAT DO YOU CONCLUDE?

A. I recommend that the residential customer charge determined by OCA witness Clarence Johnson be approved, as set forth in OCA Statement 3.

Part 6. The PECO (Electric) Request to Increase its Equity Return for "Superior" Management Performance.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. Company witness Moul states that his return on equity includes a provision of 0.15% in recognition of "exemplary" performance. That is to say that Mr. Moul's recommended 10.95% return on equity is composed of an 10.80% cost of equity determined from the results of his proxy group analysis and 0.15% in recognition of the "exemplary" performance of the Company's management.[78] Mr. Moul states that he adds his fifteen basis points or 0.15% "for recognition of the Company's strong management performance"[79] and that that increase to the equity return it to allow PECO (Electric) to "receive recognition of the significant accomplishments that management has achieved."[80]

Based on my review of the PECO (Electric) management actions below, and their impacts, I conclude that no increase in the Company's equity return is warranted. I focus my attention on the universal service and credit and collection attributes of PECO (Electric) operations.

[78] PECO (Electric) St. 5, at 2.

[79] Id., at 51.

[80] Id., at 52.

Q. DOES PECO (ELECTRIC) EXERCISE SUPERIOR MANAGEMENT WITH RESPECT TO ITS UNIVERSAL SERVICE PROGRAMS?

A. No. I have explained above, in detail, many of the management problems that PECO (Electric) exhibits with respect to its universal service programs:

1. PECO (Electric) has enrolled fewer than 40% of its estimated low-income customers in its CAP.

2. In 2021, PECO (Electric) disconnected service for nonpayment to more than one out of every seven (14.8%) Confirmed Low-Income customers, while in 2022, it disconnected nearly one-of-five Confirmed Low-Income customers (18.7%).

3. In the most recent 36 months for which data is available, PECO (Electric) entered into 189,564 payment arrangements with customers with income at or below 150% FPL, but had less than one-half of those arrangements (76,725 or 40.5%) successfully completed.

Based on this data, I find that rather than enrolling its customers which the Company has a reasonable basis to believe to be low-income, PECO (Electric) continues to resort to collection efforts directed toward its non-CAP Confirmed Low-Income customers even when those collection efforts have been proven to be ineffective. I find that these collection efforts are ineffective based on the collections outcomes set forth in Table 6, Table 7, Table 8, and Table 13.

Q. HAS PECO (ELECTRIC) TAKEN EFFORTS TO DETERMINE CUSTOMER SATISFACTION WITH HOW IT OFFERS ITS UNIVERSAL SERVICE PROGRAMS AND PROVIDES FOR ENROLLMENT?

A. No. Given the statutory mandate that universal service programs are to be designed to be programs that "help low-income customers maintain [utility]. . .service," the failure of PECO (Electric) to enroll seven-of-ten of its estimated low-income customers into its CAP, its primary universal service program, while continuing to pursue ineffective

collection activities, would seem to call-out for PECO (Electric) to determine how it might engage in more extensive, more effective, activities to identify its Confirmed Low-Income customers and to enroll those customers into the Company's CAP. However, it does not.

Q. DOES PECO (ELECTRIC) UNDERTAKE EFFORTS TO DETERMINE CUSTOMER SATISFACTION WITH ASSISTANCE THE COMPANY PROVIDES TO CUSTOMERS WHO WOULD BENEFIT FROM ENROLLMENT IN CAP OR OTHER UNIVERSAL SERVICE PROGRAMS?

A. No. Despite the low enrollment of its estimated low-income population in CAP, and the extent to which PECO (Electric) directs its ineffective collection actions toward customers it has a reasonable belief to be low-income, PECO (Electric) takes no action to understand how its customers view the actions of the Company with respect to enrolling in CAP. When asked to provide all point-of-contact surveys with customers who had contact with the Company to negotiate a payment plan, respond to a shutoff notice, or to attempt to enroll in CAP, the Company indicated that pursued no such surveys. The Company was asked which of its customer satisfaction surveys were directed specifically to customers who contacted PECO (Electric): (1) to negotiate a deferred payment arrangement; (2) in response to a notice of a nonpayment service disconnection; (3) regarding an inability-to-pay an outstanding bill; (4) to enroll in CAP; (5) seeking usage reduction assistance; or (6) seeking assistance in identifying and/or applying for assistance to help pay a bill. The Company could provide no such information. In response to this question, PECO (Electric) explicitly stated that: "PECO does not perform 'point of contact' surveys directed specifically to customers as identified in" the list of

situations above.[81] PECO continued to state that its "point of contact" surveys are directed to broad-based groups of customers including: "groups which include Credit and Collections, Billing, Trouble/Reliability and Safety and Customer Choice, Connect/Disconnect and Miscellaneous. Additionally, PECO collects responses for PECO Call Center Transaction Survey, by groups which include Power Outage, Billing, Turn on/Turn off, Credit and Other."[82]

Despite the ineffectiveness of its actions, both to enroll customers in CAP and to pursue collection activities directed toward low-income customers, PECO (Electric) does not know where, or how, it is falling short because it does not seek out such knowledge.

Q. HOW DO YOU RESPOND TO THE TESTIMONY OF PECO (ELECTRIC) REGARDING THE USE OF TECHNOLOGY TO IMPROVE THE CUSTOMER EXPERIENCE?

A. PECO (Electric) witness LeVine argues in her Direct Testimony that:

> A primary area of our capital investment relating to customer operations covers the design, development, implementation, lifecycle upgrades and replacements, and security of customer facing systems, as well as the development and implementation of web tools, such as outage tools and mobile app technologies, so customers can easily access PECO customer systems and information through multiple channels. These are individual projects that help the Company create and improve the technology PECO customers use to. . .enroll in assistance programs. . .[83]

[81] OCA-III-14.

[82] OCA-III-15.

[83] PECO (Electric) St. 1, at 12.

This testimony overstates the extent to which the "capital investment relating to customer operations" in fact includes "individual projects that help the Company create and improve the technology PECO customers use to enroll in assistance programs." When asked what "improved technology" was now available that was not available on or before January 1, 2020, PECO (Electric) could provide no examples.[84] The "assistance programs" referenced by Ms. LeVine include CAP, LIHEAP and the Company's Low-Income Usage Reduction Program (LIURP).[85] Even if such "improved technology" had, in fact existed, however, PECO (Electric) has not increased its LIURP budget. Accordingly, improving access to LIURP would not increase the number of customers who can be served through that program. With none of the three programs identified by PECO (Electric), could the Company identify improved enrollments. Even though Ms. LeVine references "the technology PECO customers use to. . .enroll in assistance programs," she conceded that "The Assistance Finder Tool. . .does not enable enrollment into the 'assistance programs.''[86] None of the "improved technology" referenced by Ms. LeVine is used to help identify "Confirmed Low-Income" customers, PECO (Electric) states, since "being identified as 'Confirmed Low-Income" does not automatically enroll customers in assistance programs."[87] This failure to identify a customer as a Confirmed Low-Income customer occurs despite the fact that being such a customer entitles the

[84] OCA-VIII-6.

[85] OCA-VIII-7.

[86] OCA-VIII-9.

[87] OCA-VIII-8.

customer to a variety of benefits limited to low-income customers (e.g., longer payment arrangements, waived deposits, cold weather shutoff protections).

Q. PLEASE RESPOND TO MS. LEVINE'S RELIANCE ON THE "CUSTOMER FLIGHT PATH" AS A MECHANISM TO "HELP PROMOTE AND IMPROVE AFFORDABILITY."

A. PECO (Electric) witness LeVine further asserts in her testimony that the Company is "also investing in Customer Flight Path (CFP) projects. . .The projects consist of enhancing digital self-service options and offering personalized solutions that. . .help promote and maintain affordability."[88] When asked for each individual CFP project that has been implemented to date, and each CFP project proposed for the next three years, that will "help promote and improve affordability," PECO (Electric) could not provide any. The most PECO (Electric) could say is that it "continues to look for and incorporate opportunities to help promote and improve affordability through technological enhancements and will incorporate such enhancements into the future CFP as appropriate."[89] Moreover, as with the Assistance Finder, PECO (Electric) concedes that "the CFP projects do not include a mechanism that would facilitate a customer providing sufficient information to be identified as confirmed low-income."[90]

In particular, PECO (Electric) has made no "customer orientated enhancements to its mobile application and its website" to make it easier for a PECO (Electric) customer to

[88] PECO (Electric) St. 1, at 14.

[89] OCA-VIII-10.

[90] OCA-VIII-11.

enroll in CAP; enroll in cold weather protections; be identified as a Confirmed Low-Income customer; or to obtain a refund of a cash security deposit by demonstrating the customers low-income status.[91]

The scope of the "Assistance Finder" referenced by Ms. Hamilton has similar limitations. Ms. Hamilton stated that the "Assistance Finder" will "aid customers with determining their eligibility to participate in energy assistance, financial, or energy efficiency programs."[92] She later concedes, however, that "the use of the phrase 'determining their eligibility to participate' does not incorporate actual enrollment."[93] PECO (Electric) further conceded that the Assistance Finder "connects customers with program options but does not facilitate actual enrollment."[94]

Not even the PECO (Electric) "customer orientated enhancements to its mobile application and its website helps low-income customers enroll in any of the Company's low-income programs and protections, including enrolling in CAP, being identified as Confirmed Low-Income, obtaining cold weather protections, or demonstrating low-income status to merit the return of, or exemption from, cash security deposits.[95]

[91] OCA-VIII-15, OCA-VIII-16, and OCA-VIII-19.

[92] OCA-VIII-25.

[93] OCA-VIII-16.

[94] OCA-VIII-18.

[95] OCA-VIII-15.

Q. OUTSIDE OF THE TECHNOLOGICAL SHORTCOMINGS, DOES PECO (ELECTRIC) PROVIDE OTHER EXPLICIT NOTICE OF LOW-INCOME PROGRAMS?

A. No. PECO (Electric) was asked to provide a copy of all "stand-alone written communications informing Confirmed Low-Income customers of their right to enroll in the Company's Customer Assistance Program, including an explanation of the program's arrearage forgiveness provisions: (1) subsequent to the issuance of a nonpayment disconnection notice but prior to the disconnection of service; (2) subsequent to a customer's request to negotiate a payment arrangement for arrears but prior to entering into a payment arrangement; or (3) subsequent to the contact with the customer for purposes of completing the Commission's Cold Weather Survey but prior to the beginning of the winter heating season. The Company responded that "PECO does not provide stand-alone written communications informing Confirmed Low-Income customers of their right to enroll in the Company's Customer Assistance Program (CAP) within the timeframes identified. . ."[96]

At the same time this inaction is occurring on the part of PECO (Electric), as I document above, the Company continues to enroll fewer than 3-of-10 of its estimated low-income customers in CAP.

[96] OCA-VIII-1.

Q. DOES PECO (ELECTRIC) EXERCISE SUPERIOR MANAGEMENT WITH RESPECT TO ITS CREDIT AND COLLECTION ACTIVITIES?

A. No. In addition to its less-than-superior performance on universal service issues, PECO (Electric) does not exhibit superior performance with respect to credit and collection aspects of the Company's operations either. Since 2017, for example, the average residential arrears for PECO (Electric) has nearly doubled, from $271.63 (2017) to $532.99 (96% increase). The Company's average arrears for its Confirmed Low-Income customers has followed a similar pattern, nearly tripling, from $493.45 in 2017 to $1,479.30 in 2022.

Q. WHAT DO YOU CONCLUDE BASED ON THE ABOVE DATA?

A. For all of the reasons I discuss above, I find that PECO (Electric) does not exhibit a level of "superior management" that would justify an increase in the Company's allowed return on equity. I find that the recommendation of OCA witness David Garrett (OCA Statement 2) regarding an appropriate return on equity be adopted.

Part 7. Changes in CAP Cost Bad Debt Offsets.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the proposal of PECO (Electric) to reduce the CAP adjustment reflecting a bad debt and working capital offset. Company witness Golden asserts that the 27% offset should be modified to 10.5%.[97] This maintains the offset of 5.0% which she asserts is to reflect working capital changes and reduces the bad

[97] PECO (Electric) St. 10, at 6.

debt offset of 22% to 5.5% which she asserts is to reflect bad debt.[98] Ms. Golden explicitly states that "The Company is not proposing to change the 5% USFC offset factor applied to working capital requirements in this case."[99] The Company's proposed modification to the offset should be rejected.

Q. PLEASE EXPLAIN WHY THE PROPOSED MODIFICATION TO THE CAP OFFSET SHOULD BE REJECTED?

A. The proposed modification to the CAP offset is unreasonable for the following reasons. First, the modification which PECO (Electric) proposes does not reasonably reflect historic experience (and, accordingly, would not reasonably reflect future performance). According to Ms. Golden, her recommended modification is based on a three-year average (using the years 2021-2022-2023) as her base.[100] In that three-year average, however, is the atypical year of 2021. Several factors in 2021 would artificially reduce the CAP uncollectibles which would, in turn, artificially reduce the CAP offset on a forward-looking basis. Even Ms. Golden's data shows that the 2021 CAP net write-off rate was only 3.0% in 2021, bringing the 3-year average dramatically downward (the 2022 and 2023 ratios were 8.7% and 8.2% respectively). On the one hand, due to restrictions imposed by the PUC, the disconnection rate for Confirmed Low-Income customers in 2021 was more than 20% lower than it was in 2023. The disconnection rate,

[98] Id., at 6 – 7.

[99] Id., at fn.7, page 6.

[100] Id., at 7.

where PECO (Electric) terminates service to customers substantially in arrears, would exact a downward impact on write-offs.

Second, aside from terminations, the PUC's Bureau of Consumer Services, in its most recent annual report on Universal Service Programs and Collections Performance, devoted considerable space to why readers should not consider 2021 to be typical in any sense. The BCS stated in relevant part:

> The EDC and NGDC data presented in this report cannot be adequately analyzed without first acknowledging the impact of the COVID-19 pandemic in 2020 and 2021. The unprecedented challenges presented by the global pandemic resulted in operational adjustments at the public utilities, which may have influenced collections and universal service metrics reported by utilities from 2020 through 2022 compared to previous years. It is recommended that readers of this report also refer to the 2019 and 2021 Universal Service Programs & Collections Reports as a companion to this report for additional context. Please see Appendix 4 for instructions on accessing previous reports.
>
> To address public health and safety concerns, on March 6, 2020, Governor Tom Wolf issued a Proclamation of Disaster Emergency in response to the COVID-19 pandemic (*Emergency Proclamation*). The *Emergency Order* also encouraged utilities to reconnect previously terminated service if such action could be done safely. On March 13, 2020, Chairman Gladys Brown Dutrieuille issued an *Emergency Order* which prohibited jurisdictional utilities from terminating service for the duration of the *Emergency Proclamation* unless termination of service was necessary to ameliorate a safety emergency or unless otherwise determined by the PUC.
>
> * * *
>
> Collections and universal service metrics were impacted in 2020 and 2021 due to the direct and indirect effects of the COVID-19 pandemic and efforts to address the public health crisis. This includes EDCs and NGDCs conducting fewer terminations and reconnections in 2020 compared to previous years. EDCs and NGDCs also helped customers obtain or maintain assistance during the pandemic by temporarily waiving documentation requirements and expanding income eligibility for some universal service

> programs, which may have increased program participation compared to prior years. The COVID-19 pandemic may have impacted other 2020 and 2021 collections and universal service programs performance metrics as well, such as payment arrangements, customer arrears and jobs performed in LIURP. Finally, additional assistance monies made available through direct stimulus payments and new funding for existing and temporary programs (*e.g.*, LIHEAP, the *Emergency Rental Assistance Program*, and the *Homeowners Assistance Fund*) via the *American Rescue Plan Act of 2021* may have increased the amount of payment assistance and decreased the number of payment arrangements and arrears of confirmed low-income customers for public utilities in 2021 and 2022.

The length of this discussion by BCS is important unto itself. The BCS warning not to use 2021 as a basis for decision-making was not a passing comment. Particularly given this extensive discussion of how and why 2021 was not typical, it would be inappropriate for PECO (Electric) to base its future rates using the very year about which BCS was talking.

Third, as alluded to by BCS, and discussed in more detail above, 2021 was atypical in the degree of federal financial assistance that was available to PECO's low-income customers. As I discussed above, PECO customers received $11.2 million in LIHEAP assistance in the 2020-2021 program year, $25.2 million in the 2021-2022 program year, and $16.3 million in the 2022-2023 program year. As I noted above, Pennsylvania received historically high amounts of LIHEAP funding in the 2021-2022 LIHEAP program year.[101] To base future rates on a year where the customer population for which

[101] In those years, federal LIHEAP appropriations were significantly increased in response to the economic crisis associated with the COVID-19 health pandemic. For example, one White House announcement stated:

> Pennsylvania has received a record $480.5 million for the Low Income Home Energy Assistance Program (LIHEAP) available this fiscal year (October 2021 to September 2022). As part of a state-by-state breakdown of funding, the Administration reported that in addition to an annual appropriation of $182.8 million for Pennsylvania, the state received an additional $297.7 million in funds from the American Rescue Plan – ***more***

uncollectibles are being calculated received historically high amounts of federal assistance is unreasonable.

Q. DO YOU HAVE ANY FINAL OBSERVATION ABOUT WHY THE PECO (ELECTRIC) MODIFICATION TO THE CAP OFFSET SHOULD BE REJECTED?

A. Yes. As I noted above, Ms. Golden concedes in her testimony that her proposed modification would reduce the bad debt component of the offset while leaving the working capital component of the offset untouched. It would be unreasonable for PECO (Electric) to be allowed to change one component of the offset in isolation. PECO (Electric) offers no justification for splitting the offset into two parts and addressing only one of the parts. As witness Bolden observed, the CAP offset, when originally adopted, was part of a settlement agreement. As such, it was the result of a series of negotiated compromises. Just as the settlement agreement, on its face, said it was an indivisible whole, the CAP offset was also an indivisible whole. PECO (Electric) has offered absolutely no basis to take that individual whole, divide it, and modify only one aspect of it.

than double the state's typical annual funding. The total of $480.5 million *is the highest amount Pennsylvania has ever received in LIHEAP* to help families struggling with the costs of home heating.

(emphasis added), available at LIHEAP-pennsylvania.pdf (whitehouse.gov) According to a White House announcement, the American Rescue Plan more than doubled LIHEAP funding nationally. It noted that "This is the largest appropriation in a single year since the program was established in 1981." (Id.)

Q. IS THERE ADDITIONAL REASON TO BELIEVE THAT LEAVING THE WORKING CAPITAL OFFSET CONSTANT WHILE CHANGING ONLY THE BAD DEBT COMPONENT IS INAPPROPRIATE?

A. Yes. The working capital needs created by Confirmed Low-Income customers, as with any working capital, are driven by two factors: (1) the level of arrears, and (2) the age of arrears. The three-year arrears used to establish the original working capital offset – based on residential arrears since Confirmed Low-Income arrears were not tracked at the time the settlement was negotiated—should be compared to the three-year arrears for the same three years which PECO (Electric) used in its bad debt discussion (2021 – 2023). As can be seen in making that comparison, the level of Confirmed Low-Income arrears, which would underlie the total offset, has more than quadrupled since the original settlement was adopted. If PECO's bad debt modification is adopted, therefore, it should also adopt the corresponding change in the working capital adjustment. That additional modification would increase the total working capital offset from 5% to more than 20%. Even if one adopted the PECO (Electric) modification to the bad debt component, in other words, which for all the reasons stated above would be inappropriate and unreasonable, the total working capital offset would be 20.85%, yielding a total offset of 26.85% (rounded to 27%, the same as exists today).

Even this, however, would *under*state what the offset should become. When the *level* of arrears quadruples over the course of time, the *age* of arrears will have increased as well. As I indicated above, the level of working capital is driven by both the level of arrears and the age of arrears. The new working capital offset of 21.85% considers only the

working capital associated with the increase of arrears. To that extent, the offset is understated.

Q. DO YOU FIND ANY FINAL FUNDAMENTAL FLAW IN THE PECO (ELECTRIC) REASONING TO ADJUST ITS CAP OFFSET?

A. Yes. PECO witness Golden offers a flawed justification for adjusting the CAP offset with which to begin. Ms. Golden testified that "In light of the increase in value of CAP bill credits provided under the Company's PIPP, PECO has evaluated its recent uncollectible trends for CAP and all residential non-CAP customers to assess the remaining potential improvement in charge-offs."[102] This argument, however, turns the offset on its head. As CAP participation increases, and bills are made more affordable, it should be *expected* that overall write-offs would decline. To assert that the savings must be smaller because the overall write-offs are smaller does not acknowledge that result.

Indeed, if anything, PECO (Electric) data shows that the savings being generated to PECO (Electric) have been *increasing*. As I discussed above, from 2021 to 2022 (the last year for which data has been reported), the average Confirmed Low-Income arrears increased from $1,146 to $1,479. The nonpayment disconnection rate for Confirmed Low-Income customers increased from 14.8% to 18.7%. However, the CAP payment percentage *for those same years* increased from 85.3% to 87.0%.[103] PECO (Electric) has certainly not established that the savings being generated through CAP have been declining.

[102] PECO St. 10, at 6.

[103] 2022 BCS Report, at 66.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the PECO (Electric) proposed modification to the CAP offset be denied. However, in the event that the PECO (Electric) bad debt modification is adopted, the corresponding modification to the working capital offset should be adopted as well. If that is done, there would be no net change in the CAP offset from that which currently exists.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes, it does.

Exhibit RDC-1: Summary Vitae

Roger Colton
Fisher, Sheehan & Colton
Public Finance and General Economics
Belmont, MA

* *

Education:

J.D. (Phi Kappa Phi, 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 forty (40) 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	17. Tennessee	33. Montana
2. New Hampshire	18. Kentucky	34. Colorado
3. Vermont	19. Ohio	35. New Mexico
4. Massachusetts	20. Indiana	36. Arizona
5. Rhode Island	21. Michigan	37. Utah
6. Connecticut	22. Wisconsin	38. Idaho
7. New Jersey	23. Illinois	39. Nevada
8. Maryland	24. Minnesota	40. Washington
9. Pennsylvania	25. Iowa	41. Oregon
10. Washington D.C.	26. Missouri	42. California
11. Virginia	27. Kansas	43. Hawaii
12. North Carolina	28. Louisiana	**Canadian Provinces**
13. South Carolina	29. Arkansas	1. Nova Scotia
14. Florida (Federal Court)	30. Texas (Federal Court)	2. Ontario
15. Alabama	31. South Dakota	3. Manitoba
16. Mississippi	32. North Dakota	4. British Columbia

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PECO Energy Company – Electric Division

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

Response Date: April 29, 2024

OCA-II-42

Please provide a detailed description of all factors taken into consideration in deciding how, when or whether to schedule crews to perform service disconnections for nonpayment in a particular geographic area (however defined). Separately provide all procedures manuals or other written guidance discussing the extent to which, and the order in which, those factors are taken into account in scheduling crews performing nonpayment disconnections.

RESPONSE:

Work is scheduled for crews performing service disconnections in the following manner:

- Identify termination goal for shift date in question. (Termination targets are set annually to achieve certain levels of bad debt reduction so as to reduce the amount of money that other customers have to pay for those customers that do not pay.)

- Identify how many terminations per Field Technician will be needed to achieve termination goal.

- Consult the eligible job list developed by the Market Switch system, as described in the response to OCA-II-36, which consists of the accounts that have been reviewed and approved for termination:

    - Review eligible job list to assign work in most efficient manner, reducing drive time for each technician.

- Review those routes to determine if there are accounts near the routes that are eligible for 72hr/48hr notifications; the Field Technicians will pivot to providing these required notices if/when the shift goal for terminations is reached

- Assign the routes to the Field Technicians; terminations are assigned first and then 72hr/48hr notifications.

The number of jobs assigned per Field Technician varies based on the individual technician's abilities.

Responsible Witness: Jacqueline F. Golden

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

Response Date: April 29, 2024

OCA-II-35

Please identify and describe all factors that are considered in scheduling the actual disconnection of service for nonpayment to a residential customer.

RESPONSE:

See response to OCA-II-42.

Responsible Witness: Jacqueline F. Golden

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

Response Date: April 29, 2024

OCA-II-36

Please provide a complete description of all risk assessment procedures that are used to determine whether and/or when to schedule a disconnection of service to a residential customer for nonpayment.

RESPONSE:

Cut out non-payment orders are generated in the customer billing system after all regulatory noticing is satisfied. The MarketSwitch system then uses the factors listed below to build a cut list, with the goal of optimizing the collection of accounts receivable (A/R) greater than 60 days past due. Optimization using A/R greater than 60 days past due is done because the likelihood of collection decreases as the A/R ages. The Field Collections vendor uses the MarketSwitch cut list to schedule disconnects.

MarketSwitch uses the following factors for risk assessment:

Account Balance
Monthly Bill Amount
Probability of Cut Success
Percentage of Balance Paid (if cut)
Percentage of Balance Paid (if not cut)

Probability of Account Finaling (if cut)
Probability of Account Finaling (if not cut)

Responsible Witness: Jacqueline F. Golden

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Response of PECO Energy Company
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OCA Set II

Response Date: April 29, 2024

OCA-II-41

If the company uses a risk assessment tool of any nature in deciding whether and/or when to schedule a disconnection of service for nonpayment, please provide:

a. The docket number of any proceeding in which that tool was presented for review by the PUC.
b. Any filing with the Bureau of Consumer Services in which that tool was presented for review;
c. All comments from the Bureau of Consumer Services relating to that tool.

RESPONSE:

a. There is no docket number in which the tool was presented for review by the PUC.
b. There have been no filings with the Bureau of Consumer Services (BCS) in which the tool was presented for review.
c. See response to OCA-II-41(b).

Responsible Witness: Jacqueline F. Golden

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

Response Date: April 29, 2024

OCA-II-39

Please identify whether there is more than one risk classification (e.g., high, moderate, low) into which a residential customer may be placed depending on the presence of, or combination of, risk factors identified above.

RESPONSE:

Residential customers are placed into one of four risk classifications depending on the presence of a combination of risk factors.

Risk Classifications:

- High Risk
- Medium/High Risk
- Medium/Low
- Low Risk

Responsible Witness: Jacqueline F. Golden

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

Response Date: April 29, 2024

OCA-II-40

For the high risk classification, or for each risk classification if more than one, please identify the difference in timing (measured in days or other units of time) that an involuntary disconnection of service for nonpayment is scheduled if a customer is deemed to be of higher risk through application of one or more of the factors identified above.

RESPONSE:

Eight different factors, identified in Confidential Attachment OCA-II-40(a.2), are used in calculating a risk score, and each factor has a range of impact and weighting on the risk score.

The table in Confidential Attachment OCA-II-40(a.1) shows the number of days difference in timing that a notice of disconnection of service for nonpayment is accelerated for customers deemed to be higher risk through application of various factors.

THE CONFIDENTIAL ATTACHMENTS TO THIS RESPONSE ARE BEING PROVIDED ONLY SUBJECT TO THE EXECUTION OF A SUITABLE STIPULATED PROTECTIVE AGREEMENT WITH THE RECIPIENT PENDING THE ISSUANCE OF A PROTECTIVE ORDER IN THIS CASE. PECO WILL PROVIDE A STIPULATED PROTECTIVE AGREEMENT DEEMED SUITABLE TO THE COMPANY FOR

EXECUTION, WHICH IS SIMILAR TO THE STIPULATED PROTECTIVE AGREEMENT EMPLOYED IN PECO'S PRIOR BASE RATE CASE.

Responsible Witness: Jacqueline F. Golden

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

Response Date: April 29, 2024

OCA-II-43

Please provide a detailed explanation of the extent to which efficiencies in performing service disconnections for nonpayment are considered in scheduling nonpayment disconnections when concentrations of disconnections can be treated, or when the proximity of one disconnection to another exists.

RESPONSE:

Geographic location is not considered when creating a list of eligible customers for collections, nor is geography a factor in the customer notice phase of collections. However, when scheduling disconnections, work is assigned to field crews based on the area they support each day, across all five counties. Work is then scheduled in each county based upon the number of accounts that are eligible to be disconnected for nonpayment as well as proximity to available technicians. See response to OCA-II-42.

Responsible Witness: Jacqueline F. Golden

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

Response Date: April 29, 2024

OCA-III-32

Please provide a copy of the most recent study or survey, if any, undertaken by the Company examining the demographic characteristics (e.g., race, ethnicity, income, age) of the Company's:

a. Disconnections for nonpayment;
b. Payment-troubled customers;
c. Enrollment in Customer Assistance Program (CAPs);
d. Confirmed Low-Income customers;
e. Incidence of arrears;
f. Level of arrears;
g. Customers with and without cash security deposits;
h. Customers with and without deferred payment arrangements;
i. Customers contacted by the Cold Weather Survey.

If no such studies or surveys exist, please so indicate.

RESPONSE:

PECO has not undertaken any studies or surveys that examine the demographic characteristics in subparts a-i.

Responsible Witness: Jacqueline F. Golden

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

Response Date: April 29, 2024

OCA-III-33

Please provide a copy of the most recent study or survey, if any, of the impacts on, or effectiveness of, disaggregated by race and/or ethnicity, of the Company's residential:

a. Notices of an impending disconnections for nonpayment;
b. CAP outreach;
c. Promotion of budget billing enrollment;
d. LIHEAP outreach;
e. Response to the annual Cold Weather Survey;
f. Promotion of negotiation of deferred payment arrangement in response to arrears.

RESPONSE:

PECO has not conducted any studies or surveys that examine the impacts on, or effectiveness of, disaggregated by race and/or ethnicity, the Company's actions as described in subparts a-f.

Responsible Witness: Jacqueline F. Golden

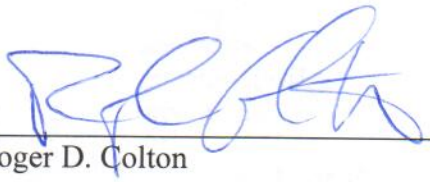
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 4, 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 17, 2024

Signature: 

Roger D. Colton

Address: Fisher Sheehan & Colton
34 Warwick Road
Belmont, MA 02478

THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

Surrebuttal Testimony of Roger Colton

on behalf of

Pennsylvania Office of Consumer Advocate

OCA Statement 4SR

Date Served: August 2, 2024

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, Massachusetts.

Q. ARE YOU THE SAME ROGER COLTON WHO PREVIOUSLY PREPARED DIRECT TESITMONY 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, In my surrebuttal testimony, I will respond to the Rebuttal Testimony of PECO (Electric) rebuttal witnesses Michael Trzaska (PECO Electric St. 3-R), Joseph Bisti (PECO Electric St. 7-R), and Jacqueline Golden (PECO Electric St. 10-R). My responses to the Rebuttal Testimony of Nicole Levine (PECO Electric St. 1-R) is contained within my response to these three other witnesses. My failure to respond to any specific testimony of witness Levine is not an agreement with that testimony, but rather an indication that it would be duplicative of my response to the other two witnesses.

Part 1. Response to PECO Electric Rebuttal Witness Michael Trzaska.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR SURREBUTTAL TESTIMONY.

A. In this part of my Surrebuttal Testimony, I respond to the Rebuttal Testimony of PECO Electric rebuttal witness Michael Trzaska regarding whether the Company should be allowed to reduce the level of the CAP offset used to prevent the double recovery of CAP costs.

Q. WHAT RESPONSE DO YOU HAVE TO THE REBUTTAL TESTIMONY OF PECO ELECTRIC WITNESS TRAZSKA REGARDING PECO'S PROPOSED REDUCTION TO THE PECO CAP OFFSET?

A. Witness Trzaska offers additional argument about why he believes that the CAP offset amount should be adjusted to a lesser amount. In reviewing his proposed reduction, it should be remembered that the issue is whether PECO has supported a different offset, specifically keeping the Cash Working Capital (CWC) component at 5% and reducing the bad debt component from 22% to 5.5%. PECO has not supported that proposal, for all the reasons discussed in OCA Statement 4. Further, Trzaska's claim that he is using the OCA's method is wrong.

Witness Trzaska argues that the proposed adjustment recommended by PECO Electric is based on the methodology used by the Office of Consumer Advocate (OCA) in the 2008 PECO Electric rate case.[1] The result of the 2008 PECO Electric rate proceeding, however, was achieved by Settlement. As PECO, itself, said in its Statement of Support of that Settlement, "a settlement is the result of compromises by all parties. PECO believes that a fair and reasonable compromise has been achieved in this case."[2] The OCA's position on the appropriate CAP offset was one of the elements of that proceeding which was subject to compromise. OCA's recommended offset was not adopted in full in that proceeding.

[1] PECO Electric St. 3-R, at 26.

[2] PECO Statement in Support of Settlement, at 11 – 12.

Q. IS MR. TRZASKA'S REPRESENTATION THAT HE USES THE SAME METHODOLOGY EMPLOYED BY OCA IN 2008 CORRECT?

A. No. Setting aside for the moment the fact that the ultimate resolution of the 2008 rate proceeding was a result of a series of compromises leading to a Settlement, the representation by Mr. Trzaska that he proposes to use the same methodology in this proceeding that was used by the OCA in the 2008 proceeding is in error. For example, Mr. Trzaska concedes in his Rebuttal Testimony that "it is true that the dollar amount of PECO's residential arrears have increased by 49% since 2008. . ."[3] While conceding that the level of arrears have increased by *49%*, Mr. Trzaska then asserts in this proceeding, without explanation, that the *age* of arrears in his calculation in this proceeding is *lower* than that used by OCA In 2008. Moreover, Witness Trzaska makes a host of changes to the OCA methodology which he does not even identify, let alone justify, as being appropriate. For example:

- He changes the use of gross write-offs to net write-offs;
- He changes the use of Confirmed Low-Income arrears to CAP arrears;
- He changes the "days remaining until charge-off";
- He changes the weighted return;
- He changes the rate at which the return is grossed up for taxes.

In addition to changes in the methodology, Mr. Trzaska changes the sources of data he uses in ways that he did not identify, let alone explain or justify. The 2008 OCA methodology was based on data publicly reported by the PUC's Bureau of Consumer Services. Mr. Trzaska does not use the corresponding BCS data for his calculation. In short, simply

[3] Id., at 26.

because Mr. Trzaska says he uses the same methodology as employed by OCA in 2008 does not make that so. Instead, Mr. Trzaska uses a methodology that does not reflect that which was used in 2008. And even if it were the same, the ultimate resolution of that case was a Settlement involving compromises in each party's position, including the number that was ultimately adopted as a CAP offset.

Part 2. Response to PECO Electric Rebuttal Witness Joseph Bisti.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR SURREBUTTAL TESTIMONY.

A. In this section of my Surrebuttal Testimony, I respond to the Rebuttal Testimony of Joseph Bisti as it relates to low-income customers.

Q. WHAT IS THE FIRST ISSUE MR. BISTI ADDRESSES TO WHICH YOU WISH TO RESPOND?

A. Mr. Bisti claims that an increased customer charge will not have a material adverse impact on low-income customers.[4] In support of this claim, Mr. Bisti included a table which compares residential bills at 2023 monthly average usage under PECO and OCA's proposed residential rates. However, on its face, the table is misleading for several reasons. First, "average" monthly usage is not particularly informative when examining electric distribution rates due to the significant seasonal impact of weather on rates. The "average" used by Mr. Bisti, in other words, masks the adverse impacts on low-income customers in two ways. First, it masks the seasonal differences. The Table below presents the mean (i.e., average) bill for non-CAP Confirmed Low-Income customers by

[4] PECO Electric St. 7-R at 10.

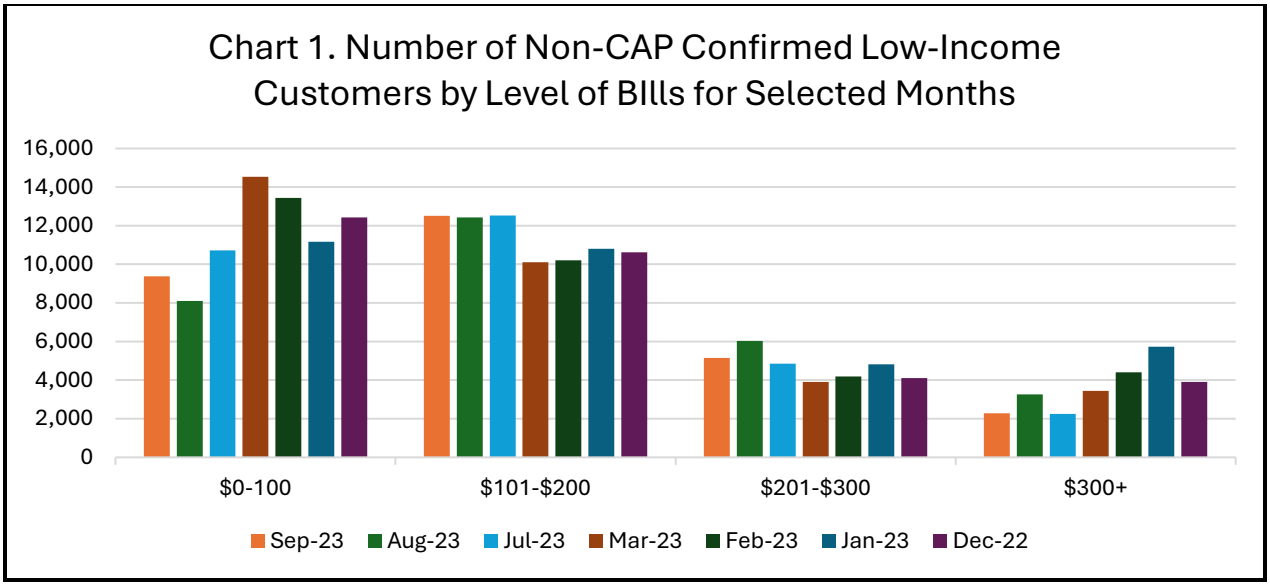
month. The adverse impact of an increased customer charge in the months where bills are $80 to $90 are much higher than the adverse impacts in higher usage months.

Table 1. Mean Bill by Month: Confirmed low-income (w/o CAP)
(OCA-II-09)

Month	**2024**	**2023**	**2022**	**2021**
January	$120	$136	$120	
February		$118	$118	$103
March		$109	$99	$93
April		$99	$89	$77
May		$88	$80	$73
June		$94	$102	$91
July		$129	$128	$120
August		$150	$154	$123
September		$136	$141	$122
October		$94	$94	$85
November		$89	$87	$78
December		$109	$121	$100

In addition, using the "average" masks the particular adverse impacts on these low-usage low-income customers even in the higher usage months, whether those months are heating months or cooling months. The Chart below shows the number of customers for the months of December 2022 through March 2023, and for the months of July 2023 through September 2023, at different billing levels.[5] The data shows the number of customers, even during the winter heating season, that depend on lower usage levels to achieve an affordable bill.

[5] OCA-II-13. PECO (electric) provided data for February 2022 through January 2024. The period of December 2022 through March 2023, therefore, is the one complete heating season of data available.



Finally, the table provided by Mr. Bisti does not show the portion of a customer's bill which is comprised of the customer charge. Table 16 of my Direct Testimony shows that the portion of PECO Electric's revenue which will come from fixed charges will increase as proposed. It demonstrates that customers will be able to control a lower portion of their bill.

Q. PLEASE RESPOND TO WITNESS BISTI'S TESTIMONY REGARDING YOUR FINDING THAT AN INCREASED CUSTOMER CHARGE IMPAIRS CUSTOMERS' ENERGY EFFICIENCY EFFORTS?

A. Due to the substantial barriers low-income customers face to energy efficiency measures, as described above and in my Direct Testimony,[6] it is important to clarify that an increased customer charge reduces incentives and rewards for pursuing energy efficiency measures. It is axiomatic that lessening the control a customer has over their bill impairs the effectiveness of usage reduction measures because the proportion of a customer's bill

[6] OCA St. 4 at 81-82.

decreased through reduced usage is smaller. In other words, an increased customer charge represents an unavoidable increase, whereas increased volumetric charges are, to a certain extent, reducible. For customers already struggling to invest in energy efficiency measures, the increased, unavoidable portion of a customer's bill may make the difference between whether an investment is cost-effective or not, particularly given the unique factors affecting a low-income customer's cost-effectiveness calculus.

In addition, I presented evidence in my Direct Testimony which supports that low-income customers, when struggling to afford their heating bills, will turn to unsafe measures in order to reduce their energy consumption, such as keeping their home at unsafe or unhealthy temperatures or heating their home using an oven or stove.[7] Under PECO Electric's proposal, those customers who need the ability to control their bills the most, will face a smaller bill reduction than at present rates, which could incentivize more dangerous usage-reduction measures.

I would also note that OCA witness Johnson's testimony, both Direct and Surrebuttal, provides a discussion regarding the impact of the customer charge on efficiency efforts.

Q. PLEASE RESPOND TO WITNESS BISTI'S TESTIMONY REGARDING YOUR COMPARISON OF LIHEAP FUNDING TO THE INCREASED CUSTOMER CHARGE?

A. Despite Mr. Bisti's contention that the comparison of the increase in unavoidable customer charges to Low-Income Home Energy Assistance Program (LIHEAP) grant funding is irrelevant, it was included in my Direct Testimony to contextualize the

[7] OCA St. 4 at 76.

significant impact increased customer charges have on low-income customers and the resources that they bring to bear to allow them to pay their bills.[8] While I agree that PECO is not involved in the establishment of LIHEAP funding levels, it is still necessary to consider the impact that an increase in an unavoidable, fixed monthly charge has on the ability of customers to afford their monthly bills. As I stated on page 79 of my Direct Testimony "for every $1 in LIHEAP funding that is being provided to the low-income customers of PECO (Electric), the Company proposes to take nearly $0.40 away from those low-income customers in the form of an increased unavoidable fixed monthly customer charge." This example is not an observation about PECO's ability (or inability) to influence the amount of LIHEAP funding, but a demonstration of the impact increased customer charges have on the financial impacts of customer bills – something about which PECO does have control – given LIHEAP funding availability.

Part 3. Response to PECO Electric Rebuttal Witness Jaqueline Golden.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR SURREBUTTAL TESTIMONY.

A. In this section of my Surrebuttal Testimony, I respond to the Rebuttal Testimony of Jaqueline Golden as it relates to low-income customers.

[8] PECO Electric St. 7-R at 12.

Q. WHAT IS THE FIRST ISSUE MS. GOLDEN ADDRESSES TO WHICH YOU WISH TO RESPOND?

A. PECO Electric rebuttal witness Golden makes the conclusory statement that PECO Electric has "provided extensive support for PECO's exemplary management performance."[9] She substantially overstates the impacts of PECO Electric management:

- She argues that "PECO incorporated the updated energy burdens in the CAP Policy Statement and then converted the structure of its CAP to a PIPP in December 2022."[10] But, utilities were *directed* to adopt the "updated energy burdens." The Commission order stated, "each utility CAP payment plan should be designed to ensure a household's total CAP bill – including any add-ons such as PPA co-payments or CAP Plus charges – will not exceed the Commission's energy burden threshold." Even the footnote directed that "For utilities that do not have a PIP-based payment plan, system safeguards should be established to ensure the customer's calculated payment does not exceed the maximum energy burden."[11]

- She argues that "PECO is focused on outreach to customers who are in need of financial support. . ."[12] Nonetheless, PECO Electric has enrolled fewer than 40% of its estimated low-income customer population into CAP.

- She argues that "it is not our objective to terminate customers for nonpayment."[13] Nonetheless, the termination rate for PECO Electric customers is 3.5 times higher for Confirmed Low-Income customers than it is for residential customers.

- She argued that "PECO provided 78,000 payment agreements in 2023."[14] Nonetheless, she does not dispute that for 2021 to the current month to date in

[9] PECO Electric St. 10-R, at 26.

[10] Id.

[11] Amendments to Policy Statement on Customer Assistance Program, 52 Pa. Code § 69.261–69.26, Docket M-2019-3012599, Fina1 Policy Statement and Order, at 31.

[12] PECO Electric St. 10-R, at 26 – 27.

[13] Id., at 27.

[14] Id.

2024, the number of Confirmed Low-Income customers who were "payment-troubled" (i.e., had defaulted on one or more payment plans in a 12-month period) exceeded the average number of Confirmed Low-Income customers who entered into payment plans.

- She argues that "PECO's credit and collection activities are focused on reducing arrears."[15] Nonetheless, the average Confirmed Low-Income arrears had ballooned to nearly $2,000 in 2023.

- She argues that PECO Electric "is succeeding at ensuring that our low-income customers have sufficient assistance. . ."[16] Nonetheless, PECO Electric disconnected service for nonpayment to 6,245 Confirmed Low-Income customers in 2021 through 2023.

- Finally, she argues that "the Company is utilizing technology to assist customers in connecting with assistance programs."[17] Yet, as I explained, and Ms. Golden does not seek to rebut, the Company's claims that it is using technology to help customers "connect" with assistance programs is grossly exaggerated at best.[18]

Q. PLEASE RESPOND TO WITNESS GOLDEN'S TESTIMONY RESPONDING TO YOUR FINDING THAT PECO'S NONPAYMENT SERVICE DISCONNECTIONS DISPROPORTIONATELY AFFECT HOUSEHOLDS OF COLOR?

A. Ms. Golden does not seek to rebut the fact that the nonpayment service disconnections of PECO Electric disproportionately affect neighborhoods of color. The most she says is to advance the conclusory claims that "PECO does not target specific zip codes or classes of customers,"[19] that "PECO does not target specific zip codes or classes of individuals," and that "PECO does not know, nor does it track, customers by demographics such as

[15] Id.

[16] Id., at 27.

[17] Id., at 28.

[18] OCA St. 4, at 87 – 90.

[19] PECO Electric St. 10R, at 27.

race or ethnicity for purposes of disconnection."[20] She states that "PECO's termination procedures, credit scoring, and other processes are applied equally to all customers. . ."[21] Her protestations are eerily similar to the observation of the philosopher Anatole France, who once observed: "The law, in its majestic equality, forbids the rich as well as the poor to sleep under bridges, to beg in the streets, and to steal bread."

Even if what Ms. Golden asserts is true, she simply does not come to grips with the impacts of the policies and practices of PECO Electric. She does not dispute the fact that 38 zip codes have a higher than average percentage of Black residents. Moreover, she does not dispute my findings that:

> These 38 zip codes have 29.9% of the total number of householders in the PECO (Electric) service territory. In contrast, of the 237,997 residential nonpayment disconnections that PECO (Electric) performed in the months of January 2021 through January 2024 (37 months), 148,448 (62.4%) occurred in these 38 zip codes. At the same time, 862,141 of the 1,606,949 nonpayment disconnection notices (53.7%) were issued in these 38 zip codes. Not only were these disproportionately Black zip codes receiving a disproportionate share of the disconnection notices, in other words, they were experiencing a disproportionate rate of disconnections.[22]

It is one thing for PECO Electric to assert that it did not know or realize that its credit and collection policies and practices are having a disproportionate, adverse effect on persons of color. It is, however, quite another thing to learn of the impact and then choose to ignore it as Mr. Golden suggests. Ms. Golden does not explain why PECO Electric is

[20] Id., at 32.

[21] Id., at 27.

[2222] OCA St. 4, at 67 – 68.

unwilling to undertake a "root cause" analysis of *why* the Company undertakes such a disproportionately higher number and greater rate of nonpayment disconnections within the zip codes with the highest proportion of Black households. It should be directed to do so, to address how to remedy the causes, and to allow a review of its analysis and response in the Company's next base rate proceeding.

Q. PLEASE RESPOND TO MS. GOLDEN'S REBUTTAL TESTIMONY REGARDING THE ABILITY OF CUSTOMERS TO PRIORITIZE THEIR PAYMENTS BETWEEN NATURAL GAS AND ELECTRIC SERVICE.

A. Ms. Golden's rebuttal testimony does not directly respond to my Direct Testimony saying that residential customers should be permitted to avoid the disconnection of either electricity or natural gas service by allocating their payment to pay the bill for that service in its entirety even if the bill for the other service is not paid in full. All that Ms. Golden says in response is that "PECO provides customers who receive electric and gas service with a total bill for their utility service, not one for gas and one for electric. There is no basis for permitting customers to 'prefer' one service over another, and a customer in arrears is at risk for termination of both services."[23] There is, however, substantial basis to allow a customer to retain one service even if the customer is unable to pay for both services. Nonpayment disconnections are intended to be a response of last resort. Particularly for low-income customers, Pennsylvania statutes have adopted the principle that utilities have an obligation to adopt programs and practice that help customers retain their service. Allowing PECO to disconnect service for *both* electricity *and* natural gas even though the customer has made a payment sufficient to fully cover one of those

[23] PECO Electric St. 10-R, at 29.

services is inconsistent with both of these principles. The choices which are presented would be of particular benefit to low-income customers, who might be unable to pay seasonally high bills for either natural gas or for electricity.

Moreover, PECO's refusal to allow payments to be allocated to preserve at least one service takes decision-making authority away from providers of crisis funding. A LIHEAP crisis agency may well want to provide a crisis grant, which grants are available year-round, to retire an unpaid electric bill before the summer months in order to allow a low-income customer to access life-saving cooling service, even if the natural gas bill remains unpaid. PECO's practice of requiring both services to be paid would force that crisis agency to pay for past-due winter heating bills in order to obtain electricity. In the alternative, PECO's practices of refusing to allow for the allocation of payments would have the effect of taking a portion of a crisis (or some other type of hardship grant) that is intended to help a customer gain access to critical cooling needs to be used for another purpose entirely.

PECO should not be allowed to rely on its own use of the word "prefer" when the issue really addresses ability-to-pay. I reiterate that PECO (Electric's) Tariff Rule 17.4 should be modified to permit customers of both PECO (electric) and PECO (gas) to prioritize their payments between natural gas and electric distribution services, so customers may determine how much of their PECO payment will be allocated to PECO (electric) or PECO (gas). All other payment prioritization policies of PECO remain unaffected. However, if a customer affirmatively indicates an intent to allocate sufficient payment that would satisfy the full amount of either bill, PECO will not terminate the utility

service that has been paid in full notwithstanding any amount that is owed for the other service.

Q. DO YOU HAVE ANY RESPONSE TO THE REBUTTAL TESTIMONY OF PECO ELECTRIC REBUTTAL TESTIMONY OF WITNESS GOLDEN WHICH ADDRESSES CUSTOMER OUTREACH?

A. Yes. Despite enrolling less than 40% of its estimated low-income customers in CAP, while disconnecting service for nonpayment to nearly 20% of all Confirmed Low-Income customers (with an average arrears at the time of disconnection nearly $2,000), enrolling Confirmed Low-Income customers in payment arrangements more than half of which result in defaults, Ms. Golden opposes any further outreach tied into the Company's credit and collection processes. She argues that:

- There is no need to make personal contact with Confirmed Low-Income customers prior to a nonpayment disconnection to offer the opportunity to apply for CAP and the associated arrearage forgiveness. She states that "PECO's existing termination noticing process already provides customers with appropriate information about the availability of assistance programs. . ."[24] Aside from the thousands of Confirmed Low-Income customers which PECO Electric disconnects each year, as I discuss above, Ms. Golden's response is at odds with the Commission's July decision in the Pennsylvania American Water Company rate proceeding, in which the Commission said: "PAWC should make personal contact with any confirmed low-income customer facing termination of service for nonpayment, and these customers should be informed of and given the opportunity to enroll in the BDP and the AMP as an alternative to disconnection."[25]

- There is no need to provide a stand-alone notice to Confirmed Low-Income customers when they are offered a payment arrangement for arrears. She

[24] PECO Electric St. 10-R, at 11.

[25] Pennsylvania Public Utility Commission v. Pennsylvania American Water Company., Docket R-2023-3043189, Opinion and Order, at 353 (July 11, 2024).

argues that confirmed low-income customers "routinely receive information about CAP, regardless of their unpaid balances. . ." She cites *annual* phone calls in May and U.S. mailings in October to confirmed and unconfirmed low-income non-CAP customers regardless of whether they have an unpaid balance. . ."[26] These non-transaction-based notices do not serve the function that a stand-alone notice at the time a payment arrangement is being offered. Again, its PAWC rate decision, the Commission agreed. "[W]e believe PAWC should develop call scripting and checklists for its CSRs to assist in screening customers for eligibility and refer low-income customers to available assistance programs, including BDP and the Hardship Fund, before placing customers on a payment arrangement."[27] In reaching this decision, the Commission specifically cited, amongst other statutory sections, Section 1303 of the Pennsylvania Utility Code.[28]

Q. DOES WITNESS GOLDEN OPPOSE ANY REVISION IN THE COMPANY'S TARIFF REGARDING WHEN A CUSTOMER IS EXEMPT FROM BEING REQUIRED TO POST A CASH SECURITY DEPOSIT?

A. Yes. PECO Electric witness Golden opposes any change to the practices and procedures as well as the tariff language, of when PECO Electric will exempt customers from posting a cash security deposit. She does not address the ways in which the PECO Electric practices and procedures are in conflict with the statute and corresponding PUC regulation. Instead, she states simply that "customers who are *verified* LMI ≤ 250% of FPL are excluded from being assessed a deposit."[29] For all the reasons I outlined in my Direct Testimony, the Company's insistence that *only* customers who have had their incomes "verified" in the manner required by PECO Electric is, at best, in noncompliance

[26] PECO Electric St. 10-R, at 14.

[27] PAWC Opinion and order, supra, at 353.

[28] Id., citing 66 Pa.C.S. §§ 1303.

[29] PECO Electric St. 10-R, at 14 (emphasis added).

with the statute and regulation which provides that a customer is exempt from cash security deposit requirements "when *the customer provides income documents or other information* that he or she is eligible for state benefits based upon household income eligibility requirements that are consistent with those of the public utility's customer assistance program."[30] (emphasis added). There is no requirement in the regulation requiring customer information to be "verified" by a third party and requiring such "verification" places unauthorized limits on the exemption. PECO Electric should be directed to modify its practices and procedures, and to modify its tariff, so as to be in compliance with the clear language of the regulation.

Q. DO YOU HAVE ANY RESPONSE TO MS. GOLDEN'S REBUTTAL TESTIMONY WHICH OPPOSES PECO'S DEFINITION OF "CONFIRMED LOW-INCOME CUSTOMER" TO CONFORM TO PUC REGULATIONS?

A. Yes. Ms. Golden testifies that PECO Electric disagrees that its definition of "confirmed low-income" is inconsistent with the PUC's definition of "confirmed low-income" in the Commission's regulation. She states that "PECO defines 'confirmed low-income' as customers who, in the last two years, have provided verified financial information (i.e., proof of income documentation) at or below 150% of FPL, and/or enrolled in CAP, and/or received a LIHEAP grant."[31] She asserts that "utilities are not required to accept self-certification without additional documentation."[32] She offers no further explanation

[30] 56 Pa. Code § 56.41(4).

[31] PECO Electric St. 10-R, at54.

[32] Id., at 5.

of that conclusory statement. It would seem, however, that Ms. Golden's statement is substantially inconsistent with the clear and unambiguous language of the PUC regulation providing that the information establishing "confirmed low-income" status "may include receipt of LIHEAP funds (Low-Income Home Energy Assistance Program), *self-certification by the customer*, income source or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination).[33] The use of the term "or" at the end of that regulation would indicate that each element in the regulation is preceded by an "or." The information establishing "confirmed low-income" status includes receipt of LIHEAP funds, *or* self-certification by the customer, *or* income source, *or* information obtained in § 56.97(b) (relating to procedures upon ratepayer or occupant contact prior to termination). It is not within the discretion of PECO Electric to limit the list provided by the PUC. If PECO Electric believes that any element of that list is not reasonable, its remedy is to ask the Commission to amend the regulation, not to ignore the clear terms of the regulation.

Q. DO YOU HAVE ANY FINAL RESPONSE TO MS. GOLDEN'S REBUTTAL TESTIMONY?

A. Yes. In response to my Direct Testimony regarding the affordability of PECO's rates at present and under the proposed rate increase, Ms. Golden provided Rebuttal Testimony stating that PECO's Consumer Education and Outreach Plan is "robust."[34] First, Ms. Golden's testimony is not responsive to the concerns raised in my Direct Testimony. Second, while education and outreach is an important part of a utility's support for its

[33] 52 Pa. Code § 62.2.

[34] PECO Electric St. 10-R, at 3.

CAP and other assistance programs, it does little to actually address the issue of bill affordability. As I stated above, only a small portion of the estimated number of low-income customers participate in CAP; an assistance program is not a substitute for affordable rates because more than just CAP-qualifying customers are affected when rates are increased without consideration of the impact on ratepayers' energy burdens. Therefore, I reiterate and emphasize the recommendation raised in my Direct Testimony that, when the PUC determines the final outcomes of rate proposals, including but not limited to a just and reasonable rate of return or an appropriate customer charge, in this proceeding, it does so considering the affordability of PECO's rates and the impact of inflation on low-income customers.

Q. DOES THIS COMPLETE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

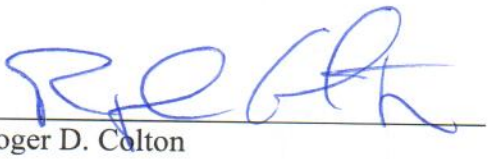
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 4SR, 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 2, 2024

Signature: 

Roger D. Colton

Address: Fisher Sheehan & Colton
34 Warwick Road
Belmont, MA 02478

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No.: R- 2024-3046931
v.	:	
	:	
PECO Energy Company – Electric Division	:	

PUBLIC

DIRECT TESTIMONY

OF

Nicholas A. DeMarco

On behalf of the

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

Date Served: June 17, 2024

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Introduction

Q. Please state your name and business address.

A. My name is Nicholas Anthony DeMarco. My business address is 555 Walnut Street, Forum Place, 5th Floor, Harrisburg, Pennsylvania 17101. I am currently employed as a Regulatory Analyst by the Pennsylvania Office of Consumer Advocate (OCA).

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

A. I am testifying on behalf of the OCA.

Q. Please describe your educational background and qualifications to provide testimony in this case.

A. I have a Master's Degree in Political Science from Lehigh University and a Bachelor of Arts in Political Science, with a concentration in Constitutional Law from Bloomsburg University of Pennsylvania. I also attended Michigan State University's Institute of Public Utilities online rate school program. I have attached my CV as Exhibit NAD-1.

Q. Have you previously provided testimony before the Pennsylvania Public Utility Commission?

A. Yes, I have testified as a policy witness in cases in front of the Public Utility Commission. A list of these cases can be found in Exhibit NAD-1.

Q. Have you prepared Exhibits to accompany your testimony?

A. Yes. Exhibits NAD-1 and NAD-2 are attached to this testimony.

Q. What is the purpose of your testimony in this case?

A. I am filing Direct Testimony in response to the application filed on March 28, 2024 by PECO Energy Company-Electric Division (PECO Electric) to increase its base rate for Electric distribution service. My testimony will address customer service and consumer

protection concerns for the increase in rates for residential customers if PECO Electric's request is approved. I will also address, along with other witnesses, whether or not the Company's requested 15-basis point management performance adder[1] should be approved.

Summary

Q. Please describe the proposal for a rate increase filed by PECO Electric.

A. PECO Electric proposes to increase its distribution rates by about $464 million. On the same date that PECO Electric filed its rate case, PECO Energy Company-Gas Division (PECO Gas) filed to increase its rates by about $111 million. The total request for both PECO utilities is about a half a billion-dollar increase, effective in January 2025.[2] PECO Electric last filed for an increase in base rates in 2021.

Q. What is the connection between your discussion of service quality and performance and the rate increase proposed by PECO Electric?

A. A Commission-regulated public utility in Pennsylvania is statutorily obligated to provide adequate and reasonable service to its customers. A public utility must justify its rates based on, among other things, its ability to perform its essential quality of service and customer service functions at an adequate and reasonable performance level. Accordingly, where a public utility is seeking a rate increase – especially a significant one, and, where, as in this case, the utility is asking for a reward in the form of a higher rate of return based on its performance, it is appropriate to review the performance of that utility and to compare such performance to other Pennsylvania utilities. Therefore, my evaluation of PECO Electric's

[1] PECO Electric St. 5 pg. 51 ln. 18-22

[2] https://www.puc.pa.gov/press-release/2024/puc-to-investigate-peco-s-rate-increase-requests-for-electric-and-natural-gas-distribution-services-04-25-24; https://www.puc.pa.gov/pcdocs/1831273.pdf (electric); https://www.puc.pa.gov/pcdocs/1831293.pdf (gas)

customer service and consumer protection policies is directly related to the Commission's consideration of Company's general rate increase. My analysis and findings should inform the Commission about the reasonableness of PECO Electric's significant rate increase request. Where I identify deficiencies in PECO Electric's customer service performance, I recommend that the Commission require improvements in specific areas as a condition of any rate increase, and consider and reflect the inadequate customer service I have documented in the amount of any rate increase and rate of return that it adopts. This approach is mandated by the statutory guidelines of Section 523 governing public utility rate cases in which the Commission must evaluate the "efficiency, effectiveness, and adequacy of service".[3]

Q. What support does Ms. Nicole L. LeVine provide in PECO Electric Statement 1 for PECO Electric's request for an upward adjustment to return on equity for management performance regarding customer service and consumer protection?

A. PECO Electric was asked to identify the specific customer service and consumer protection criteria that it recommends that the Commission consider when evaluating its request for a management performance adder, including the specific performance area and performance results that should be considered. PECO Electric stated that pages 25-28 of Ms. LeVine's direct testimony should be considered for this discussion of the management performance adder.[4]

Q. Please summarize your conclusions and recommendations.

[3] 66 Pa. C.S. 523.
[4] PECO Electric response to OCA-1-38

A. Based on the testimony of Company witnesses LeVine, Trzaska and McDevitt and the discovery responses issued by the Company it is my opinion that PECO Electric should not receive a management performance adder for the customer service it provides. According to reports published by the PUC for the last several years,[5] PECO Electric generally meets the PUC's basic metrics for customer service. However, that shows the Company is providing basic customer service. The Company has not shown that it provides more than the adequate and reasonable service it is obligated to provide as a regulated public utility:

- The upgrades to its website and mobile app described by Ms. Levine are standard service that should be expected from any company of PECO's size and the Company has not supported its claim that the upgrades reduced customer operation costs. PECO has provided inconsistent discovery responses about whether these form part of the basis of its claim for a management performance adder.[6]

- PECO Electric has goals to improve customer satisfaction and customer operations, without specific plans, cost-benefit analysis or metrics to assess results.

- Regarding its call center performance, PECO is on par with the PUC's Customer Service Report metrics but in discovery the Company acknowledges that [redacted]

- PECO Electric's two-decade failure to identify unbilled intercompany charges for fiber asset use by its affiliates totaled $16 million that the Bureau of Audits directed the Company to return to ratepayers.

It should also be noted that, in PECO Gas's pending base rate case, the Company also asked for a 15-basis point management performance adder. PECO Energy provides customer service and billing service for both the Electric and Gas Divisions. While the OCA opposes

[5] 2022 Utility Consumer Activities Report and Evaluation (UCARES) reports https://www.puc.pa.gov/filing-resources/reports/consumer-activities-report-evaluation/; Customer Service Performance Reports https://www.puc.pa.gov/filing-resources/reports/customer-service-performance-reports/

[6] PECO Electric response to OCA-1-38, OCA-16-1, OCA-16-3

any management performance adder, if any amount of adder is awarded, PECO should not be permitted get to double-dip for performance of the very same services that it provides using the same resources. In my view, PECO should receive no upward adjustment based on management performance, but if the Commission awards an adder, it should award it once not twice.

Based on my review of the Company's call abandonment and average calls answered goals, I recommend the Company should take steps to implement a specific and tailored plan with actionable metrics for how it is going to meet its call abandonment and average calls answered goals.

I recommend PECO should address any ongoing issues with call handling that have not been resolved by the Company completing its implementation plan for the Bureau of Audits' 2022 PECO Energy Company Management and Operations Audit Report.

Regarding PECO's informal complaints and Verified Infractions, I recommend that the Company create a specific and tailored plan with metrics for how PECO will reduce the informal complaints and Verified Infractions. Also, the Company should use data from its existing 2021 root cause analysis or conduct a new root cause analysis and use that data to create metrics for reducing informal complaints and Verified Infractions.

PECO should eliminate any payment processing fees associated with paying a PECO bill when not using "MyAccounts", e.g., online "pay as guest" or phone payments.

The OCA recommends that PECO reduce the use and retention of PII, and develop both workflow and cyber-security measures to reduce the threat of disclosure or theft of PII.

Customer Service

Q. What improvements is PECO Electric claiming have helped improve the overall customer service experience?

A. In her direct testimony PECO Electric witness LeVine states that the following improvements have been made in recent years:[7]

- Website and Mobile App
  - Sign up and move service improvements
  - Credit card and e-check payment enhancements
  - Usage monitoring
  - Ability to enroll in electronic billing, auto pay, and budget billing
  - "Overall look and feel"
  - Two-step identification
  - "welcome back" feature
  - Outage Tracker

- Policy Initiatives
  - "First Contact Resolutions"
  - Integrating management of outsourced call center into PECO's Customer Care Center
  - "Universal Agent" strategy
  - "Assistance Finder"

Q. Does PECO claim any measurable impacts from these website and mobile app upgrades?

A. Yes. Ms. LeVine states "As of the end of 2023, PECO now has 1.15 million customers enrolled in "MyAccounts" (approximately 64% of customers), which is an increase from 1.03 million (approximately 59.5% of customers) in 2022 and directly reduces our customer operations costs."[8] In reply to discovery, PECO Electric has acknowledged that Ms. LeVine's discussion of "PECO" website upgrades, features, and capabilities refer to

[7] PECO Electric St. 1 pg. 25-26
[8] PECO Electric St. 1 pg. 25 ln. 14-17

PECO Energy as a whole and are shared benefits to both PECO Electric and PECO Gas customers.[9,10,11,12]

Q. Has PECO Electric witness LeVine identified a total reduction in customer operations cost related to the website and mobile app upgrades?

A. No. Ms. LeVine does not identify a total reduction in operating cost, either for PECO Energy or the Electric Division in particular. Also, the Company does not provide a comparison of what was spent for the upgrades and what was saved in operating costs. So while Ms. LeVine claims there is a reduction in costs, the Company has not supported that claim.

Q. What is your position on the relationship between cost savings and the Company's request for an award for management performance?

A. As I noted above, the Company's claim of reduced customer operations costs is not documented. However, I disagree with the Company's premise that operational cost savings justify charging ratepayers higher rates. Cost saving measures should ultimately benefit ratepayers.

Q. Do you have any comments regarding improvements to PECO's website?

A. Yes. It has become standard practice for businesses of all sizes to operate a functional and accessible website to help customers interact and conduct business with the company. For example, the "two-step identification" improvement would be a reasonable and necessary improvement, to protect consumer account information exchanged with the Company

[9] PECO Electric response to OCA-16-1
[10] PECO Electric response to OCA-16-2
[11] PECO Electric response to OCA-16-3
[12] PECO Electric response to OCA-16-4

electronically. The incremental website upgrades do not support awarding the Company a management adder.

Q. Do you have any comments regarding improvements to PECO's mobile app?

A. Yes. As with improving its website, it has become common practice for businesses to operate a functional and accessible mobile application to help customers interact and conduct business with the Company. The mobile application upgrades do not support awarding the Company a management adder.

Q. Are these electronic channels for communication between PECO Electric and consumers novel?

A. No. In the Bureau of Audit's July 2022 "PECO Energy Company Management and Operations Audit Report,"[13] the Bureau took note of PECO Energy Company's "e-channels" as "web-based services that provide online accessibility for customers to manage their accounts, make payments, request service appointments, obtain energy usage information, report outages, and establish preferences for receipt of reports and alerts." Effectively, Ms. LeVine proposes that PECO Electric be allowed a management performance increase for recent, incremental changes made by PECO Energy to these web-based electronic channels for communication. I disagree. These activities by PECO Energy for the benefit of PECO Electric operations and PECO Electric customers reflect the Company's obligation to provide reasonable and adequate service.

[13] Bureau of Audits, "PECO Energy Company Management and Operations Audit Report," Docket No. D-2021-3023906, pg. 90 (July 2022) ("2022 Audit Report")

Q. Has PECO made inconsistent statements about whether these services form the basis of its request for a management performance adder?

A. Yes. PECO has made inconsistent claims in discovery concerning whether the purported savings and enhancements to PECO's website and applications forms a basis for its request for a management performance adder.[14] PECO should clarify this in its Rebuttal Testimony.

Customer Satisfaction

Q. How does the Company plan to improve its customer satisfaction?

A. According to PECO witness LeVine, "PECO recognizes its responsibilities to customers and seeks to invest in maintaining and improving how the Company provides premier customer service and how it interfaces with customers. Customer Operations has focused on improving the customer service component of this score through continuous improvement training of PECO's Customer Service Representatives, as well as incorporating more customer requested needs into the Company's interactive voice response system, web portal, My Account, and mobile apps."[15]

Q. Does PECO elaborate, expand, or provide any detailed plans for improving customer satisfaction?

A. No. Despite the Company's stated goals above, PECO Electric provides no specific support for how it plans to reach its objectives or even what those objectives are. It does not appear to have performed any cost-benefit analysis or identified any goal metrics to assess results. Therefore, I do not believe that PECO Electric has provided adequate

[14] PECO Electric response to OCA-1-38, OCA-16-1, OCA-16-3
[15] PECO Electric St. 1 pg. 28 ln. 4-12

support for the awarding of a management performance adder on the basis of its goals to improve customer satisfaction. If and when those improvements are in place, it would be appropriate to consider whether the company has demonstrated excellence in its customer service such that it merits any upward adjustment to its return on equity.

Q. What direct customer benefits does PECO Electric claim will come from additional investments in its customer operations?

A. PECO Electric witness LeVine believes that its Customer Flight Path (CFP) projects and continuing to expand its digital products and services will help to meet customer expectations for reliable and personalized experiences.[16]

Q. Does PECO Electric elaborate, expand, or provide any detailed plans for improving its customer operations?

o No. As with customer service, despite the Company's stated goals above, PECO Electric provides no specific support for how it plans to reach its objectives or even what those objectives are. It does not appear to have performed any cost-benefit analysis or identified any goal metrics to assess results. Therefore, I do not believe that Company has provided adequate support for the awarding of a management performance adder on the basis of its goals to improve customer operations. If and when those improvements are in place, it would be appropriate to consider whether the company has demonstrated excellence in its operations such that it merits any upward adjustment to its return on equity.

[16] PECO Electric St. 1 pg. 28 ln. 13-19

Call Center Performance

Q. What categories will you provide analysis for in your testimony?

A. In this section of my testimony, I will be analyzing PECO's call center performance and training. Later in my testimony I will cover disputes and customer satisfaction regarding customer complaints.

Q. What statistics does the PUC use to measure PECO for call center performance?

A. The PUC uses three metrics to measure a utility's call center performance: Busy out rate, call abandonment rate, percent of call answered in 30 seconds. Below, I will be using statistics from the Commission's 2022 Customer Service Performance Report.[17] The Commission evaluates both PECO Gas and PECO Electric together in these reports.

Q. What was PECO's average busy out rate?

A. PECO's busy out rate was 0% between the years 2019-2022 except for 2021 where they had a busy out rate of 0.1%.[18] It is important to note that this statistic is so low for many utilities because of their use of interactive voice response (IVR), as when this automated tool is "answers" a customer's call, it counts as answered.

Q. What was PECO's call abandonment rate?

A. Between the years 2019-2021 PECO's average call abandonment rate was 1% each year.[19] [redacted]

Q. What is PECO's target goal for 2024 and 2025?

[17] 2022 Customer Service Performance Report - https://www.puc.pa.gov/filing-resources/reports/customer-service-performance-reports/
[18] 2022 Customer Service Performance Report pg. 5
[19] 2022 Customer Service Performance Report pg. 7
[20] PECO Electric response to OCA-1-5 (attachments a-m) Confidential

A. [redacted]

Q. Do you have any comments?

A. Yes. [redacted] The Company provides little to no specific steps to meet the Company's own goal for 2024 or 2025 and going forward. I recommend that the Company create a specific and tailored plan with actionable metrics for how it is going to decrease its call abandonment and meet its goals. The Company should also show that it can continuously meet these metrics over the course of a few years before any amount of management performance adder should be considered. Currently, PECO's existing metrics do not warrant an increase in its return on equity.

Q. What percent of calls did PECO answer within 30 seconds?

A. [redacted]

Q. What is PECO's target goal for 2024 and 2025?

A. [redacted]

Q. Do you have any comments on these specific statistics?

A. Yes. [redacted] The Company provides little to no specific steps to meet the Company's own goal for 2024 or 2025 and

[21] PECO Electric response to OCA-1-5 (attachments a-m) Confidential
[22] PECO Electric response to OCA-1-5 (attachments a-m) Confidential
[23] PECO Electric response to OCA-1-5 (attachments a-m) Confidential

going forward. As with call abandonment, I recommend that the Company create a specific and tailored plan with actionable metrics for how it is going to meet its average calls answered goals. PECO should also show that it can continuously meet these metrics, over the course of a few years before any amount of management performance adder should be considered.

Q. Did PECO Electric provide testimony on where the Company seeks to improve its call center performance?

A. Yes, with regard to call handling. Witness LeVine states that PECO has switched to a "First Contact Resolution" approach. This means that the Company is attempting to assist a customer with all of their needs upon their first contact with the Company. The Company's other initiatives include better integration and management of its outsourced call center into PECO's internal "Customer Care" call center. The Company is also implementing a "Universal Agent" strategy whereby the Company aims to have as many of its Customer Service Representatives (CSRs) trained in as many skills as possible to address any customer issue that a customer may have.[24]

Q. Does the Company have specific training materials related to this "First Contact Resolution Policy"?

A. No. PECO witness Jacqueline F. Golden states that "PECO does not provide First Contact Resolution (FCR) specific training." She notes that it is "reinforced" in other trainings provided by the Company.[25]

Q. What are the parameters by which the program was measured?

[24] PECO Electric St. 1 pg. 26 ln. 13-23
[25] PECO Electric response to OCA-1-48

A. According to the Company FCR is measured as a percentage of unique customer calls from the same phone number that have called more than one time and were transferred from the IVR to a CSR within a rolling 3 business day window. The measurement of FCR excludes the following types of calls:[26]

- Outage and Emergency Calls
- Weekend Calls
- Agency Assistant Numbers
- Non-CSR Handled Calls
- Internal Company Numbers

Q. What results does the Company claim?

A. The Company states that it reviews and analyzes FCR consistently to identify improvement opportunities. According to PECO Electric, implementation of improvements in the following areas would result in an increased level of FCR:[27]

- Optimize staffing levels to increase support during high volume intervals.
- Implement a larger team support structure i.e., Product Oriented Delivery (POD) structure, in the CARE Center whereby the POD includes additional levels of support, such as a quality coach and a quality control analyst.
- Implement PECO's Universal Agent model
- Increase the number of quality of service evaluations per CSR.

Q. Was PECO Electric's FCR plan addressed in the Bureau of Audit's Management & Operations Audit of PECO Energy Company?

[26] PECO Electric response to OCA-1-49
[27] PECO Electric response to OCA-1-49

A. Yes. As stated in the July 2022 Audit Report, the FCR process "call handling expediency may degrade customer satisfaction and increase customer call backs."[28] The Bureau of Audit's Report further states that:

> "Best in class customer service performance requires a balancing of all aspects of call handling from handling time to first call resolution. However, the primary focus of the call center should be on service quality and the customer experience over call quantity/speed to answer. PECO has established a call efficiency task force to evaluate longer and shorter than average calls to identify ways to streamline calls or improve performance. However, PECO's focus on average handle time may cause customer concerns to go unresolved, questions to be unanswered, etc. Therefore, PECO should continue to shift focus to First Call Resolution and service quality while balancing the business needs of call handling time, etc."[29]

Q. Do you have any comments?

A. Yes. The OCA agrees with the conclusions in the 2022 Audit Report. However, the OCA recommends PECO conduct further analysis on how to improve its FCR program. Specifically, the OCA recommends the Company investigate any persistent issues with call handling that have not been resolved by the actions PECO agreed to take in its implementation plan for its 2022 Audit Report. The completion date agreed to in the management audit implementation plan was estimated to be Q4 2023.[30]

Q. As a general matter, does PECO have a system to ensure a PA qualified CSR answers PA customer calls?

A. Yes, PECO conducts training for both its internal employees and external contractors which covers PA specific laws and regulations.[31]

UCARE Report

[28] 2022 Audit Report pg. 90
[29] 2022 Audit Report pg. 91-92
[30] 2022 Audit Report, 2021 Management Implementation Plan Recommendation XI-2
[31] Responses to OCA-1-10,12,13

Q. What is the UCARE Report[32]

A. The UCARE Report mentioned earlier in my testimony is a report and evaluation prepared annually by the Public Utility Commission's Bureau of Consumer Services (BCS) in accordance with 66 Pa. C.S. §308.1 (a). The report details a utility's compliance with the statutes and regulations concerning residential customer service and billing maters as reflected in the Public Utility Code, 52 Pa. Code and a Utility's Tariff.[33]

Q. What does the UCARE Report measure?

A. The UCARE report measures Total Complaint Rate, Consumer Complaints, Payment Arrangement Requests, Termination of Service and Reconnection of Service, Compliance.[34]

Q. What are PECO's UCARE stats?

A. Table 1 – PECO Electric UCARE Statistics[35]

BCS Category	2021	2022	2023	OCA Comments
Residential Customer Complaints[36]	1,148	1,614	1,532	overall increase
Residential Payment Arrangement Requests (PARs)[37]	2,126	6,071	6,777	increase
Inquiries	1,065	1,807	1,647	overall increase
% Justified Residential Customer Complaints	7%	11%	8%	fluctuation

[32] https://www.puc.pa.gov/filing-resources/reports/consumer-activities-report-evaluation/
[33] 2022 Utility Consumer Activities Report and Evaluation (UCARE) pg. 1
[34] 2022 UCARE pg. 39-51
[35] Data obtained from UCARE reports for 2021, 2022 and 2023 1st-4th quarter, available at https://www.puc.pa.gov/filing-resources/reports/consumer-activities-report-evaluation/
[36] In its UCARE Report, BCS defines a Justified Consumer Complaint as "A consumer complaint where, prior to BCS intervention, the company did not comply with Commission Orders, policies, regulations, reports, Secretarial Letters, tariffs or guidelines when the consumer brought the complaint to the company's attention. The justified consumer complaint rate equals the number of justified consumer complaints for each 1,000 residential customers."
[37] In its UCARE Report, BCS defines a Justified PAR as, "A Payment Arrangement Request where, prior to BCS intervention, the company did not comply with Commission regulations, reports, Secretarial Letters, tariffs or guidelines. The justified payment arrangement request rate equals the number of justified payment arrangement requests for each 1,000 residential customers."

% Justified PARs	16%	1%	2%	lower
Response Time to Complaints and PARs (Days)	16.2/7.6	16.0/4.8	16.1/4.9	steady
Verified Infractions (Chapter 56)[38]	127[39]	154[40]	not provided	increase

Q. Did PECO provide its internal numbers regarding informal complaints?

A. Yes. [redacted]

Q. What trends are apparent from 2021 through most recently available data?

A. As we come out of the pandemic years, the Company's overall statistics remain relatively steady with overall increases in many categories. According to public data in the chart above, the most apparent categories that are seeing an overall increase are the number of informal complaints levied against the Company ("Residential Customer Complaints") and Verified Infractions.

Q. Do you have any recommendations?

A. I recommend that the Company create a specific and measurable plan with actionable metrics for how PECO will reduce informal complaints and Verified Infractions. The Company should also show that it can continuously meet these metrics over the course of a few years before any sort of management performance adder should be considered.

[38] In their UCARE Report the BCS defines an Infraction as "A misapplication or infringement of a Commission regulation, particularly the standards and billing practices for residential utility service."
[39] 2020-2021 UCARE Report pg. 44 (includes electric and gas)
[40] 2022 UCARE Report pg. 39
[41] PECO Electric response to OCA 1-5 (attachment k) Confidential

For the reasons discussed above, I also recommend that the Company conduct a root cause analysis to address informal complaints and Verified Infractions. The metrics that the Company calculates to be its goals should be created using data from the root cause analysis.

Q. Has PECO conducted a recent root cause analysis of customer complaints?

A. PECO conducted a root cause analysis in 2021.[42] However, [redacted] The Company should either conduct a new root cause analysis or create a detailed plan with metrics on how it plans to fix any of the issues discovered during its 2021 root cause analysis to reduce informal complaints and Verified Infractions.

Q. What is a root cause analysis?

A. A root cause analysis is a fact-based exercise in which the underlying cause or causes of an undesirable outcome are identified and specific remedial steps are identified and determined to result in correcting or improving the previously identified undesirable result. To be clear, a list of customer complaints by category is not a root cause analysis.

A root cause is defined as a factor that caused a nonconformance and should be permanently eliminated through process improvement. The root cause is the core issue—the highest-level cause—that sets in motion the entire cause-and-effect reaction that ultimately leads to the problem(s).

Root cause analysis (RCA) is defined as a collective term that describes a wide range of approaches, tools, and techniques used to uncover causes of problems. Some RCA

[42] PECO Electric response to OCA-1-20

approaches are geared more toward identifying true root causes than others, some are more general problem-solving techniques, and others simply offer support for the core activity of root cause analysis.

There are many methodologies, approaches, and techniques for conducting root cause analysis, including:

1. **Events and causal factor analysis:** Widely used for major, single-event problems, such as a refinery explosion, this process uses evidence gathered quickly and methodically to establish a timeline for the activities leading up to the accident. Once the timeline has been established, the causal and contributing factors can be identified.
2. **Change analysis:** This approach is applicable to situations where a system's performance has shifted significantly. It explores changes made in people, equipment, information, and more that may have contributed to the change in performance.
3. **Barrier analysis:** This technique focuses on what controls are in place in the process to either prevent or detect a problem, and which might have failed.
4. **Management oversight and risk tree analysis:** One aspect of this approach is the use of a tree diagram to look at what occurred and why it might have occurred.
5. **Kepner-Tregoe Problem Solving and Decision Making:** This model provides four distinct phases for resolving problems:
    1. Situation analysis
    2. Problem analysis
    3. Solution analysis
    4. Potential problem analysis[43]

According to the publications developed by the American Society for Quality, and other comparable publications[44], a proper analysis of any "root cause" requires the identification of "symptoms," which are not actual causes but signs of existing problems, and "first level causes," which are the causes that directly lead to a problem; and "higher level causes," which are links in the chain of cause-and-effect relationships that ultimately create the problem.

[43] https://asq.org/quality-resources/root-cause-analysis

[44] There is an extensive body of literature used in the medical community to conduct root cause analysis and develop plans to prevent adverse events. See, e.g., https://www.cms.gov/medicare/provider-enrollment-and-certification/qapi/downloads/guidanceforrca.pdf

Billing/Consumer Protection/Tenant Protections

Q. What bill payment options are offered by PECO and with what fees or charges?

A. Table 2 – Fees by payment method[45]

Payment Method	**Fee Schedule**
Mail a Paper Check through the United States Postal Service (USPS)	No Fee (postage costs do apply and are set by the USPS)
Residential eCheck via PECO MyAccount	No Fee
Commercial eCheck via PECO MyAccount and Pay As Guest	No Fee
Residential eCheck pay as guest / Debit & Credit	$1.75
Commercial Credit Card	$5.95
Walk-in Payment - authorized bill payment locations or service centers (e.g. large retail store, drug store) • Fee is collected by the vendor and is later applied as a $1.75 credit on the customer's next bill.	$1.75

* All Fees are charged and collected by the vendor.

Q. Do you have any comments?

A. Only customers enrolled and logged in to PECO's MyAccount can pay by checking account or credit/debit card without additional fees per transaction. Also, PECO's bills state that fees also apply for phone payments.[46] The OCA has asked PECO to provide the fee revenues from these transactions (pay as guest and by phone) from customers. That discovery has not been received as of the time this testimony was finalized.

[45] PECO Electric response to OCA-1-16
[46] PECO Electric response to OCA-1-23 (a.1) attachment

Q. Do you have any recommendations concerning these fees for customer bill payment options?

A. Yes. While the OCA is waiting for PECO's responses to discovery, based on the information available, the OCA is concerned about the barrier that these fees pose to households paying on time and in full. The OCA is also concerned about whether the fees are reasonable or cost-based; regardless, these fees result in a significant cost to customers to avoid late fees and collection action. Furthermore, they reflect a discriminatory practice in terms of payments options in that customers who use specific methods for payment are not charged a fee for the processing of their payments while those who are not enrolled in or logged into MyAccount or pay by phone are charged. Customers should be encouraged to pay with all of these alternative methods without incurring significant fees that only add to the cost of regulated electric service. This is particularly true if these fees are set by a third-party. PECO has the ability to negotiate these fees and include reasonable payment processing fees in the overall contract that it would pay as a part of the cost of service rather than imposing these fees directly on customers who make use of these payment options. PECO should eliminate these fees as a direct cost to consumers. My recommendation reflects my understanding that PECO's revenue requirement should include reasonable costs for processing customer payments, whether incurred by PECO or its agents. My concern is imposing fees without proper justification on individual customers. Furthermore, encouraging customers to pay in a variety of payment methods will benefit customers who do not have checking accounts or seek to pay at the last minute due to their financial circumstances

PII

Q. Do you have any comments regarding Personal Identification Information (PII)?

A. Yes, while the OCA is waiting for discovery responses, which may support additional recommendations for PECO, the OCA is recommending that all utilities reduce the use and retention of PII, and develop both workflow and cyber-security measures to reduce the threat of disclosure or theft of PII.

Failure to Charge Affiliates

Q. Why does PECO Electric propose to credit ratepayers $16 million in 2025 for a billing correction?

A. As addressed by PECO Electric witnesses Trzaska (PECO Electric Statement 3) and McDevitt (PECO Electric Statement 8), during the audit of PECO's electric operations at D-2021-3023906, PECO identified unbilled intercompany charges for fiber asset use by its affiliates.[47] That identification occurred in November 2021. The amount and period of unbilled charges are significant, the failure to charge occurred for two decades and totaled $16 million with interest. In the 2022 Audit Report, PECO Electric was directed to "develop and seek approval from the PA PUC its plan for crediting PA ratepayers for this billing correction."[48] It was also noted in the Report that:

> "Under Title 66 § 2102(b) it is the duty of the public utility to file with the Commission any contract for the provision of services including any arrangement for the purchase, sale, lease, or exchange of property. Therefore, Pennsylvania regulated utilities are obligated to ensure ratepayers are compensated for the use of all ratepayer supported assets, including use of PECO's fiber network. Over the 21-year period, the unbilled costs ultimately resulted in overcharging to Pennsylvania

[47] PECO Electric St. 3, p. 77, ln. 8-17
[48] 2022 Audit Report pg. 27-28

ratepayers and created cross-subsidization for costs more appropriately assigned to a nonregulated affiliate."[49]

Q. Do you have any comments?

A. Yes. PECO Electric has followed through with its credit proposal in this base rate filing. This long-time failure by PECO Electric to collect rents from affiliates weighs against its claim for management performance excellence.

Conclusion

Q. Should PECO Electric's request for a management performance adder be granted?

A. No. My analysis shows that PECO Electric should not receive a management performance adder for "premier" customer service. The Company has not shown that it provides more than the adequate and reasonable service it is obligated to provide as a regulated public utility:

- The upgrades to its website and mobile app described by Ms. Levine are standard service that should be expected from any company of PECO's size and the Company has not supported its claim that the upgrades reduced customer operation costs.

- PECO Electric has goals to improve customer satisfaction and customer operations, without specific plans, cost-benefit analysis or metrics to assess results.

- Regarding its call center performance, PECO is on par with the PUC's Customer Service Report metrics but in discovery the Company acknowledges that [redacted] also show need for PECO to improve performance.

- PECO Electric's two-decade failure to identify unbilled intercompany charges for fiber asset use by its affiliates totaled $16 million that the Bureau of Audits directed the Company to return to ratepayers.

PECO Energy provides customer service and billing service for both the Electric and Gas Divisions. While the OCA opposes any management performance adder, if any amount of

[49] 2022 Audit Report pg. 28

adder is awarded, PECO should not get to double-dip for performance of the very same services that it provides using the same resources.

Q. Please summarize your other recommendations.

I recommend the Company should take steps to implement a specific and tailored plan with actionable metrics for how it is going to meet its call abandonment and average calls answered goals.

The Company should investigate any persistent issues with call handling that have not been resolved by the actions PECO agreed to take in its implementation plan for its 2022 Audit Report.

Regarding PECO's informal complaints and Verified Infractions, I recommend that the Company create a specific and concrete plan with actionable metrics for how PECO will reduce the informal complaints and Verified Infractions. Also, the Company should use data from its existing 2021 root cause analysis or conduct a new root cause analysis and use that data to create metrics for reducing informal complaints and Verified Infractions.

PECO should eliminate any payment processing fees associated with paying a PECO bill when not using "MyAccounts", e.g., online "pay as guest" or phone payments.

The OCA recommends that PECO reduce the use and retention of PII and develop both workflow and cyber-security measures to reduce the threat of disclosure or theft of PII.

Q. Does this conclude your testimony.

A. Yes, however, subject to receiving additional information in discovery.

Type text here

NAD-1

Qualifications of

Nicholas A. DeMarco

Education:

2021 Master's of Political Science, Lehigh University

2016 B.A. Political Science with concentration in Constitutional Law, Bloomsburg University of Pennsylvania

2016 B.A. Eastern European Languages and Cultures, Russian, Bloomsburg University of Pennsylvania

Relevant Positions:

January 2023 Regulatory Analyst, Pennsylvania Office of Consumer Advocate

Role Description:

I am currently employed by the Pennsylvania Office of Attorney General, Office of Consumer Advocate (OCA) as a Regulatory Analyst. In this position, my responsibilities include reviewing utility company filings with the Pennsylvania Public Utility Commission (Commission) and analyzing the financial, economic, rate of return, and policy issues that are relevant to the filings. Additionally, I am tasked with preparing recommendations for the OCA's involvement in utility filings with the PA PUC, writing testimony and presenting oral testimony on behalf of the OCA. As part of my role, I also assist in the policy matters regarding low-income issues and PJM.

Submitted Testimony:

PAWC's proposed acquisition of the Brentwood Borough wastewater system, at
Docket No. A-2021-3024058

Pennsylvania Public Utility Commission, Office of Consumer Advocate, v. Community Utilities of Pennsylvania, Inc.

Docket Nos. R-2023-3042804 (water), R-2023-3042805 (wastewater), C-2023-3044737 (water), C-2023-3044738 (wastewater)

Pennsylvania Public Utility Commission, Office of Consumer Advocate, v. Veolia Water Pennsylvania, INC
Docket Nos. R-2024-3045192 (Water), R-2024-3045193 (Wastewater)

Pennsylvania Public Utility Commission, Office of Consumer Advocate, v. Duquesne Light Co
Docket No. R-2024-3046523

Pennsylvania Public Utility Commission, Office of Consumer Advocate, v. Columbia Gas of Pennsylvania Inc.
Docket Nos. R-2024-3046519, C-2024-3047905, C-2024-3047675, C-2024-3048339

Relevant Training:

IPU Michigan State University, IPU Accounting and Ratemaking Course 2023

NAD-2

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

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

Response Date: April 29, 2024

OCA-I-38

Identify the specific customer service and consumer protection criteria that PECO Electric recommends that the Commission consider in evaluating PECO Electric's request for a management performance adder. In your response, identify the specific performance area and performance results that should be considered.

RESPONSE:

Please refer to Ms. LeVine's direct testimony (PECO St. 1, pp. 25-28) for a discussion of the customer service and consumer protection criteria that the Commission should consider in evaluating PECO's request for a management performance adder.

Responsible Witness: Nicole L. LeVine

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 16

Response Date: June 03, 2024

OCA-16-1

Reference Ms. LeVine's Direct at PECO St. 1, page 25, line 22 through page 26, line 4. Ms. LeVine states that "PECO upgraded the overall look and feel of its website…."

a. Does "PECO" as used here refer to PECO Energy or exclusively to PECO Energy - Electric Division?
b. Is the 'PECO website' referenced used solely by PECO Electric Division customers? Or is the 'PECO website' used by PECO Electric and/or PECO Gas customers?
c. Is this discussion of the 'PECO website' offered as support for PECO Electric's request for an addition of 15 basis points to the allowed return on equity for management performance?

RESPONSE:

a. "PECO" as used in the testimony quoted above refers to PECO as a whole.

b. The "PECO Website" referenced is used by PECO Gas and/or PECO Electric Customers.
c. No.

Responsible Witness: Nicole L. Levine

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 16

Response Date: June 03, 2024

OCA-16-3

Reference Ms. LeVine's Direct at PECO St. 1, page 26, lines 5-12. Ms. LeVine states "We also added…other features and capabilities" to the PECO website. "In the seven months since the launch of the Assistance Finder in May 2023, nearly 1,000 customers have enrolled online in payment arrangements, budget billing, and due date extensions."

a. Does "We" as used here refer to PECO Energy or refer exclusively to PECO Energy - Electric Division?
b. Are the added website features available to PECO Electric Division customers and PECO Gas Division Energy customers?
c. Are the referenced "nearly 1,000 customers" all PECO Electric customers?
d. Of the "nearly 1,000 customers" reference, how many are both PECO Electric and PECO Gas customers?
e. Is this discussion of the "other features and capabilities" added to the PECO website provided as support for PECO Electric's request for an addition of 15 basis points to the allowed return on equity for management performance?

RESPONSE:

a) "We" as used in the testimony quoted above refers to PECO as a whole.
b) Yes.
c) This information is not available because customer-level data is not gathered or maintained related to these customer engagements.

d) This information is not available because customer-level data is not gathered or maintained related to these customer engagements.
e) No.

Responsible Witness: Nicole L. LeVine

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Nicholas A. DeMarco, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 5, 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 17, 2024

Signature: /s/ Nicholas A. DeMarco
Nicholas A. DeMarco

Address: Office of Consumer Advocate
555 Walnut Street
Fifth Floor
Harrisburg, PA 17101

OCA Statement 5SR

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No.: R-2024-3046931
v.	:	
	:	
PECO Energy Company – Electric Division	:	

SURREBUTTAL TESTIMONY

OF

Nicholas A. DeMarco

On behalf of the

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

Date Served:

August 2, 2024

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Introduction

Q. Mr. DeMarco, did you previously provide testimony in this proceeding on behalf of the Office of Consumer Advocate?

A. Yes. My initial testimony was submitted as OCA Statement 5. I also submitted supplemental direct testimony (OCA Statement 5 Supp.) regarding testimony provided at the Public Input Hearings held in June 2024 in this proceeding. I am a Regulatory Analyst for the Office of Consumer Advocate. My testimonies covered customer service and consumer protection concerns for the increase in rates for residential customers if PECO's request is approved. I also addressed, along with other witnesses, whether or not the Company's requested 15-basis point management performance adder should be approved.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimonies of Company Witnesses Nicole LeVine (PECO Electric St. 1R), Paul R. Moul (PECO Electric St. 5R), and Jaqueline F. Golden (PECO Electric St. 10R). I also address the rebuttal testimony of Lawrence Anastasi (IBEW St. 1R) related to my direct testimony.

Summary

Q. Please provide an overview of your surrebuttal testimony.

A. First, I will address the rebuttal testimony submitted by Ms. LeVine, Mr. Moul and Ms. Golden related to PECO Electric's request for a management performance adder. Second, I will address Ms. Golden's rebuttal testimony submitted in response to my analysis of PECO Electric's call center and online customer service, the customer service call center, along with its UCARE performance, bill payment fees, and PII.

Management Performance Adder

Q. What was your recommendation regarding PECO's proposal to increase the allowed return on equity by 15 basis points for its management performance?

A. It is my opinion that PECO Electric should not receive a management performance adder for the customer service it provides. According to reports published by the PUC for the last several years,[1] PECO Electric generally meets the PUC's basic metrics for customer service. However, that shows the Company is providing basic customer service. The Company has not shown that it provides more than the adequate and reasonable service it is obligated to provide as a regulated public utility:

- The upgrades to its website and mobile app described by Ms. LeVine are standard service that should be expected from any company of PECO's size and the Company has not supported its claim that the upgrades reduced customer operation costs.
- Regarding its call center performance, PECO is on par with the PUC's Customer Service Performance Report metrics but in discovery the Company acknowledges that there is need for improvement.

It should also be noted that, in PECO Gas's pending base rate case, the Company also asked for a 15-basis point management performance adder. PECO Energy provides customer service and billing service for both the Electric and Gas Divisions. While the OCA opposes any management performance adder, if any amount of adder is awarded, PECO should not be permitted to double-dip for performance of the very same services that it provides using the same resources. In my view, PECO should receive no upward adjustment based on management performance, but if the Commission awards an adder, it should award it once not twice.

[1] 2022 Utility Consumer Activities Report and Evaluation (UCARES) reports https://www.puc.pa.gov/filing-resources/reports/consumer-activities-report-evaluation/; Customer Service Performance Reports https://www.puc.pa.gov/filing-resources/reports/customer-service-performance-reports/

Q. Did Company witness LeVine agree with your assessment?

A. No. In her rebuttal testimony, Company Witness LeVine states her belief that the Company provides service beyond what is considered to be "business as usual" and that rebuttal to my comments made regarding PECO's customer service performance will be addressed in Company Witness LeVine's testimony.[2] Company Witness LeVine states that counsel informed her that 66 Pa C.S.A. §523 grants the Commission authority to consider utility's performance to grant additional basis points to the return on equity (ROE).

Q. Do you have any comments?

A. Yes. While I will go into more comprehensive detail in the section of my testimony dedicated to responding to Company Witness Golden's testimony, I reiterate that PECO is statutorily obligated to provide adequate and reasonable service to its customers. This includes customer service. PECO has not shown that it warrants an increase to its ROE for management performance in terms of the customer service that it provides to its captive customer base.

Q. Did Company Witness Moul agree with your assessment?

A. No. Mr. Moul took issue with my assessment that by granting each PECO division a management performance adder, that the Company would be double-dipping by using the same resources to serve customers. He notes that not all customers receive both electric and gas services from PECO and that the rates of each division are determined separately.[3]

[2] PECO Electric St. 1R pg. 15-16 ln. 19-3
[3] PECO Electric St. 5R pg. 42-43 ln. 10-4

Q. Do you agree with Mr. Moul's analysis of the situation?

A. No. PECO shares resources between the two divisions at its convenience and similarly at its convenience appears to treat the divisions as two different entities. While the two divisions are separate entities, they are able to share resources when a customer receives both gas and electric service from PECO. In terms of the customer service resources available to customers, the website and mobile app are available to both PECO Gas and PECO Electric customers and are administered as a single resource. [4,5,6,7]

Q. What was your initial analysis of PECO's website and mobile app related to PECO Electric's and PECO Gas's request for management performance adders?

A. It has become standard practice for businesses of all sizes to operate a functional and accessible website to help customers interact and conduct business with the company. The incremental website upgrades performed by PECO do not support awarding the Company a management adder.

Further, the Company's assertion that the upgrades have reduced customer operations costs is not documented. I also disagree with the Company's premise that operational cost savings justify charging ratepayers higher rates through a higher ROE. Cost saving measures should ultimately benefit ratepayers.

[4] PECO Electric response to OCA-16-1
[5] PECO Electric response to OCA-16-2
[6] PECO Electric response to OCA-16-3
[7] PECO Electric response to OCA-16-4

Q. Did Ms. Golden provide any support for PECO witness LeVine's assertion[8] that customer use of the website and mobile apps "directly reduces [PECO's] customer operations costs"?

A. No. Ms. Golden only repeated statements about additional customer enrollments in "MyAccounts" in 2023 and says that "overall cost savings may be difficult to quantify".[9]

Q. Do you have any comments?

A. Ms. Golden comments that it is premature to quantify cost savings to customers. It is likewise premature for PECO to use MyAccount increased enrollments as a factor to support its request to increase costs through a management adder. However, I continue to disagree with the Company's premise that operational cost savings justify charging ratepayers higher rates. Cost saving measures should ultimately benefit ratepayers.

I also find it important to note that Ms. Golden does not refute the fact that PECO Gas and PECO Electric website upgrades, features, and capabilities refer to PECO Energy as a whole and are shared benefits to both PECO Electric and PECO Gas customers.[10,11,12,13] As discussed in my direct testimony and above, PECO's seeks two increases for the same management performance.

Q. Ms. Golden next addresses your testimony about two-step identification.[14] Do you have any comments?

A. In my direct testimony, I discussed that a "two-step" authentication method for customers to use when logging into the Company website or mobile app is an example of a necessary

[8] PECO Electric St. 1 pg. 25 ln. 14-17
[9] PECO Electric St. 10R pg. 42 ln. 1-9
[10] PECO Electric response to OCA-16-1
[11] PECO Electric response to OCA-16-2
[12] PECO Electric response to OCA-16-3
[13] PECO Electric response to OCA-16-4
[14] PECO Electric St. 10R pg. 42 ln. 10-17

and reasonable upgrade, i.e. a basic requirement for online interaction with customers. Ms. Golden's statement that the Company has had two-factor identification as an option since 2022 and will make it mandatory for residential customers by the end of 2024[15] does not show that PECO is providing more than reasonable service.

"Two step identification" is a standard practice for businesses and, in particular, utility businesses. As stated on pg. 6 section 2.B in the joint United States Department of Energy and National Association of Regulatory Utility Commissioners (NARUC) "Cybersecurity Baselines for Electric Distribution Systems and DER":

> "Establish and enforce a policy that requires a minimum password length of 15 or more characters for in-scope IT and OT assets that are not otherwise protected behind multifactor authentication (MFA) or other passwordless authentication mechanism.
>
> • If 15-character passwords, MFA, or other passwordless authentication mechanisms are not feasible, use the maximum password length that the technology supports and document and implement equally or more effective alternative measures or compensating controls to achieve the intended action(s). Establish and enforce a policy to prohibit password reuse, unless an organization defined risk exception is necessary and documented."[16]

PECO's adoption of "two-step" authentication is standard practice in the utility space and beyond. It therefore should be considered best practice and not above and beyond what a customer should expect from a company that handles their Personally Identifiable Information (PII).

[15] PECO Electric St. 10R pg. 29 ln. 12-17
[16] Available at: https://pubs.naruc.org/pub/35247A70-0C45-9652-C6D9-99A77C87200F

Q. Does anything in Ms. Golden's testimony about what she claims to be PECO's "proactive implementation" of additional website and mobile app features cause you to change your position whether PECO should get a management adder?

A. No. A modern utility company should be expected to have a modern website, especially one as large as PECO. The Company's website and mobile app should not be considered towards the awarding of a management performance adder as its behavior is consistent with a utility or company of its size and should not be awarded additional profits as such.

A utility having a mobile app is not a unique offering. At least five other Class A utilities in Pennsylvania offer a mobile application.[17] Company Smart Energy Water[18], who is listed as the publisher of UGI's mobile application on the Google Play Store[19] offers mobile utility or utility related applications for over 40 different private and municipal utilities around the United States and World. The customer experience, multi-channel notifications, and payment options seem similar to that of those provided by PECO. On the Google Play Store, Exelon[20] offers 6 other apps in addition to PECO's.

[17] AQUA - https://play.google.com/store/apps/details?id=com.aquawater.app&hl=en_US
UGI - https://play.google.com/store/apps/details?id=com.sew.ugi&hl=en_US
Columbia Gas - https://play.google.com/store/apps/details?id=com.sew.columbia&hl=en_US
Duquesne Light - https://play.google.com/store/apps/details?id=com.mobile.DuquenseLight&hl=en_US
PGW - https://play.google.com/store/apps/details?id=com.sew.scm_pgw&hl=en_US
Veolia Pa – N/A (However Veolia has applications for its European customers) - https://play.google.com/store/apps/developer?id=By+Veolia
[18] https://www.sew.ai/
[19] https://play.google.com/store/apps/developer?id=Smart+Energy+Water
[20] https://www.sew.ai/content/developer

Q. In direct testimony, related to PECO's request for a higher ROE for management performance, you raised a concern that PECO had not defined its objectives or provided support for how it plans to reach its objectives to improve customer satisfaction. How did Ms. Golden respond?

A. On pages 43-46, Company Witness Golden went into further detail on PECO's plan to improve customer satisfaction using a mixture of surveys and strategic communications to obtain customer feedback, which the Company uses to identify investments. She states that "The investments implemented to date are designed to improve the availability of customer products and reliability of underlying platforms."[21]

Q. Does Ms. Golden's testimony change your position that PECO has not supported a management adder based on its goals to improve customer satisfaction and customer operations?

A. No. PECO should continue its customer communication and outreach but I do not believe that PECO has provided adequate support for the awarding of a management performance adder on the basis of its goals to improve customer satisfaction. As will be seen later in my testimony and can be seen in the analysis from my direct testimony, PECO has room for improvement with regards to its call center performance and UCARE statistics.

Additionally, Company Witness Golden touts PECO's customer communication performance.[22] This however is also less than perfect. There have been breakdowns in communication from the Company to the customer regarding important information that can affect a customer's bill. An example of a breakdown in communication can be seen

[21] PECO Electric St. 10R pg. 45 ln. 7-8
[22] PECO Electric St. 10R pg. 44-46

in my supplementary direct testimony. Four customers testified that PECO does not provide sufficient information for interconnecting consumer-owned solar energy systems to the Company's distribution grid. Tr. 341, 427, 466, 534. Additionally, another customer testified about PECO's net metering bill format, stating that her bill did not accurately display the amount of electricity generated by her solar energy system. Tr. 427. Additionally, six PECO customers testified that PECO should do better to inform its customers regarding its residential heating rate for electric service. Tr. 244-245, 254, 275, 290, 338, 434. They expressed concern that customers who qualify to pay a lesser are not aware they have that option to reduce their bills.

If and when those improvements are in place, it would be appropriate to consider whether PECO has demonstrated excellence in its customer service such that it merits any upward adjustment to its return on equity for its Electric operations.

Customer Service

Q. What was your initial analysis of PECO's overall customer service?

A. Based on my review of the Company's call abandonment and average calls answered goals, I recommended the Company should take steps to implement a specific and tailored plan with actionable metrics for how it is going to meet its call abandonment and average calls answered goals.

I recommended PECO should address any ongoing issues with call handling that have not been resolved by the Company completing its implementation plan for the Bureau of Audits' 2022 PECO Energy Company Management and Operations Audit Report.

Regarding PECO's informal complaints and Verified Infractions, I recommended that the Company create a specific and tailored plan with metrics for how PECO will reduce

the informal complaints and Verified Infractions. Also, the Company should use data from its existing 2021 root cause analysis or conduct a new root cause analysis and use that data to create metrics for reducing informal complaints and Verified Infractions.

I also recommended that PECO should eliminate any payment processing fees associated with paying a PECO bill when not using "MyAccounts", e.g., online "pay as guest" or phone payments.

I addressed the OCA's recommendation that PECO reduce the use and retention of PII and develop both workflow and cyber-security measures to reduce the threat of disclosure or theft of PII.

Q. Have you changed any of your initial recommendations based on new information from discovery or testimony?

A. In part. Where I modified a recommendation it is discussed below and also provided in my conclusion for ease of reference.

Call Center Performance and Training

Q. Does Company Witness Golden address PECO's call abandonment rate and average calls answered within 30 seconds?

A. Yes. Company Witness Golden states that the Company has seen an improvement from 2022 to 2023. Additionally, she says that the customer service team sees resolving a customer's issue on first contact as a higher priority than shorter wait times.[23]

[23] PECO Electric St. 10R pg. 46 ln. 7-22

Q. Does Company Witness Golden address your recommendation related to the Company's First Contact Resolution (FCR) strategy and remaining call handling issues not resolved since the Commission's July 2022 Audit report?

A. Company Witness Golden stated that prior to the July 2022 report PECO "upon its own initiative the Company transitioned to FCR and made it a top priority metric for Customer Care."[24] And that the customer care team has made several changes to FCR since that time and is looking to identify more opportunities for process improvement.[25]

Q. Do you have any additional comments regarding the abandonment rate and average calls answered within 30 seconds?

A. The abandonment rate and calls answered within 30 seconds are metrics measured by the Commission to measure the quality of service a Company is providing. If PECO is choosing to prioritize its FCR plan over other metrics, it should still make efforts to uphold the standards that are measured by the Commission as an indicator of customer service performance. Even attributing the lesser performance in 2021 to be a symptom of an atypical year, and recognizing the data shows improvement from 2022 to 2023,[26] PECO's existing metrics do not warrant an increase in its return on equity. The Company should show that it can continuously meet these metrics over the course of a few years before any amount of management performance adder should be considered.

Q. Do you have any additional comments regarding the FCR?

A. Yes. As I addressed in my direct testimony, the Bureau of Audits stated in its July 2022 Audit Report regarding the FCR process that "call handling expediency may degrade

[24] PECO Electric St. 10R pg. 47 ln. 7-9
[25] PECO Electric St. 10R pg. 47 ln. 9-14
[26] PECO Electric St. 10R pg. 46 ln. 10-13

customer satisfaction and increase customer call backs."[27] Specifically, the Bureau of Audit's stated:

> "Best in class customer service performance requires a balancing of all aspects of call handling from handling time to first call resolution. However, the primary focus of the call center should be on service quality and the customer experience over call quantity/speed to answer. PECO has established a call efficiency task force to evaluate longer and shorter than average calls to identify ways to streamline calls or improve performance. However, PECO's focus on average handle time may cause customer concerns to go unresolved, questions to be unanswered, etc. Therefore, PECO should continue to shift focus to First Call Resolution and service quality while balancing the business needs of call handling time, etc."[28]

Accepting 2021 as an atypical year, I maintain my recommendation that the Company follow the guidance from the Bureau of Audits report that PECO should keep balance in mind when looking to solve a customer's issue upon first contact.

Further, I continue to recommend the Company investigate any persistent issues with call handling that have not been resolved by the actions PECO agreed to take in its implementation plan for its 2022 Audit Report. Ms. Golden's statement that "in a sense" the Company has already implemented my recommendation because "Customer Care continues to focus on ways to improve FCR"[29] does not address whether PECO has implemented this part of my recommendation.

Q. Did Mr. James Glenn of IBEW Local 614 comment on your direct testimony related to call center training and performance?

A. Yes. Mr. Glenn stated that additional training is necessary. He provided examples that Customer Service Representative (CSR) supervisors frequently do not understand the role of CSRs. PECO shifted customer service software in February of 2024 and provided

[27] 2022 Audit Report pg. 90
[28] 2022 Audit Report pg. 91-92
[29] PECO Electric St .10R, p. 47 ln. 1-14.

limited training and practice to its CSRs on the new software. He discusses that PECO has greatly reduced the training provided to CSRs for credit collecting.[30]

Mr. Glenn also comments on issues that the new system has caused for customers, including overcharges, unnecessary shut-offs, problems with following through with service requests, and failure of client information to carry over to the new system.[31]

Q. Do you have any comments?

A. While Mr. Glenn speaks extensively on how this lack of training and system change has caused "great stress and pressure" on PECO customer service representatives, I would like to emphasize the negative impacts caused to PECO's customers. Mr. Glenn's testimony underscores the need for PECO to address verified infractions and closely monitor informal complaints as I discuss next.

UCARE

Q. Does Company Witness Golden address your concerns regarding the Company's UCARE statistics related to the Company's customer complaint rate and verified infractions?

A. No. Company Witness Golden says that when PECO's statistics from 2021 are excluded that the data reported shows a decrease in residential complaints and that there is a "remains" steady trend in verified infractions.[32]

[30] IBEW R-Anastasi pg. 14 ln. 3-10
[31] IBEW R-Anastasi pg. 14 ln. 11-19
[32] PECO Electric St. 10R pg. 47-48 ln. 22-15

Q. Does this change your initial recommendation that PECO should conduct a root cause analysis and create a plan with actionable metrics providing how PECO will reduce informal complaints and Verified Infractions.

A. Partially. I note that the number of Verified Infractions for 2023 was not provided by the Company and the results that could be found on the Commission website were only preliminary.[33] Even if PECO's Verified Infractions are not increasing, the Company should still be working to avoid a "remaining steady" trend. I continue to recommend that a root cause analysis be conducted regarding Verified Infractions or, as I also proposed, PECO can use existing information from its 2021 root cause analysis along with data that the results of the third-party surveys that Ms. Golden mentions to create a plan with actionable metrics for how it is going to reduce Verified Infractions. For informal complaints, based on the data for only two years 2022-2023, I recommend that PECO continue to watch this metric closely and if the number of informal complaints rises or remains steady for 2024 and 2025, the Company should take the same action I recommend for Verified Infractions for informal complaints.

Processing Fees

Q. Did PECO respond to your testimony raising concerns about PECO charging some customers a fee because they pay their bill without using "MyAccounts" or because they pay by phone?

A. Company witness Golden clarified that there is also an option for customers who pay in-person at an authorized payment location. Those customers are assessed a fee but are reimbursed by PECO on their next bill.[34] She also stated that the fees charged by third-

[33] https://www.puc.pa.gov/media/2754/ucare_2023_q4.pdf
[34] PECO Electric St. 10R pg. 49-50 ln. 13-14

party processing vendors, rather than PECO directly, are primarily associated with the fees assessed by the credit card industry. Company Witness Golden goes on to state that if PECO were to include these third-party vendor fees in their revenue requirement that this could increase PECO's revenue requirement by five million dollars ($5,000,000).[35]

It is important to note that Company Witness Golden provided no support for this estimate. The OCA has asked discovery questions that may not be answered before this testimony is finalized as to how PECO calculated this number and other issues surrounding this claimed amount.[36]

Q. What was your initial opinion on PECO customers having to pay an upfront fee to make in-person payments?

A. While PECO has taken steps to help its low-income customers by reimbursing the customer in their next bill, this arrangement still leaves many low-income customers struggling. Ms. Golden stated that, in 2023, more than 250,000 walk-in payments were made and more than half of the available authorized bill payment locations are in Philadelphia where a majority of PECO's low-income customers are geographically located.[37] Low-income customers are more likely to be income constrained and unbanked with month-to-month affordability concerns. The reimbursement of in-person payment fees in the next bill leaves these customers without this money for 30 days when they need every dollar available. A better approach that would improve access for customers is for PECO to enter into agreements or otherwise arrange with the authorized bill payment locations for PECO to be directly billed for all payment fees.

[35] PECO Electric St. 10R pg. 50 ln. 4-14
[36] OCA Set 22 to PECO Electric
[37] PECO Electric St. 10R, p. 49-50, ln. 18-3

Q. Do you have any comments regarding fees assessed for credit and debit card payments?

A. Yes. Many unbanked households experiencing poverty receive paychecks and benefits (including social security and supplemental security income (SSI)) on prepaid debit cards.

Q. Do you have any recommendations?

A. Yes. I continue to recommend that these third-party processing fees should be included in PECO's revenue requirement rather than paid by individual customers. This is good practice[38] for reasons including that PECO no longer accepts in-person payments at locations where consumers could previously pay bills in person without incurring additional charges, and has replaced these locations with authorized agents that do require consumers to incur additional charges. Also, when a utility customer makes multiple payments during the course of a month, fees on credit and debit payments undercut their ability to apply funds to the payment of actual utility services. While Ms. Golden asserted that recovering these fees in rates would add an additional $5,000,000 to the Company's revenue requirement, she did not provide any support for that estimation.[39] I recommend that PECO be required, in its next rate case, to propose complete elimination of fees for bill payment using credit and debit cards and present a full cost analysis.

[38] These and other reasons are discussed in NASUCA Resolution 2012-07. https://www.nasuca.org/2012-07-urging-utilities-to-eliminate-convenience-fees-for-paying-utility-bills-with-debit-and-credit-cards-and-urging-appropriate-state-regulatory-oversight/. I also note that Illinois has a statute that prohibits gas and electric utilities from charging a convenience fee or any surcharge "to any customer who elects to pay for service using a credit card that the electric or natural gas utility would not assess to the customer if the customer paid by other available methods acceptable to the utility." https://codes.findlaw.com/il/chapter-220-utilities/il-st-sect-220-5-8-201-9/ I am also aware that Duquesne Light Company, Columbia Gas of Pennsylvania, Inc., UGI Gas, Pittsburgh Water and Sewer Authority and Pennsylvania-American Water Company do not charge third-party transaction fees for payments.

[39] PECO Electric St. 10R pg. 36 ln. 4-12

In addition to treating fees for credit and debit card payments uniformly for all PECO customers, regardless of the method of payment (e.g., with or without MyAccount, by phone, in-person, by mail), I recommend that PECO work to negotiate lower fees with its third-party vendors. Reducing the level of expense recovered in rates would benefit all customers.

PII

Q. Did Company witness Golden address your concerns related to the Company's retention of customer's PII?

A. Yes. Witness Golden states that PECO follow industry best practices around cyber security and PII. That the Company needs to retain such information to avoid fraudulent accounts.[40]

Q. Do you have any comments?

A. Yes. PECO indicates, both in Ms. Golden's rebuttal testimony and responses by Ms. LeVine to OCA discovery (Set 18), that it has developed workflow and cyber-security measures to reduce the threat of disclosure or theft of PII. The OCA continues to recommend that all utilities, including PECO, work to reduce the use and retention of PII.

Conclusion

Q. Please summarize your conclusion.

A. My analysis shows that PECO Electric should not receive a management performance adder for the customer service it provides. PECO Energy provides customer service and billing service for both the Electric and Gas Divisions. While the OCA opposes any management performance adder, if any amount of adder is awarded, PECO should not be

[40] PECO Electric St. 10R pg. 50-51 ln. 20-f8

permitted to double-dip for performance of the very same services that it provides using the same resources. In my view, PECO should receive no upward adjustment based on management performance, but if the Commission awards an adder, it should award it once not twice.

Q. Please summarize your recommendations, as updated in your surrebuttal testimony.

A. My recommendations are the following:

- The Company should follow the guidance from the Bureau of Audits report that "best in class" customer service performance requires a balancing of all aspects of call handling from handling time to first call resolution.

- The Company should investigate any persistent issues with call handling that have not been resolved by the actions PECO agreed to take in its implementation plan for its 2022 Audit Report.

- Regarding PECO's informal complaints and Verified Infractions, I recommend that the Company create a specific and tailored plan with actionable metrics for how PECO will reduce Verified Infractions. Also, the Company should use data from its existing 2021 root cause analysis or conduct a new root cause analysis and use that data to create metrics for reducing Verified Infractions.

- For informal complaints, PECO should continue to watch this metric closely and if the number of informal complaints rises or remains steady for 2024 and 2025 compared to 2022 and 2023, the Company should take the same action I recommend for Verified Infractions for informal complaints.

- PECO should enter into arrangements with authorized bill payment locations to be directly billed for all payment fees and stop requiring up-front payment of these fees by the customer.

- PECO should eliminate any payment processing fees associated with paying a PECO bill when not using or enrolled in "MyAccounts", e.g., online "pay as guest" or phone payments. Specifically, in its next base rate case, PECO should be required to propose complete elimination of fees for bill payment using credit and debit cards and present a full cost analysis.

- PECO should work to negotiate lower transaction fees charged by its third-party vendors.

- The OCA recommends that PECO take steps to reduce the use and retention of PII.

Q. Does this conclude your testimony?

A. Yes, at this time.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Nicholas A. DeMarco, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 5SR, 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 2, 2024

Signature: */s/Nicholas A. DeMarco*
Nicholas A. DeMarco

Address: Office of Consumer Advocate
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Harrisburg, PA 17101

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No. R-2024-3046931
v.	:	
	:	
PECO Energy Company Electric Division	:	

SUPPLEMENTAL DIRECT TESTIMONY

OF

Nicholas A. DeMarco

On behalf of the

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

Date Served: July 16, 2024

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Exhibit NAD-1-SD: Summary of Public Input Hearing Testimony

Introduction

Q. Mr. DeMarco, did you previously provide testimony in this proceeding on behalf of the Office of Consumer Advocate?

A. Yes. My initial testimony was submitted as OCA Statement 5. I am a Regulatory Analyst for the Office of Consumer Advocate. My testimony covered customer service and consumer protection issues.

Q. What is the purpose of your supplemental direct testimony?

A. The purpose of my supplemental direct testimony is to introduce two topics that were raised at the Public Input Hearings and which would have been addressed in my direct testimony had the OCA had this information at that time and also to introduce as an exhibit a summary of testimony given by concerned PECO customers at the Public Input Hearings held on June 6, 10, 12, 13 and 27, 2024. This summary is attached to this testimony as Exhibit NAD-1-SD.

Q. **Was the exhibit prepared by you or under your supervision?**

A. Yes. The summary was prepared by attorneys who participated in the public input hearings. I reviewed the public input hearing transcripts and determined that the summary is accurate.

Q. What two additional topics will you be addressing?

A. I will be addressing customer service for consumers with private solar energy systems and the net metering format, along with residential heating tariff charges.

Solar Customer Service and Net Metering Bill Format

Q. What issues did customers testify to regarding solar customer service and net metering bill format?

A. Four customers testified that PECO does not provide sufficient information for interconnecting consumer-owned solar energy systems to the Company's distribution grid. Tr. 341, 427, 466, 534. Additionally, another customer about PECO's net metering bill format, stating that her bill did not accurately display the amount of electricity generated by her solar energy system.[1] Tr. 427.

Q. Do you have any recommendations or comments?

A. Yes. PECO should respond to the concerns raised by these customers.

Residential Heating Tariff Charges

Q. What is PECO's residential heating service program?

A. Under PECO's residential heating service tariff rate customers receive a discounted rate from October through May if they rely on electricity as the primary source of heating in their household.[2]

Q. What issues did PECO customers identify regarding the residential heating service program?

A. Six PECO customers testified that PECO should do better to inform its customers regarding its residential heating rate for electric service. Tr. 244-245, 254, 275, 290, 338, 434.[3] They expressed concern that customers who qualify to pay a lesser are not aware they have that option to reduce their bills.

[1] Exhibit NAD-1-SD pg. 17
[2] Supplement No. 50 to Tariff Electric Pa. P.U.C. No. 7 Sixteenth Revised Page No. 52
[3] Exhibit NAD-1-SD pg. 16

Q. Does the Public Utility Code require utilities to offer the most advantageous rate to its customers?

A. Yes. Section 1303 provides that "… Any public utility, having more than one rate applicable to service rendered to a patron, shall, after notice of service conditions, compute bills under the rate most advantageous to the patron." Therefore, if a customer may qualify for both residential and residential heating services PECO should take reasonable steps to enroll as many qualifying customers in residential heating service as possible.

Q. Do you have any comments or recommendations?

A. PECO should do more to promote this charge such as multiple points of contact and bill inserts leading up to the heating season. PECO should also do more to capture customers who switch to electric heating throughout the year.

Conclusion

Q. Please summarize your conclusion.

A. The Company should address the customer service for consumers with private solar energy systems and the net metering format, along with residential heating tariff charges as recommended. Additionally, the summary provided in NAD-SD-1 may not be exhaustive to all of the issues raised by customers regarding the quality of service they are receiving from PECO. PECO should work to address and alleviate the issues and concerns raised by its customers at the public input hearings.

Q. Does this conclude your testimony?

A. Yes, at this time.

OCA Summary of Public Input Testimony

Issues raised during Public Input Hearings:

1. Affordability 2
2. Aqua Rate Increase Simultaneous Impact on PECO Customers 5
3. Customer Service 6
4. Fixed Charges 7
5. Inflation 9
6. Infrastructure Improvements 10
7. Limited English Proficiency Households 11
8. LIHEAP Auto-enrollment 12
9. LIURP Funding and Access 13
10. PECO's Service Territory 14
11. Residential Heating Service 15
12. Solar Integration 16

In this proceeding, 39 unique customers testified regarding the above issues. While other customers testified as well, the OCA did not include those customers' testimony in this summary because the testimony was either not relevant to this proceeding, generally, or not relevant to the OCA's overall recommendations, as set forth in its direct testimony.

1. Affordability

During the Public Input Hearings, 26 unique customers presented testimony about the unaffordability of PECO's bills. Tr. 95, 106, 110, 113, 117-118, 128, 166, 222-223, 239-241, 244, 269-270, 274-275, 289, 334-335, 356, 363, 376-377, 423, 433, 443, 458-459, 463, 497, 515, 527, 577-579. PECO customers testified that they are struggling, or their communities are struggling, under PECO's rates at present, and that additional rate increases will place a substantial burden on household budgets. As stated by Ms. Spera at the June 12 afternoon Public Input Hearing: "Already the electric bills are unmanageable. There are people who have to choose between paying an electric bill and paying for their medication that may keep them alive. Some may even be in your own community. Do you know what would come with rate increase? Shutoffs." Tr. 269. At already unaffordable rates, any rate increase will have a dramatic impact on customers' ability to stay current with their utility bills.

PECO customers urged the Commission to consider the current and future cost to ratepayers of any rate increase authorized in this proceeding. As Mr. Harvey Chanin recognized, in his testimony at the June 13 afternoon Public Input Hearing, the Commission "is obligated to ensure that all ratepayers have the electricity they need at rates they can afford." Tr. 433. PECO customers testified that, to determine "affordability," the Commission must consider customers' energy burden, or the portion of monthly income spent on utility bills. Tr. 463. According to Mr. Amernath, who also testified at the June 13 afternoon Public Input Hearing, "Philadelphia is one of the most energy burdened metropolitan centers in the country." Tr. 443. The substantial energy burdens customers in PECO's service territory are already under illuminates the importance of minimizing any authorized rate increase.

As Ms. Spathakes, at the June 13 afternoon Public Input Hearing, described it, the affordability crisis facing PECO's customers is sometimes called "eat, heat or treat, where families

choose between food, medicine or paying their utility bills or even their rent. Sometimes staying on top of their bills means having to make these health harming choices. Sometimes that means eating less, keeping homes at unhealthy or uncomfortable temperatures, or foregoing health sustaining medication." Tr. 458-459. Rising energy burdens and rationing essential services can also result in homelessness or pose an insurmountable obstacle to homeless people trying to find stable housing situations. Tr. 118, 240-241.

Councilwoman Rue Landau, at the June 12 afternoon Public Input Hearing, testified that "[a]ccess to electricity is not a luxury, it's a necessity." Tr. 244. Due to its essential nature, when customers are faced with difficult choices regarding what costs to ration each month, those customers put themselves and the others living in their household at risk. Especially in Philadelphia – an area which can get particularly warm during summer months – affordable access to electric service, generally, and air conditioning, specifically, can have significant health consequences. Tr. 376. If PECO bills remain unaffordable, as stated by Ms. Dunn at the June 12 afternoon Public Input Hearing, "[t]he consequence is that people will be afraid to use their electricity because they can't afford it and will be at risk of being cooked in their own homes along with their pets. Low-income populations already suffer from chronic illnesses at disproportionate rates, face greater risk of heat-related illnesses. No one ever called these epidemics, but they are." Tr. 376-377.

PECO's customer assistance program (CAP) was also identified as an insufficient measure to preserve affordability. Mr. Mitchell Chanin, at the June 12 evening Public Input Hearing described it as the "one dollar over problem," or "[i]f you make a dollar over the [CAP] threshold you're still poor, you're still struggling to pay your bills." Tr. 335. While CAP improves affordability for qualifying customers, it provides little assistance for low-income customers who are not enrolled or for low-to-middle income customers slightly above the threshold. Tr. 128. As

CAP thresholds are not related to the rates charged, but to monthly income relative to the Federal Poverty Guidelines, an increase in rates for a customer earning one dollar above the threshold will see no affordability assistance for increased PECO rates. Tr. 335. Further, customers enrolled in CAP can still struggle under unaffordable energy burdens. Tr. 459.

Testimony was also presented about how customers living on fixed incomes would struggle to afford increased rates. Tr. 110. PA Representatives Sappey and Borowski both testified regarding the substantial number of senior citizens in PECO's suburban service territory. Tr. 128, 166. Retired PECO customers, or other customers living on fixed income, will be disproportionately affected by rate increase due to less ability to adapt financially to a rate increase and the smaller incremental increase in fixed payments annually, compared to the frequency with which PECO rates increase. Tr. 515.

In sum, the majority of public input hearing testimony referenced affordability – namely, that current PECO rates are unaffordable and that any increase in rates will present a substantial burden on customers in PECO's service territory. Due to the demographics of PECO's service territory, with a high number of already highly or severely energy burden households and customers living on fixed incomes, maintaining affordability of rates was of paramount importance to PECO's customers. Failing to consider affordability could create or exacerbate public health crises due to significant energy burdens, resulting in customers needing to pick between essentials – eating, heating, or treating – when putting together their monthly budget. While some witnesses recognized the benefits of CAP for improving PECO affordability, they also identified that CAP is not a silver bullet to unaffordable rates. As a result, customers requested that the Commission consider the impact of increasing already unaffordable rates when issuing its decision in this proceeding.

2. Aqua Rate Increase Simultaneous Impact on PECO Customers

Eight unique customers testified regarding the increased utility burden posed by simultaneous increases in electric, gas, water, and wastewater rates. Tr. 94, 106, 113, 128, 166, 170, 516, 527. While the rate increase proposed by Aqua at Docket Numbers R-2024-3047822 and R-2024-3047824 is not the subject of the instant proceeding, PECO customers raised concerns that the confluence of rate increases between PECO's gas and electric rates and Aqua's water and wastewater rates could create undue burdens on PECO customers following the effectiveness of such rates. PA Representative Borowski, at the June 6 evening Public Input Hearing described the multiple rate increases as a "stressor on many residents." Tr. 128. These customers – who, by and large are customers of both PECO gas and electric service – specifically urged the Commission to "take into consideration . . . all utility increases" when rendering a decision in this proceeding, as stated by Ms. Duncan at the June 10 evening Public Input Hearing. Tr. 170. As a result, the multiple simultaneous rate increases can, as stated by PA Representative Sappey, "put[] undue financial burden on customers" and PECO's rate increase request should be considered in the context of other cost increases.

3. Customer Service

Two customers presented testimony raising specific customer service concerns. Tr. 427, 447-449. The first specific customer service concern was raised by Ms. Robinson at the June 13 afternoon Public Input Hearing. There, Ms. Robinson testified that she was having difficulties with net metering, where her PECO bill was not properly displaying the amount of solar power that her solar array was generating when producing her bill offset for generated power. Tr. 427. Ms. Robinson stated that she complained to PECO, and then went through her billing customer service representative to complain and has not yet received a response despite over a week passing from when her initial complaint was filed. *Id.* Ms. Robinson only recently began experiencing this problem after PECO implemented a new bill format, despite the fact that she had no issues with the prior bills. *Id.* As provided by Ms. Robinson, "I'm finding that PECO is challenged by things and is beginning to fail to even maintain the quality of customer service that, you know, it was able to maintain in the past." *Id.*

Ms. Owen, who also testified at the June 13 afternoon Public Input Hearing, testified that her budget billing payments recently increased by a significant amount. Tr. 447. According to Ms. Owen, PECO increased her budget bill payments because of increased usage. *Id.* She has not identified how she has been using additional electricity to warrant an increase in her budgeted bill, as PECO has sent her emails congratulating her on her reduced usage as compared to her neighbors. Tr. 448-449. As a result, Ms. Owen testified "I've checked with my dog periodically to see if she's keeping the TV on, because otherwise I don't know where all the [] usage is coming from." Tr. 447.

Therefore, Public Input Hearing testimony in this proceeding suggests that PECO should examine its bill format and how it calculates budget billing payments to ensure customers receive consistent quality of service and customer service to pay only the amount they should each month.

4. Fixed Charges

Eleven unique customers testified regarding the impact of increased fixed charges on affordability. Tr. 244, 289, 336, 364, 434, 444, 455, 498, 520, 532, 539. Specifically, customer testimony identified that increase the portion of a customer's bill that they cannot control places a disproportionate burden on low-income and low usage customers, who have little control over reducing their utility bills. Tr. 364. As stated by Ms. Ibarra at the June 13 evening Public Input Hearing, PECO's "proposals include increased fixed charges, which disproportionately hurt low-income customers that generally use less electricity than wealthier customers. Before we even flip the switch or turn on the stove, we're being hit with higher fees just for being connected. It's unfair and it's pushing us further into financial hardship." Tr. 498. Ms. Greenfeld, testifying at the June 13 evening public input hearing, similarly testified that "there's no way for customers to reduce those charges, such as by reducing their usage, their energy usage, or by improving the energy efficiency of their home." Tr. 520. In sum, PECO customers agreed that fixed charges are particularly harmful to low-income and low usage customers because they constitute a significant portion of the unavoidable energy burden. Tr. 244, 289.

Furthermore, as stated by Mr. Mitchell Chanin at the June 12 evening Public Input Hearing, high fixed charges are "a disincentive to investment by customers in energy-efficient appliances, insulation and other measures to reduce their usage." Tr. 336. They result in weaker price signals for energy savings, including "reducing the payback on personal investments, energy efficiency, distributed solar and storage," an issue raised by Mr. Amernath at the June 13 evening Public input Hearing. Tr. 444. Mr. Harvey Chanin, at the June 13 afternoon Public Input Hearing, similarly testified "I have solar panels on my roof. An increase in the fixed charge penalizes me for using the latest technology while replacing fossil fuels with renewable energy." Tr. 434. Customers seeking to conserve energy and reduce their usage – through, *inter alia*, installing energy efficient

appliances or simply using less – are penalized by higher fixed charges, which cannot be reduced by such efficiency measures.

As proposed, the rate increase for residential customers disproportionately comes from fixed charges, instead of volumetric rates. Tr. 532, 539. Therefore, PECO's customers requested that, if the Commission did authorize a rate increase, no portion of the rate increase borne by residential customers would come from increased fixed charges. Tr. 520. In sum, the customers testified that minimizing the fixed cost of receiving PECO service makes rates more affordable while preserving incentives for customers to reduce usage and allowing them to earn returns on their conservation-oriented investment in efficient appliances.

5. Inflation

Twelve unique customers testified about the impact of inflation on their ability to afford their PECO bills. Tr. 93, 99, 109, 118, 251, 382, 459, 464, 515-517, 527, 531, 539. These customers agreed that, although costs may be increasing for PECO to provide service, cost increases in food, gas, rent, childcare, and other essential expenses are already squeezing low- and middle-income customers. Tr. 515. Several customers noted that wages have not kept up with the pace of inflation, especially when considering minimum wage, making it difficult to continue to afford increasing costs. Tr. 93, 118. Ms. Lu, at the June 12 afternoon Public Input Hearing, testified that, "the cost of living has increased in recent years, whether that's with food, housing, or in this case, utility bills. And so, while PECO's proposed rate increases will affect all customers, it ultimately will harm those already burdened by its high cost the most." Tr. 251. For customers already struggling to afford their living expenses – especially those living on fixed incomes – a PECO rate increase which compounds the other inflationary pressures increasing experienced costs would cause substantial harm. Tr. 527.

This is especially true in PECO's service territory, as Ms. Cohen testified during the June 13 afternoon Public Input Hearing, that "the cost of groceries increased more in Philadelphia than in any other us metro area[.] Pennsylvania also had the highest grocery price inflation of any state in the nation." Tr. 464. As a result, PECO's customers testified that PECO should not be able to limit its own exposure to inflationary pressures by pushing those pressures on to its customers; instead, the burden of increased costs should be shared by the Company and its customers. Tr. 531.

6. Infrastructure Improvements

Many of PECO's customers expressed concern regarding PECO's role in the current climate crisis and about PECO's actions to transition towards carbon neutral service. Of those customers, seven specifically testified regarding how PECO's infrastructure investment should be geared towards grid modernization and enhancement. Tr. 100, 282-283, 339-340, 366, 425-426, 443-444, 533. Ms. Blumberg testified at the June 12 afternoon Public Input Hearing that "[t]wo of the four reasons that PECO gives for the requested rate increase are to support additional investments in utility infrastructure and deployment of new information technology for grid modernization. Both investments prioritize ways to reduce greenhouse gas emissions and significantly increase energy efficiency. Yet sadly none of these were mentioned in the current request." Tr. 283.

Customers were particularly concerned with how PECO's current distribution system investment fails to undertake integrated distribution planning processes, which would keep rates lower than PECO's current investment strategy while enhancing the reliability PECO's grid. Tr. 425-426. They expressed dismay that PECO did not present evidence it considered non-wires alternatives or other grid-enhancing technologies when building out or replacing infrastructure, as such alternatives would result in ratepayer savings while holistically improving PECO's distribution system. Tr. 443-444. As a result, as stated by the Company's customers, the prudence of PECO's claimed additions to rate base for infrastructure improvements or replacements should be viewed through the lens of whether PECO pursued the lowest cost method to modernize its grid, instead of merely making the same type of infrastructure investment as in the past several decades.

7. Limited English Proficiency Households

Five customers testified that PECO should expand access to households with limited English proficiency by providing essential documents, such as termination notices, in other languages. Tr. 245, 254, 275, 339, 365. Councilwoman Rue Landau, at the June 12 afternoon Public Input Hearing, recommended that "PECO should track customer language preferences and translate important communications, such as Termination Notices and CAP enrollment and recertification letters into Spanish and other languages." Tr. 245. This is because "[a] multitude of our low-income residents are people . . . using English as non-native speakers, and you are making this difficult process even harder on them." *Id.* PECO should be willing and able to "provide information about [the Low-Income Usage Reduction Program, or] LIURP, about the Customer Assistance Program and other Universal Service Programs in multiple languages," according to Ms. Lu, who testified at the June 12 afternoon Public Input Hearing. As PECO's customers testified, ensuring that essential documents, such as termination notices and CAP information, are accessible to all customers within PECO's service territory – including customers who have limited English proficiency – is essential to providing adequate service.

8. LIHEAP Auto-enrollment

Eight customers testified that PECO should automatically enroll customers who seek funding from the Low-Income Home Energy Assistance Program (LIHEAP) in its CAP. Tr. 223, 245, 253, 275, 297, 339, 365, 465. PECO's customers testified that PECO should be proactive in enrolling customers in its CAP if the customer is a recipient of LIHEAP assistance, instead of waiting for the customer to apply for CAP. Tr. 291. Proactive enrollment would permit low-income customers who qualify for CAP but are not enrolled to immediately see the benefits of CAP, including limiting monthly bill payments to a fixed percentage of income, without the need to apply for multiple programs. Tr. 245. Due to the significant number of qualifying but not enrolled low-income customers, using LIHEAP data to automatically enroll customers in CAP would help make rates affordable for the PECO customers who need it most. Tr. 465.

9. LIURP Funding and Access

Eight customers testified that PECO should expand funding for, and access to, its Low-Income Usage Reduction Program (LIURP). Tr. 223, 253, 275, 290, 337, 365, 465, 501-502. As stated by Ms. Greenspan at the June 13 evening public input hearing, "[i]nsulation, energy efficient windows and doors and heat pumps will bring down customer bills and reduce the need for PECO to pay for expensive distribution and transmission upgrades." Tr. 501-502. Mr. Mitchell Chanin, at the June 12 evening Public Input Hearing proposed that an "increase in LIURP spending should be proportionate to the increase in rates." Tr. 337. The testimony showed that PECO's customers recognize the benefits that LIURP provides for low-income households, reducing bills and usage for qualifying customers, and recognize that the benefits of LIURP should be wider-spread than at present. Tr. 275.

10. PECO's Service Territory

Ten customers testified about the impact that PECO's rate increase request would have on the Company's service territory, if granted. Tr. 222, 243-246, 383, 443, 458, 464, 497, 501, 516, 531. Councilwoman Landau, at the June 12 afternoon Public Input Hearing, testified: "While I understand the reasons behind these proposed increases, the impact on our community, especially on those already struggling to make ends meet cannot be ignored." Tr. 243-244. PECO's service territory, including the City of Philadelphia, may already be burdened by particularly high energy burdens when compared to other areas in the United States of similar size and customer density. Tr. 443, 458, 464. PECO's proposed rate hikes will dramatically affect the ability for low-income households, especially, within its service territory to continue to afford to live within the area. Tr. 497. High costs of living – including PECO's current rates – are forcing PECO customers to consider if they must move out of PECO's service territory to an area where they can afford to live, which is particularly true for customers on fixed incomes. Tr. 516. As a result, PECO customers requested the Commission consider the particular impact an authorized rate impact would have on PECO customers in the particular context of where PECO's service territory is situated, which is an area facing significant cost of living increases and under substantial energy burdens at present rates. Tr. 222.

11. Residential Heating Service

Six PECO customers testified that PECO should do better to inform its customers regarding its residential heating rate for electric service. Tr. 244-245, 254, 275, 290, 338, 434. Mr. Harvey Chanin, at the June 13 afternoon Public Input Hearing, testified that he had only recently learned of PECO's residential heating rate, after having installed a qualifying electric heat pump. Tr. 434. Similarly situated customers – who are transitioning from natural gas to electric heating – could save on their electric rates during winter months by being charged a lower distribution rate than a residential non-heating customer. *Id.* However, in order to receive the residential heating rate, the customer must be made aware that they should request a residential heating rate, instead. Tr. 290. As stated by Ms. Lu, at the June 12 afternoon Public Input Hearing, "Many customers are simply not aware of this program, which means they're missing out on heat savings during the heating months." Tr. 254. PECO should be making best efforts to adequately inform its customers of its different rate offers, how to qualify under a different rate, and the advantages that may result from switching from residential (non-heating) service to residential heating service – especially when a customer may already qualify for the residential heating rate and not even know. Tr. 338. In sum, PECO's customers believe that PECO has not provided sufficient information regarding its residential heating rates, but it should in order to ensure that it is computing bills for qualifying customers under the rate most advantageous to that customer. Tr. 244-245.

12. Solar Integration

Four customers testified that PECO does not provide sufficient information for interconnecting consumer-owned solar systems to the Company's distribution grid. Tr. 341, 427, 466, 534. In the words of Ms. Cohen, in her testimony at the June 13 afternoon Public Input Hearing, "It is past time for PECO to make it easy and quick for ratepayers to install rooftop solar on our homes." Tr. 466. Mr. Mitchell Chanin, at the June 12 evening Public Input Hearing, recommended that PECO improve its solar interconnection application process, including providing a public hosting capacity map, reducing delays in interconnection application processing time, and making more information about solar interconnection publicly accessible. Tr. 341. As provided above, Ms. Robinson, at the June 13 afternoon Public Input Hearing, testified that her solar array's net meter readings displayed on her monthly bill have been inaccurate for the amount of electricity generated by the solar array – an additional example of PECO's poor handling of customers using solar. Tr. 427. These customers agreed that PECO has made certain aspects about solar installation unnecessarily difficult, and that PECO should make changes to its billing and interconnection processes to make it easier for customers to install and benefit from their own solar array.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Nicholas A. DeMarco, hereby state that the facts above set forth in my Supplemental Direct Testimony, OCA Statement 5 Supp., 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 16, 2024

Signature: */s/ Nicholas A. DeMarco*
Nicholas A. DeMarco

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555 Walnut Street
Fifth Floor
Harrisburg, PA 17101

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No.: R-2024-3046931
v.	:	
	:	
PECO Energy Company – Electric Division	:	

DIRECT TESTIMONY

OF

Ron Nelson

On behalf of the

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

PUBLIC VERSION

Date Served:

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I. Introduction

Q. Please state your name and business address.

A. My name is Ron Nelson. My business address is 1311 SE 53rd Avenue, Portland, Oregon, 97215.

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

A. I am the President and Founder of Volt-Watt Consulting LLC.

Q. Please describe your professional experience, educational background, and qualifications.

A. In 2024, I founded Volt-Watt Consulting LLC ("Volt-Watt"). Volt-Watt specializes in providing clients regulatory services in the areas of cost-of-service modeling, regulatory innovation, performance-based regulation, distributed energy resources ("DER"), rate design, renewable program development, grid modernization, new grid technologies, and electric vehicles ("EVs"). I have worked with numerous consumer advocates, nongovernmental organizations, utilities, and public service commissions on issues related to cost-of-service modeling, rate design, grid modernization, distributed energy resource valuation and integration, and performance-based regulation. Prior to founding Volt-Watt, I was a Senior Director at Strategen Consulting and worked in various roles for six years.

Before joining Strategen in early 2018, I worked for the Minnesota Attorney General's Office for almost five years, where I led that office's work on cost of service, rate design, renewable energy program design, performance-based regulation, and utility business model issues. Before that, I worked for two universities and the United States Geological Survey as an economic researcher. I have a Master of Science from Colorado State University in Agriculture and Resource Economics, and a Bachelor of Arts in

Environmental Economics from Western Washington University, where I also minored in Mathematics. My resume and curriculum vitae is attached as Exhibit RN-1.

Q. Have you previously testified in regulatory proceedings?

A. Yes. I have testified in approximately 70 proceedings in Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, New Hampshire, North Carolina, North Dakota, Michigan, Minnesota, Ohio, Oklahoma, Pennsylvania, South Carolina, Utah, and Vermont. The issues covered in these proceedings include marginal and embedded cost of service studies, revenue apportionment, rate design, load management, renewable program design, fuel clause adjustments, formula rates, decoupling, performance-based regulation, multi-year rate plans, performance metrics, distributed energy resource ("DER") interconnection, DER compensation, DER integration, EV infrastructure investments, pilot frameworks, automated metering infrastructure, prudence review, distribution system planning, capital investment plan review, and smart inverter integration, among other topics.

I have also advised the Hawaii, Colorado, Kentucky, and Connecticut Public Service Commissions, and have supported clients in Federal Energy Regulatory Commission ("FERC") proceedings.

Q. Have you previously provided testimony before the Pennsylvania Public Utility Commission?

A. Yes. I submitted testimony on behalf of the OCA regarding PPL Electric Utilities' DER Management Plan at Docket No. P-2019-3010128. I also submitted testimony on behalf of the OCA regarding Duquesne Light Company's Transportation Electrification (TE) Programs at Docket No. R-2021-3024750. I most recently testified on behalf of OCA in Philadelphia Gas Works' (PGW) proceeding to revise its weather normalization adjustment

(WNA), Docket Nos. R-202203034229 and P-2022-3034264. Of significance to this case, I previously submitted testimony on behalf of the OCA regarding PECO Energy Company – Electric Division's Electric Vehicle ("EV") Charging Pilot in Docket No. R-2021-3024601, which was PECO's 2021 base rate case in which its EV Pilot Program was reviewed and extended.

Q. What is the purpose of your testimony in this case?

A. The purpose of my testimony is to respond to the Direct Testimony of PECO Energy Company (PECO or Company) witness Steven J. DeMott (Statement No. 9) regarding PECO's proposals to extend and modify its EV pilot programming.

Q. What are your qualifications to provide this testimony in this case?

A. Regarding specific EV-related proceedings, I testified, or assisted clients in non-litigated proceedings, in eight states, including Pennsylvania and Washington D.C.[1] In these proceedings, I countered utility-proposed residential and commercial EV rates, proposed alternative EV program designs, and recommended more advanced load management approaches, including automated load management (ALM). As mentioned above, I also served as the OCA's expert witness in PECO's 2021 base rate case where I reviewed PECO's initial EV pilot program and I made recommendations to make the programming more effective and efficient.

Q. Have you prepared Exhibits to accompany your testimony?

Yes. I have attached Exhibit RN-1 through RN-8 to my testimony. In total, these exhibits include my Resume and several of PECO's identified discovery responses that I reference in my testimony.

[1] The states include MN, NV, GA, MA, PA, HI, IL, and NJ.

II. Summary

Q. Please summarize your conclusions and recommendations.

A. I recommend the following:

- **Data Collection:** The Commission should require the Company to report on the load data not being collected as a reporting requirement. Specifically, the Company should report the number of customers and chargers that the Company is and is not collecting data by month.
- **Metering:** The Commission should require the Company to evaluate submetering with networked electric vehicle supply equipment (EVSE) within the EV Charging Pilot. Specifically, the Company should report on the accuracy of the data collected and what additional actions and costs it would take to enable submetering for networked L2 and DCFC chargers. Requiring the Company to use the networked L2s for something more than data collection, for which it is not doing well and not leveraging, would provide a valuable use case and lessons learned that would benefit ratepayers.
- **Rate design (i.e., demand credit and contract maximum demand charge):** I recommend that the Commission require the Company to propose tariffs that align supply rates with underlying distribution tariffs for EV chargers. Specifically, and consistent with the OCA's policy preference for this case, I recommend that the Company be required to propose an EV-specific TOU or other dynamic rate that differentiates both supply (i.e., generation and transmission) and distribution (i.e., substations and primary voltages) for customers that are able to participate in both proposed EV Pilots.
- **Time period for extending pilot/Rate design:** the pilots should be extended only until May 31, 2029 so that they conclude in line with the timing of PECO's default service plan period. I note that PECO's existing default service plan is in place for the four-year period

extending from June 1, 2021 through May 31, 2025[2], and the next iteration of the plan will likely extend from June 1, 2025 through May 31, 2029. Aligning the EV pilot programming term with PECO's default service plan term will permit congruent evaluations of the impacts and outcomes of the EV pilot and the default service plan to better inform future decisions. the Commission should require the Company to provide to the OCA and other stakeholders the proposed updated rate design 9 months prior to filing their next default service proceeding or rate case in which it would propose the broader EV Pilots filing.. This will provide stakeholders with time to evaluate the proposed rate design(s) and determine whether the modifications to the default supply rate is reasonable.

- **Automated load management (ALM)[3]**: The Commission should require the Company to define ALM approaches for customers and begin offering these flexible connection approaches. To this end, the Company should, in coordination with stakeholders, develop a standard site evaluation methodology that would be applied to all EV charging sites during the preliminary site design process to determine if ALM can be used to cost-effectively meet the customer's charging needs.[4] If ALM is deemed suitable for a particular site, this information can then be communicated to the customer for the customer to review and make any modifications to the project before signing off on the construction of the charging site.
- **Distribution system planning**: the Commission and stakeholders should aim to gain a better understanding of key investments that Company is making in the near future. To

[2] Petition of PECO Energy Company for Approval of its Default Service Program for the Period from June 1, 2021 through May 31, 2025, P-2020-3019290, Opinion and Order at 67 (December 3, 2020).
[3] Also known as demand management technologies or EV energy management systems.
[4] See Pacific Gas & Electric's proposed site evaluation criteria, Electric Vehicle Charge 2 Prepared Testimony, Chapter 5, Attachment A, Case Number A.21- 10-010, BEG.

start with the Commission should require certain distribution system planning by the Company that I outline in Section IV.D, below.

- **Metrics:** The Commission should require the Company to create metrics and proposed targets associated with the following:
  - Ratio of DCFC charging stations to current and projected future EVs in operation;
  - Percentage of highway interchanges having a DCFC site within one mile that meets National Electric Vehicle Infrastructure program specifications;
  - Percentage of ZIP codes having at least one public DCFC site.

II. Overview of Company's Proposed EV Charging Pilot and EV-FC Rider

Q. Are the Company's two EV proposals in this case its first tranche of transportation electrification pilots?

A. No. As I mentioned above, PECO's EV pilot was initiated as part of its 2021 base rate case in which PECO proposed the Transit Charging Program, a Commercial and Industrial Level 2 (L2) Program, a as well as an EV Education and Outreach Program. Additionally, the Company proposed to expand its EV Fast Charging (EV-FC) Pilot to include public transit direct current fast charging (DCFC) stations.

Q. What were the primary objectives of the first tranche of EV pilots?

A. In its last rate case, the Company indicated that the EV pilots would "help the Company understand the load profile and other implications of commercial and industrial L2 EV charging," and would use real world data to "inform future rate design and distribution system planning for the load impact of (transportation electrification)."[5] To achieve this objective, the Company was recommending that data be shared by customers for 2 and 3

[5] Golden Direct Testimony (PECO Statement No. 9) at 8. Docket No. R-2021-3024601.

years depending on the pilot.[6] Another general objective of the Company's EV pilots was to "support transportation electrification."[7]

Q. Have the Company's objectives changed for the EV pilots proposed in this case?

A. The Company appears to have similar objectives and parameters with the EV pilots proposed in this case.[8]

Q. Please provide an overview of the Company's two EV pilot modification proposals.

A. There are two categories of EV pilots proposed: the EV Charging Pilot and EV Fast Charging (EV-FC) Pilot Rider. As proposed, the EV Charging Pilot has three components: (1) the Commercial and Industrial Level 2 Charging Program (the "L2 Program"); (2) the Public Benefit Charging Program; and (3) the Electric Vehicle Education and Outreach Program. The EV-FC Pilot proposals in this case would extend and modify some of the program parameters for commercial DCFC stations.

Q. Please provide a summary of the EV Charging and EV-FC Pilots (together "EV Pilots").

A. The tables below, which were generated by PECO in Statement 9, provide a comparison of design components from the last version of the pilots with updated modifications.

[6] Golden Direct Testimony (PECO Statement No. 9) at 8, 10 and Schlesinger Direct Testimony (PECO Statement No. 8) at 13. Docket No. R-2021-3024601.
[7] Schlesinger Direct Testimony (PECO Statement No. 8) at 13. Docket No. R-2021-3024601.
[8] DeMott Direct Testimony (PECO Statement No. 9) at 3 and 20.

Table 1: EV Charging Pilot Summary

	Subject	Current state	Proposed change
EV Charging Pilot	Duration	Ends 12/31/2024	Extend through 12/31/2029
	Budget	$1,625,000 over three years	$1,000,000 per year
	L2 Program rebate amount	Percentage of actual make-ready costs with per-port caps	Fixed rebate amounts per-port
	Rebate limits per customer	L2 Program limit of 20 ports; overall limit of $60,000 ($500,000 for transit authorities)	Annual limit of $60,000 ($200,000 for transit authorities)
	Data requirement	Applies only to chargers receiving rebates	Applies to all chargers at the site

Table 2: EV-FC Pilot Summary

	Subject	Current state	Proposed change
EV-FC Rider	Duration	Expires 12/31/2025	Extend through 12/31/2030
	Definition	"high-powered" DCFC is undefined	Add definition for "high-powered"
	Meter Eligibility	No metering requirement, but DCFC must be "publicly available"	Require DCFCs to be separately metered, no requirement that DCFC be "publicly available"
	Demand Credit	50% of nameplate charging capacity	20% of measured demand
	Minimum demand	Rules of customer's applicable base rate apply; typically, 40% of contract maximum demand	30% of contract maximum demand or 15 kilowatts if there is no contract maximum
	Other riders	Not addressed	Address interaction with Night Service Riders and ineligibility for Economic Development Rider

III. Analysis

Q. How is this section of your testimony organized?

A. This section begins with a high-level response to the overall reasonableness of the Company's EV Pilot proposals. In Section IV.A, I discuss improvements that should be made involving data collection and metering. In Section IV.B, I discuss the need for broader rate reform, how broader rate reform could improve EV related rate design, and the need for additional load management offerings. In Section IV.C, I introduced and recommend requiring the Company's to implement Automated Load Management (ALM). In Section IV.D, I explain the need for more transparent distribution system planning, how it related to EVs, and how it related to the reasonableness of utility investment decisions. In Section IV.E, I examine the need for metrics that suggest there is not further need for ratepayer supported transportation electrification efforts, or the sort that the Company is proposing. Finally, in Section IV.F, I discuss the education and outreach budget.

Q. What is your high-level impression of the Company's two modified EV Pilot proposals?

A. Overall, I find several of the proposed modifications to the EV Pilots to be reasonable. However, my testimony focuses on multiple program design and EV integration issues where improvement could be made. Many of the issues are related to the need to improve load management offerings and planning processes.

A. Improvements Are Needed With Data Collection and Metering

i. Data Collection

Q. Has the Company been successful in collecting data from its previous EV Charging Pilot?

A. No. The Company has had significant challenges collecting data from the networked chargers in its EV Charging Pilot.[9]

Q. What problems has the Company been experiencing with data collection?

A. The Company has had challenges getting data from third party network providers.[10]

Q. Is the Company still experiencing these challenges today?

A. Yes. The Company reported that data collection challenges are ongoing in its most recent transportation electrification collaboration meeting.[11]

Q. What changes has the Company proposed with respect to data collection for the EV Charging Pilot?

A. The Company has proposed expanding the data collection for the EV Charging Pilot. Specifically, the Company is proposing that customers be required to provide data from all chargers on the site, with exceptions made for some pre-existing chargers.[12] The Company's logic is that only seeing a portion of charging load at a site may give them an

[9] March 30, 2023, L2 Program Annual Report and March 27, 2024, EV Charging Pilot Annual Report, which are available using the link that PECO provided in footnote 6 on page 8 of its Statement No. 9. See Also PECO Response to CONFIDENTIAL OCA-10-3, attached as Exhibit RN-2.
[10] March 30, 2023, L2 Program Annual Report and March 27, 2024, EV Charging Pilot Annual Report, which are available using the link that PECO provided in footnote 6 on page 8 of its Statement No. 9. See Also PECO Response to CONFIDENTIAL OCA-10-3, attached as Exhibit RN-2.
[11] See https://azure-na-assets.contentstack.com/v3/assets/blt1b5616c79bacadb4/blt09df175536f16449/66509f58b5316f000dc71295/Transportation_Electrification_Collaborative_-_2024_0523.pdf?branch=prod_alias
[12] DeMott Direct Testimony (PECO Statement No. 9) at 2 and 20

inaccurate perspective on the aggregated load for various reasons. Otherwise, similar data collection requirements are being extended from the previous pilot.

Q. Do you have concerns about the Company's data collection?

A. Yes. I am concerned by the persistent challenges the Company is having collecting data through its EV Charging Pilot. A primary objective of both EV Pilots is to collect data to inform rate design and distribution system planning. When the Company is unable to collect said data, it erodes the value created by the EV Pilots.

Q. Do you have other concerns about the Company's data collection?

A. Yes. Not only is the Company not collecting large portions of value data, but the Company is also not gaining insights from the data it is collecting. After three plus years of collecting data, the Company has not applied the data to any tangible insights into rate design or distribution system planning.[13] In fact, the Company does not expect to use any of the EV Charging Pilot data for several years to inform either rate design or distribution system planning.[14] While the data collected from the pilots has been limited, the lack of insights created by the data are concerning and suggest that the EV Pilots are creating less value for ratepayers than expected or than is reasonable given the costs.

Q. Why is the lack of insights created by EV pilot data concerning?

A. Data is extremely valuable, if it is actionable. The Company has argued that the EV Pilots are largely necessary because it needs EV load data. To date, the data seems to have provided no explicit value to the Company, yet it has cost ratepayers millions of dollars to collect. Additionally, it has cost customers significant amounts to install and continue to pay for networked chargers in the EV Charging Pilot, while the customer could have

[13] See PECO's response to OCA-10-5, attached as Exhibit RN-3.
[14] See PECO's response to OCA-10-5, attached as Exhibit RN-3.

chosen a less costly charger and not paid for ongoing networking fees. If the Company is not using the data collected, this is wasteful spending. The Company's inability to get actionable data indicates poor performance and it could cost ratepayers by delaying advancement in improved load management and distribution system planning processes.

Q. Can the Company obtain EV load and integration related insights in ways that do not require a pilot?

A. Yes. There are several third-party providers that help integrate EVs into utility planning and load forecasting processes. . These providers can act as a partial or complete substitute for EV pilot related data.[15]

Q. Why is it important to note that third-parties can offer EV related insights for rate design and planning purposes?

A. Much of the EV pilots value to ratepayers has been ascribed to the data and insights that will be gained for rate design and distribution system planning. To date, no value is being derived. This brings into question the value of the data that is being collected through PECO's EV pilot, and whether other avenues for getting similar data and insights should be transparently explored to ensure the most cost-effective and beneficial pathway is being taken for customers.

[15] While EV load data can provide some insights for EV specific rate design and planning, the aggregate site load is what the grid "experiences" and is most important. The utility gets aggregated site load from its meters.

Q. Is the Company exploring third party options to improve how it integrates EVs and DERs[16] into distribution system planning?

A. Yes.[17] Using third party information, in combination with other utility related data, could result in leap frogging the insights gained from data collection with the EV Pilots. More transparency is needed with regard to the Company's technology strategy and planning processes to better understand the value and tradeoffs associated with approving similar EV Pilots in the future.

Q. What is your recommendation related to data collection?

A. The Commission should require the Company to report on the load data not being collected as a reporting requirement. Specifically, the Company should report the number of customers and chargers that the Company is and is not collecting data by month. Data collection is an important outcome of the EV Pilots, and the Company is not performing well when it is not collecting all available data. Additionally, the Company should be required to more transparently document its distribution system planning process and associated processes.[18] Without more transparency, it is impossible for regulators to understand the tradeoffs between investments that are partial or complete substitutes; for example, the data assessed through the EV Pilots and third party DER forecasting and distribution system planning tools.

[16] Distributed energy resources, or DERs, are small-scale electricity supply or demand resources that are interconnected to the electric grid. They are power generation resources and are usually located close to load centers, and can be used individually or in aggregate to provide value to the grid. See https://www.cummins.com/news/2021/11/04/what-are-distributed-energy-resources-and-how-do-they-work

[17] See PECO's PUBLIC response to OCA-19-3, attached as Exhibit RN-4

[18] For an example of a transparent distribution system planning process, see the Maryland OPC's straw proposal attached to the Maryland PC44 distribution system planning work group report.

ii. Metering

Q. What metering changes is the Company recommending for its EV-FC Pilot?

A. The Company is recommending that each DCFC be separately metered. To administer a demand credit on measured demand, the Company claims it is necessary to separately meter each DCFC charger.[19]

Q. Do you have concerns about the Company separately metering each DCFC charger?

A. At this point, separately metering chargers for rate design purposes is reasonable. However, there are potential alternatives to separately metering each charger that the Company should be required to explore within the EV Charging Pilot.

Q. Please explain the alternatives to separately metering chargers for rate design purposes.

A. Networked chargers can transmit load data that can be used for billing purposes.[20] The Company requires that L2 chargers are networked within EV Charging Pilot. Using networked chargers to transmit data for billing purposes is referred to as submetering. Submetering through networked Electric Vehicle Service Equipment (EVSE) would not require each DCFC to be separately metered saving ratepayers money.

Q. Are there challenges with submetering with networked EVSE?

A. Yes. One of the biggest issues is standardizing how the EVSE original equipment manufacturers communicate with the utility and ensuring the data quality is sufficient for

[19] DeMott Direct Testimony (Statement No. 9) at 24-25.

[20] Other jurisdictions have adopted alternative accuracy standards (CA) or have waived accuracy standards (MN and MD) for submetering via EVSE. CA's submetering protocol requires 1% lab accuracy and 2% field accuracy. NY is investigating accuracy standards for both EVSE and EV telematics. EV telematics have been used for managed charging programs (e.g., off-peak incentives) but not TOU rates. See https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/15236645 See Also NY PSC Case No. 18-E-0138, Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure

billing purposes. To standardize communications and ensure data quality, protocols must be tested, adopted, and implemented. New York, California, Minnesota, and Maryland have either adopted, are piloting, or are exploring EVSE protocols for the purposes of submetering.[21]

The Company is currently working through some of the challenges with networked chargers in its EV Charging Pilot. However, the Company does not appear to have any plans to use the EVSE for submetering. In discovery, the Company claimed that submetering would require "a reliable daily data interface," which it does not have currently.[22] I am unaware of daily billing accuracy requirements that currently require this level of data access for any customer type.

Q. Could submetering with networked EVSE create significant value for ratepayers?

A. Yes. The value of submetering with networked EVSE depends on the roadmap for EV load management and programs. However, submetering with networked EVSE opens up several use cases for EV load management that would not otherwise be possible or cost-effective. If the Company is going to continue to propose rates and/or programs that require a second or multiple separate meters, the value proposition can be significant for ratepayers because it avoids the cost of these additional meters. The reduced cost of participation in rates and programs can act as an incentive for improved load management and integration of EVs.

[21] See Minnesota Public Utilities Commission, Order Approving Electric Vehicle Home Service and Voluntary Electric Vehicle Charger Service Programs as Modified, Docket M-19-559 (2020), available at https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={20E1FE74-0000-C715-9765-D3D7DC10DE0A}&documentTitle=202010-167089- 01) See Also See Baltimore Gas & Electric, EVsmart Vehicle Charging Time of Use Rate, available at https://www.bge.com/SmartEnergy/InnovationTechnology/Pages/EVTOURate.aspx.).

[22] PECO's response to OCA-17-2, attached as Exhibit RN-5.

Q. Do you have recommendations related to metering?

Yes. The Commission should require the Company to evaluate submetering with networked EVSE within the EV Charging Pilot. Specifically, the Company should report on the accuracy of the data collected and what additional actions and costs it would take to enable submetering for networked L2 and DCFC chargers. Requiring the Company to use the networked L2s for something more than data collection, for which it is not doing well and not leveraging, would provide a valuable use case and lessons learned that would benefit ratepayers.

B. Broader Rate Reform and Load Management Offerings are Needed

Q. What do you cover in this section of your testimony?

A. I evaluate the Company's proposed modification to the EV-FC Pilot's demand credit and minimum demand. Before I go into the Company's proposal, I provide background on rate concepts related to billed demand versus measured demand and demand charge alternatives, which are concepts related to the underlying default tariff for which participating customer take service under.

iii. Rate Design Background

Q. What is billed and measured demand?

A. Billed demand is the kW amount used for billing purposes. Measured demand is the kW amount read on a customer meter over a specific time period, usually a month.

Q. How does the Company use billed and measured demand?

A. The Company has a ratcheted demand charge for some commercial customers that would take service under the Company's EV-FC Pilot. The ratcheted demand charge uses the highest measured demand over a 12 month period as the billed demand. For example, if a

customer's demand requirements spike 50% in November to 750 kW, from the previous 12 month high of 550 kW, the customer will receive a billed demand charge based on the 750 kW for, at minimum, one year. Only if the measured demand is higher than the billed demand in a given month is it used for billing purposes.

Q. What is a demand charge alternative?

A. Throughout the country, the EV industry and stakeholders have been advocating for demand charge alternatives. A demand charge alternative is simply a rate alternative to that which is currently required or available to EV customer under current tariff and program offerings.

Q. Why are demand charge alternatives needed?

A. Demand charge alternatives are needed for various issues and the issues related to the default tariffs that EV customers would otherwise take service under. For example, PECO has a contract demand charge with a ratcheted demand charge component for commercial customers with demand greater than 500 kW. Both the minimum contract and ratcheted demand components of PECO's GS tariff cause significant issues for EV customers.

The ratcheted demand charge is based on the customers highest measured demand over the last year.[23] If an EV charging customer's demand spikes to 5 times higher than any other time in the year, the customer is billed a demand charge equivalent to the 5 times higher demand every month for a year, based on the billed demand as discussed above. Not only is this expensive for the customer, but it does also not reflect cost causation on higher voltage distribution system assets, such as substations.

[23] See PECO Supplement No. 33 to Tariff Electric Pa. P.U.C. No. 7, First Revised Page No. 84, available at https://www.peco.com/my-account/my-dashboard/rates-tariffs/electric-service/current-electric

The minimum contract demand charge is a problem for the opposite reason of demand spiking; when EV chargers are not highly utilized, EV customers pay high minimum contract demand charges. EV chargers could have very low demands, but pay significant minimum contract demand charges. Demand charge alternatives are designed to address one or both of these rate design issues.

Q. Why do utilities use ratcheted demand charges?

A. Ratcheted demand charges are used by utilities to moderate revenue fluctuations over the year. Essentially, a ratcheted demand charge prioritizes utility revenue stability over improved price signals. Instead of providing a more consistent price signal to minimize peak demands, ratcheted demand charges only incent the customer to keep demands under its previous peak demand. For example, if the customer had a peak demand of 750 kW 6 months ago, the customer actually has an incentive to increase its demand to 749 kW otherwise they are paying for demand they don't use. Instead, measured demand, or kWh, charges should be prioritized to improve upon price signals. In that same example, a rate design based on monthly measured demand, or kWh, would incentivize the customer to minimize demand for the month and not have an incentive to increase demands to 749 kW. Instead, the customer would have an incentive to keep demand below whatever maximum was reached within the month, which could be 500 kW.

Q. What are some benefits of sending price signals through measured demand or kWh charges that are not possible with ratcheted demand charges?

A. Rates based on measured demand or kWh allows for rate designs that are temporally differentiated, which enables designs that target on- and off-peak energy periods.

Q. Has the PUC provided any relevant guidance on EV rate design?

A. Yes, although this guidance is not yet final. In November 2023, the Commission issued the Proposed Policy Statement Order, which states, in part, the following regarding electric vehicle charging rate design:

> To promote efficient use of the electric-vehicle charging infrastructure and to manage grid demand, public utilities should consider variable rates for electric-vehicle customer based on the time of day and the level of demand on the electric grid. This means that electric-vehicle rates should be higher during peak demand hours and lower during off-peak hours. … Electric distribution companies should also take into consideration rates for direct current fast chargers, including demand charges, to manage electric grid stress during peak hours.. . . .[24]

The above language from the Commission's Proposed Policy Statement Order appears to be at odds with PECO's use of ratcheted demand charges for EV charging. Ratcheted demand charges do not align with peak hours – at all – nor do they encourage off-peak charging. Continuing to use ratcheted demand chargers for EV charging will likely reduce EV uptake and exacerbate the strain EVs put on the power system by having misalign price signals.

iv. The Company's EV-FC Rate Design Proposal and Analysis

Q. What rate design modifications did the Company propose for its EV-FC Pilot?

A. The Company is proposing two rate design-related changes to the EV-FC Rider. First, the Company is proposing to reduce the contract maximum demand charge from 40% of contract maximum demand to 30%.[25] Second, the Company is proposing to modify the

[24] Electric Utility Rate Design for Electric Vehicle Charging, M-2023-3040755, Proposed Policy Statement Order at Annex A, p. 15 (November 13, 2023).

[25] DeMott Direct Testimony (PECO Statement No. 9) at 22-23. PECO also proposes a minimum demand for 15 kW for accounts that do not have a maximum contract demand.

demand credit from being based on 50% of nameplate charging capacity to 20% of measured demand.

Q. Do you have concerns with the Company's proposed rate design modifications?

A. Yes. Neither of the Company's proposed rate modifications reflect temporal cost causation. Aligning EV charging with temporal cost causation should be the priority, as suggested by the Commission's Proposed Policy Statement Order. Temporal alignment could be achieved with time-differentiated measured demand charges or by differentiating a portion of distribution system costs into EV-specific time-of-use kWh periods.

Q. Do you have other concerns with the Company's proposed rate design modifications?

A. Yes. The Company is not aligning default supply and distribution rates to create rational, strong price signal for EV chargers. Supply rates, while outside the scope of this rate case, are a significant portion of customers' bills and should be coordinated with the EV-distribution rate to send an efficient price signal. The supply rate passes on transmission and supply costs that are also temporally caused. Designing an EV-specific rate may be the most practical step for now as part of a reasonable roadmap towards more comprehensive rate reform that may become necessary as technology and consumer needs evolve.

Q. Putting aside the lack of temporal and supply related price signals, do you have other comments on the Company's modifications?

A. Yes. While the Company's proposed rate design modifications could be dramatically improved, they are a directional improvement. Reducing the contract maximum demand charge provides more incentive for EVs to manage their loads and improves cost-effectiveness for chargers with low utilization. Additionally, adding a demand credit based

on measured demand provides additional incentives to manage load. However, the demand credit still appears to be an adjustment to the ratcheted demand charge component, which may create confusion and limit the effectiveness of the price signal. Overall, these are modifications are improvements to the previous program.

Q. What is your recommendation related to the EV Pilots proposed rate designs?

A. I recommend that as a condition of continuing this pilot, the Commission require the Company to propose EV-specific default service rates in its next default service proceeding that align supply rates with underlying distribution tariffs for EV chargers. Specifically, I recommend that the Company be required to propose a targeted EV-TOU or other dynamic rate that differentiates both supply (i.e., generation and transmission) and distribution (i.e., substations and primary voltages) for customers that are able to participate in both proposed EV Pilots. The proposed rate designs should be coordinated with the Company's default supply docket and the next iteration of EV Pilots, if such pilots are deemed necessary.

Q. Do you agree that the term of PECO's EV Charging Pilot should be extended through December 31, 2029 and that PECO's EV-FC Rider terms should extended through December 31, 2030?

A. No. My recommendation is that each of the pilots should be extended only until May 31, 2029 so that they conclude in line with the timing of PECO's default service plan period. I note that PECO's existing default service plan is in place for the four-year period extending from June 1, 2021 through May 31, 2025[26], and the next iteration of the plan will likely extend from June 1, 2025 through May 31, 2029. Aligning the EV pilot programming term with PECO's default service plan term will permit congruent evaluations of the impacts

[26] Petition of PECO Energy Company for Approval of its Default Service Program for the Period from June 1, 2021 through May 31, 2025, P-2020-3019290, Opinion and Order at 67 (December 3, 2020).

and outcomes of the EV pilot and the default service plan to better inform future decisions, including the need for coordination. Because PECO's current and proposed default service plan does not contain EV-specific TOU programs, and in light of the Commission policy statement not yet being final, the Commission should require the Company to provide to the OCA and other stakeholders the proposed updated rate design 9 months prior to filing their next default service proceeding or rate case in which it would propose the broader EV Pilots filing. This will provide stakeholders with time to evaluate the proposed rate design(s) and determine whether the modifications to the default supply rate is reasonable.

C. Automated Load Management

Q. What is Automated Load Management (ALM)?

A. ALM, also referred to as EV Energy Management Systems, includes a range of behind-the-meter software and hardware approaches to limiting EV charging load demand at the service connection, such as distributing charging capacity among multiple charging ports at the same charging site or co-location with battery energy storage. ALM helps safely connect multiple charging ports whose total nameplate load would otherwise exceed the rated capacity of the customer connection. This capability may in turn avoid or defer the need to upgrade certain customer-side and utility-side infrastructure to accommodate the new EV charging load, saving both time and money.[27] Widespread deployment of ALM may lead to significant savings for ratepayers and ensure that investments in transportation

[27] For example, if a multi-unit dwelling seeks to deploy a charging station with 5 ports, each with a 10-kW capacity, the distribution upgrades would normally be sized to accommodate 50 kW of incremental coincidental charging demand, equal to all 5 ports charging at full capacity. However, a software-based ALM approach can lower the coincident charging demand to 30 kW, or 6 kW per port on average, when all 5 ports are occupied, thus reducing distribution system upgrade requirements to what would be required for only 3 ports. In this scenario, when 3 or fewer ports are occupied, the EVs can still charge at full speed. Alternatively, a hardware-based ALM approach may involve the charging site being equipped with a stationary storage system that can offset the charging load when 5 ports are occupied, so that the grid only needs to support the charging load of 3 ports.

electrification are used efficiently, as well as accelerate the speed at which charging infrastructure can be deployed.[28] Unlike managed charging, which limits the ongoing costs that EV charging load can cause to the grid, ALM specifically refers to the use of load management technologies to limit the need to upgrade the customer's grid connection. Furthermore, ALM can have equity benefits. Many low-income customers may be served by existing utility infrastructure that may require significant and costly upgrades to be able to accommodate EV charging load. While low-income applications are not explicitly at issue here, the lessons learned could be applied in future scenarios. The use of ALM may help mitigate these infrastructure upgrade costs and make charging infrastructure more affordable for such customers. ALM technologies are also particularly well-suited for multi-unit dwellings, workplace, and public charging sites, where low-income customers may be more likely to charge.

Q. Is the Company aware of the benefits of ALM?

A. **(BEGIN CONFIDENTIAL)** [redacted]

[28] For example, Pacific Gas & Electric has worked with EV service providers to implement EV EMS solutions at MUD and workplace host sites as of Q4 2020 and saved between $30,000 and $200,000 per project. See Pacific Gas & Electric, Presentation at CPUC ALM/EV EMS Workshop, Panel 2, 2021. Southern California Edison also implemented EV EMS to deploy 168 charging stations at $3,000 per port, significantly less than comparable deployments at $10,000-$15,000 per port without EV EMS. See EPIC Policy + Innovation Coordination Group, Transportation Electrification Workstream Report, 2021,epicpartnership.org/resources/Transportation_Electrification_Workstream_Report_Final.pdf.

[redacted][29]"

Q. Please respond to the Company's characterization of ALM.

A. [redacted].

Q. Should the Company be familiar with ALM?

[redacted]. **(END CONFIDENTIAL)**

Q. Have other commissions required utilities to develop ALM processes?

A. Yes. Illinois, Maine, and Massachusetts's commissions have all ordered or approved investor-owned utilities to pilot or create processes for advancing ALM solutions.[32]

[29]PECO's Confidential response to OCA-17-4, attached as Exhibit RN-6.

[30] [redacted]

[32] See Final Order, ComEd, Beneficial Electrification Docket No. 22-0432. Available here: https://icc.illinois.gov/docket/P2022-0432/documents/349478/files/610872.pdf. See Also Central Maine Power Company: Request for Approval of Distribution Rate Increase and Rate Design Changes Pursuant to 35-A M.R.S. Section 307, Docket 2022-00152. See Also DPU Docket Nos. 21-90, 21-91, and 21-92. Available:

Q. What are your recommendations regarding ALM?

The benefits of and precise cost savings associated with ALM are challenging for customers to understand, partially because much of the data needed for this understanding is only available within the utility. EV charging customers must be made aware of the cost savings potential of ALM approaches. The Commission should require the Company to define ALM approaches for customers and begin offering these flexible connection approaches. To this end, the Company should, in coordination with stakeholders, develop a standard site evaluation methodology that would be applied to all EV charging sites during the preliminary site design process to determine if ALM can be used to cost-effectively meet the customer's charging needs.[33] If ALM is deemed suitable for a particular site, this information can then be communicated to the customer for the customer to review and make any modifications to the project before signing off on the construction of the charging site.

D. More Transparency Around Distribution System Planning is Needed

Q. Has the data collected through the initial period of EV pilots resulted in any distribution system planning changes or improvements from the utility?

A. No.[34] Similar to rate design, the Company claims the information provided by the EV Pilots has been and will be deficient to inform distribution system planning.

https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/16827696 Note that ALM can also be referred to as EV energy management systems (EMS).

[33] See Pacific Gas & Electric's proposed site evaluation criteria, Electric Vehicle Charge 2 Prepared Testimony, Chapter 5, Attachment A, Case Number A.21- 10-010, BEG.

[34] Exhibit RN-3 and RN-4 (PECO Public Responses to OCA-10-5 and 19-3, respectively)

Q. Are you concerned that the Company has not changed or improved distribution system planning practices based on the EV Pilots?

A. No. The data collected to date has been limited. However, I am concerned that the Company is promoting the EV Pilots as a way to inform rate design and distribution system planning when there are likely better, more cost-effective ways to do so.

Q. Is the Company making planning decisions today that will impact EV rate design and distribution system planning?

A. Yes. The Company is making several investments now that will determine the pathway for EV load management and distribution system planning and integration.[35]

Q. What investment decisions is the Company investing in now that are related to EVs?

A. **(BEGIN CONFIDENTIAL)** [redacted].[36] [redacted]. **(END CONFIDENTIAL)**

Q. What decisions are potentially being made when utilities make investments in forecasting, (BEGIN CONFIDENTIAL) [redacted] **(END CONFIDENTIAL) that are important to regulators and ratepayers?**

A. There are several issues that are important to regulators and ratepayers that are often not transparently vetted prior to investment. For example, what type of communication network is the Company investing in or planning to operate its **(BEGIN**

[35] Exhibit RN-3 and RN-4 (PECO Public Responses to OCA-10-5 and 19-3, respectively).

[36] PECO's CONFIDENTIAL Response to OCA-19, including attachment OCA-19-3(e) and CONFIDENTIAL response to OCA-10-2, attached as Exhibits RN-7 and RN-8, respectively.

CONFIDENTIAL) [redacted] **(END CONFIDENTIAL)?** Is the utility over-reliant on fiber cable, which is extremely expensive and has cheaper substitutes? What distributed energy resource (DER) is the Company planning on controlling and based on what grid architecture? Is the Company relying on cloud-base servers or using both local and cloud-based servers, potentially creating duplicative investments for ratepayers? Many of the answers to these questions will influence the size of the investment that Company will make. And because utilities earn a return on capital investments, they are incentivized to decide on large capital intensive solutions when that might not be the best pathway for ratepayers. For example, if the utility assumes it will control small DERs, it could have to supersize its communication network to handle the latency requirements and may be overly reliant on fiber as opposed to third party or wireless communication networks. This happened to be the case of ComEd, an Exelon subsidiary, which scaled its fiber and communications network way back after stakeholders questioned the value propositions in Illinois.[37]

Q. What is your recommendation related to improved transparency associated with distribution system planning?

A. Optimally, the Commission should create a comprehensive distribution system planning process for all electric utilities. Alternatively, the Commission and stakeholders should aim to gain a better understanding of key investments that Company is making in the near future. To start with the Commission should require the Company to file the following in November of 2024:

[37] Volkmann Direct Testimony, ComEd Refiled Grid Plan, Docket No. 23-0055. Available here: https://icc.illinois.gov/docket/P2022-0486/documents/350981/files/613796.pdf

- A DER orchestration plan – this document would provide insights into how the Company plans, and the investments required, to integrate DERs through monitoring and/or control approaches, including how it plans to address FERC 2222.
- Explanation and process for informing and determining a distributed energy resources management system (DERMS) functionalities – this document would provide description of the **BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL)** the supporting analysis used to justify each of the procured functionalities, and how these functionalities map to the DER orchestration plan.
- Load management plan – the Company's near and long term strategy for managing import and export on the distribution system, while minimizing generation and transmission supply costs for ratepayers. Topics should include flexible connections, using ALM and flexible interconnection schemes for exporting facilities.

Q. Have other Exelon utilities provided similar information to regulators?

A. Yes. In Illinois, ComEd has committed to providing similar information in its recent Refiled Grid Plan.[38]

[38] JNGO Ex. 3.01 RGP, Docket No. 22-0486. Available here: https://icc.illinois.gov/docket/P2022-0486/documents/350981/files/613798.pdf

E. Additional Evaluation of the Utilities Role in Transportation Electrification is Needed

Q. Do you have any additional recommendations?

A. Yes. The two primary objectives of the EV Pilots are to (1) collect EV load data to inform rate design and distribution system planning and (2) generally support transportation electrification in the state. My testimony above goes at length into how to better achieve the first objective. The second objective is less tangible but relates to the general need for the program. At some point, EV load profiles will no longer be a mystery, EVs will be integrated into distribution system planning similar to a heat pump or air conditioner, and EVs will be at a penetration where ratepayer assisted transportation electrification are no longer needed.

Q. Has the Company identified any metrics that could inform when general ratepayer funding is no longer needed for transportation electrification?

A. No. I recommend that the Commission require the Company to create metrics and proposed targets associated with the following:

- Ratio of DCFC charging stations to current and projected future EVs in operation;
- Percentage of highway interchanges having a DCFC site within one mile that meets National Electric Vehicle Infrastructure program specifications;
- Percentage of ZIP codes having at least one public DCFC site.

These metrics and associated targets could help inform when general transportation electrification support is no longer needed from ratepayers.

F. Education and Outreach Budget

Q. How are the majority of the costs for the EV Pilots being allocated?

A. The vast majority of costs are rightly being allocated to the commercial customer classes. A portion of the education and outreach budget is being allocated more broadly, including the residential class.

Q. As part of its Education and Outreach budget, PECO appears to anticipate a yearly spend of $40,000 to expand its online EV Toolkit to include content and calculators for fleet management.[39] Do you have any concerns about this amount of spending?

A. Conceptually, I agree that the content and calculators are necessary and beneficial for fleet operators. However, it is unclear to me why the $40,000 cost would be incurred each year since initial development of these tools should result in lesser costs in the years after their development.

Q. What do you recommend regarding PECO's budget for the EV Toolkit?

A. I recommend that PECO be required to explain the basis for projecting $40,000 in EV Toolkit costs for each year of the EV Pilot, and that it be required to provide a breakdown of what costs are included within the $40,000 so that it can better inform my recommendation about this cost.

[39] DeMott Direct Testimony (PECO Statement No. 9) at 11.

IV. Conclusion

Q. Do you recommend that the Commission approve the proposed EV Charging and EV-FC Pilots?

A. If the Company or Commission adopts my proposed modifications and recommendations, yes. While I offer several comments and recommendations in my testimony, the modifications proposed to the program design are directional improvements.

Q. Does this conclude your direct testimony?

A. Yes.

Ron Nelson



Ron is a subject matter expert in gas and electric Advanced Rate Design, Cost of Service Studies, and Decarbonization. Ron leads a team that provides expertise and expert testimony on numerous topics, including multi-year utility rate plans, performance incentive mechanisms, cost of service modeling, line extension policies, residential and commercial rate design, renewable energy program design, system planning, DER interconnection cost allocation and recovery, and DER integration.

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Education

MS
Agricultural and Resource Economics
Colorado State University
2013

BA
Environmental Economics
Western Washington University
2011

Work Experience

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+ Subject matter and testimony expert in advanced rate design, embedded and marginal cost of service modeling, performance-based regulation, gas decarbonization, and DER integration and compensation.
+ Designing and implementing policies and programs to decarbonize energy systems including deployment of distributed energy resources, demand-side management programs, energy storage and grid integration.

Senior Director

Strategen / Portland, OR / 2018 - 2024

+ Expert witness and advisor that has testified across 12 states in over 60 proceedings and supported multiple state commissions in various proceedings

Economist

Minnesota Attorney General's Office / St. Paul, MN / 2013 - 2017

+ Provided expert testimony on cost of service modeling, rate design, grid modernization and utility business models.
+ Analyzing issues related to conservation incentive programs, value of solar, grid modernization, performance-based regulation, renewable energy program design, and MISO.
+ Reviewed and made recommendation to improve gas company pipeline replacement programs, demand response tariffs, performance metrics, and rate designs.

Graduate Research Associate

Colorado State University / Fort Collins, CO / 2011 - 2013

Economic Research Assistant

Washington State University / Mount Vernon, WA / 2009 - 2011

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Domain Expertise

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Gas Decarbonization

Rate Design

Performance-Based Regulation

Performance Inventive Mechanisms

Cost of Service Analysis

DER Compensation

Rate Case Support

Electric Vehicles

Renewable Energy Program Design

Expert Testimony

68. Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil, pursuant to G.L. c. 164, § 92B, for approval by the Department of Public Utilities of its Electric Sector Modernization Plan. D.P.U. 24-12, Petition of Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid, pursuant to G.L. c. 164, § 92B, for approval by the Department of Public Utilities of its Electric Sector Modernization Plan. D.P.U. 24-11, Petition of NSTAR Electric Company d/b/a Eversource Energy, pursuant to G.L. c. 164, § 92B, for approval by the Department of Public Utilities of its Electric Sector Modernization Plan. D.P.U. 24-10
Grid Planning and DER Integration
Direct

67. In the Matter of the Application of Potomac Electric Power Company for and Electric Multi-Year Plan for the Distribution of Electric Energy Case No. 9702
Electric Rate Design
Direct

66. In the Matter of the Application of Nevada Power Company, d/b/a NV Energy, files pursuant to NRS 704.110 (3) and (4), addressing its annual revenue requirement for general rates charged to all classes of customers
Electric TOU Rate Design
Testimony

65. In the Matter of Advice No. 1923 – Electric of Public Service Company of Colorado to Revise its Colorado P.U.C. No. 8 – Electric Tariff to Reset the General Rate Schedule Adjustments, to Place into Effect Revised Base Rates, and to Implement Other Phase II Tariff Proposals to Become Effective June 15, 2023
Electric TOU Rate Design
Testimony

64. Application of Baltimore Gas and Electric Company for a Second Electric and Gas Multi-Year Plan Case No. 9692
Electric and Gas Rate Design, Gas Transition, Bill Impacts
Direct | Rebuttal | Surrebuttal

63. Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid, Capital Investment Project Filing: D.P.U. 22-170, 23-06, 23-09, and 23-12 On Behalf of the MA AGO w/ Panelists Jorge Camacho and Eli Asher
DER Integration, Interconnection and Cost Allocation
Direct | Surrebuttal

62. Order Requiring Commonwealth Edison Company to file an Initial Multi-Year Integrated Grid Plan and Initiating Proceeding to Determine Whether the Plan is Reasonable and Complies with the Public Utilities Act. Docket No. 22-0486. On Behalf of Environmental Law and Policy Center, Natural Resources Defense Council, Union of Concerned Scientists, and Vote Solar.
Hosting Capacity, Value of DER, Peak Load Reduction, Flexible Interconnection, DERMS
Direct

61. Ameren Illinois Company. Proposed General Increase in Rates and Revisions to Other Terms and Conditions of Service. Docket No. 23-0067. On Behalf of Environmental Law and Policy Center, Environmental Defense Fund, Natural Resources Defense Council, Illinois State Public Interest Research Group, Inc.
Gas Transition, Capital Planning, Line Extensions, Non-Pipeline Alternatives, Bill Impacts, Gas System Planning, PBR, Rate Design
Direct

60. Pennsylvania Public Utility Commission V. Philadelphia Gas Works. Docket No. R-2023-3037933. On Behalf of The Office of Consumer Advocate
Weather Normalization Adjustment and Decoupling

59. DEP and DEC EVSE Program. Docket No. 2022-158-E. On Behalf of The South Carolina Office of Regulatory Staff
EV Program Design
Direct | Surrebuttal

58. Petition of Philadelphia Gas Works for Approval on Less than Statutory Notice of Tariff Supplement Revising Weather Normalization Adjustment. Docket No. 2022-3034264. On Behalf of the Office of the Consumer Advocate
Weather Normalization Adjustment

57. In the Matter of Application of Duke Energy Progress, LLC, for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina and for Performance Based Regulation. On Behalf of the North Carolina Attorney General's Office
Cost of Service, Rate Design, Performance-Based Regulation
Direct

56. Application of Public Service Company of Oklahoma, an Oklahoma Corporation, for an Adjustment in its Rates and Charges and the Electric Service Rules, Regulations, and Conditions of Service for Electric Service in the State of Oklahoma and to Approve a Formula Based Rate Proposal . On Behalf of AARP
Cost of Service and Rate Design
Responsive Testimony

Expert Testimony (Continued)

55. Montana-Dakota Utilities Co. 2022 Electric Rate Increase Application. On Behalf of AARP
Cost of Service and Rate Design
Direct | Surrebuttal

54. Northern Indiana Public Service Company Rate Case. On Behalf of Citizens Action Coalition
Cost of Service and Rate Design
Direct

53. Central Maine Power Company: Request for Approval of Distribution Rate Increase and Rate Design Changes Pursuant to 35-A M.R.S. Section 307, Docket 2022-00152, On Behalf of the Governor's Energy Office w/Panelists Caroline Palmer and Nikhil Balakumar. On Behalf of the Governor's Energy Office
Marginal Cost of Service, Performance-Based Regulation, Distribution System Planning
Direct

52. Georgia Power Company's 2022 Rate Case. On Behalf of Americans for Affordable and Clean Energy
Electric Vehicle Rate Design
Direct

51. In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in Minnesota (Docket No 21-630), On Behalf of the Citizen's Utility Board of Minnesota
Rate Riders, Fuel Clause Risk Sharing, and MYRP Structure
Direct | Rebuttal

50. In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in Minnesota (Docket No 21-630), On Behalf of the Clean Energy Organizations
Advanced Rate Design, Regulatory Sandbox, TOU Rate Design
Direct | Surrebuttal

49. NSTAR Electric Company d/b/a Eversource Energy, Capital Investment Project Filing: D.P.U. 22-51 through 55 On Behalf of the MA AGO w/ Panelists Jorge Camacho and Eli Asher
DER Integration, Interconnection and Cost Allocation
Direct | Surrebuttal

48. Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid, Capital Investment Project Filing: Shutesbury (D.P.U. 22-61) On Behalf of the MA AGO w/ Panelists Jorge Camacho and Eli Asher
DER Integration, Interconnection and Cost Allocation
Direct

47. In the Matter of Delmarva Power and Light Company's Application for an Electric Multi-Year Plan (Case No. 9681) On Behalf of the Office of People's Counsel w/ Panelist Jorge Camacho
Distribution System Planning, Capital Investment Plan, Multi-Year Rate Plan Structure, Revenue Decoupling
Direct (No. 21) | Rebuttal (No. 23)

Expert Testimony (Continued)

46. Petition of NSTAR Electric Company d/b/a Eversource Energy for approval by the Department of Public Utilities of the Company's Marion-Fairhaven capital project proposal under the Provisional Program established by the Department in Provisional System Planning Program, D.P.U 20-75-B (2021) (D.P.U. 22-47) On Behalf of the MA AGO w/ Panelists Jorge Camacho, Eli Asher, and Fred Schaefer
DER Integration, Interconnection and Cost Allocation
Direct | Surrebuttal

45. Petition for Approval of Beneficial Electrification Plan under the Electric Vehicle Act, 20 ILCS 627/45 and New EV Charging Delivery Classes under the Public Utilities Act, Article IX. (Docket No. 22-0432 and 22-0442) On Behalf of NRDC, Sierra Club, EDF, RHA and Little Village Environmental Justice Organization (LVEJO)
Electric Vehicle Rate Design and Energy Management Systems

44. Petition for Approval of Beneficial Electrification Plan pursuant to Section 45 of the Electric Vehicle Act (Docket No. 22-0431 and 22-0443) On Behalf of NRDC, Sierra Club, EDF, and RHA
Electric Vehicle Rate Design and Energy Management Systems

43. In the Matter of the Application of Oklahoma Gas & Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma
Cost of service, rate design, formula rate plan
Direct | Stipulation

42. Petition for Establishment of Performance Metrics Under Section 16-108.18(e) of the Public Utilities Act, Commonwealth Edison Company, Docket No. 22-0067 On Behalf of NRDC
Demand Response and Electric Vehicle Performance metrics
Direct | Rebuttal

41. Petition for Establishment of Performance Metrics Under Section 16-108.18(e) of the Public Utilities Act, Ameren Illinois Company, Docket No. 22-0063 On Behalf of NRDC
Demand Response and Electric Vehicle Performance metrics
Direct | Rebuttal

40. In the matter of the application of CONSUMERS ENERGY COMPANY for authority to increase its rates for the distribution of natural gas and for other relief. U-21148. On Behalf of NRDC
Performance-based regulation and gas decarbonization
Direct

39. Petition of NSTAR Electric Company d/b/a Eversource Energy for approval by the Department of Public Utilities of the Company's Marion-Fairhaven capital project proposal under the Provisional Program established by the Department in Provisional System Planning Program, D.P.U 20-75-B (2021)
DER integration, Flexible interconnection, Capital Investment Project
Direct | Surrebuttal

Expert Testimony (Continued)

38. In the Matter of the Application of Oklahoma Gas & Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma
Cost of service, rate design, formula rate plan
Direct | Stipulation

37. In the Matter of the Application of Minnesota Power for Authority to Increase Rates for Electric Utility Service in Minnesota. Docket No. E-015/GR-21-335. On Behalf of CUB Minnesota
Cost recovery, cost of service, and revenue apportionment
Direct | Surrebuttal

36. In the matter of the application of CONSUMERS ENERGY COMPANY for authority to increase its rates for the distribution of natural gas and for other relief. U-21148. On Behalf of NRDC
Performance-based regulation and gas decarbonization
Direct

35. Phase 2: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for approval of its Electric Vehicle Infrastructure Program, Electric Vehicle Demand Charge Alternative Proposal, and Residential Electric Vehicle Time-of-Use Rate Proposal (D.P.U 21-92) On Behalf of the Attorney General's Office
EV Program Design and Load Management
Direct

34. Phase 2: Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, for approval of its Phase III Electric Vehicle Market Development Program and Electric Vehicle Demand Charge Alternative Proposal (D.P.U 21-91) On Behalf of the Attorney General's Office
EV Program Design and Load Management
Direct

33. Phase 2: Petition of NSTAR Electric Company d/b/a Eversource Energy for approval of its Phase II Electric Vehicle Infrastructure Program and Electric Vehicle Demand Charge Alternative Proposal (D.P.U 21-90) On Behalf of the Attorney General's Office
EV Program Design and Load Management
Direct

32. Phase 1: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for approval of its Electric Vehicle Infrastructure Program, Electric Vehicle Demand Charge Alternative Proposal, and Residential Electric Vehicle Time-of-Use Rate Proposal (D.P.U 21-92) On Behalf of the Attorney General's Office
EV Program Design and Load Management
Direct

Ron Nelson

Senior Director

Expert Testimony (Continued)

31. Phase 1: Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, for approval of its Phase III Electric Vehicle Market Development Program and Electric Vehicle Demand Charge Alternative Proposal (D.P.U 21-91) On Behalf of the Attorney General's Office
EV Program Design and Load Management
Direct

30. Phase 1: Petition of NSTAR Electric Company d/b/a Eversource Energy for approval of its Phase II Electric Vehicle Infrastructure Program and Electric Vehicle Demand Charge Alternative Proposal (D.P.U 21-90) On Behalf of the Attorney General's Office
EV Program Design and Load Management
Direct

29. In the Matter of the Petitions for Recovery of Certain Gas Costs (DKT: 21-138, 21-235, 21-610, 21-611) On Behalf of The Citizens Utility Board of Minnesota
Prudency Review
Direct

28. In the Matter of the Application of CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas for Authority to Increase Rates for Natural Gas Utility Service in Minnesota (Docket No. 21-435) On Behalf of the Clean Energy Organizations
Rate Design and Line Extension Policy
Direct

27. In the Matter of the Petitions for Recovery of Certain Gas Costs (DKT: 21-138, 21-235, 21-610, 21-611) On Behalf of The Citizens Utility Board of Minnesota
Prudency Review
Direct

26. Green Mountain Power (DKT: 2021-3707-PET) On Behalf of Green Mountain Power
Multi Year Rate Plan
Prefiled Direct Testimony

25. Public Service of Oklahoma (DKT: 202100055) On Behalf of AARP
ECOSS and Rate Design
Responsive Testimony

24. Duquesne Light Company (DKT: R-2021-3024750) On Behalf of the PA OCA
Transportation Electrification, Load Control
Direct | Surrebuttal (note: please type in the docket number, the testimony cannot be directly referenced)

Expert Testimony (Continued)

23. PECO (DKT: R-2021-3024601) On Behalf of the PA OCA
Transportation Electrification, Load Control
Direct (note: please type in the docket number, the testimony cannot be directly referenced)

22. Rocky Mountain Power (DKT: 20-035-04) On Behalf of the Utah Office of Consumer Services
Embedded COS, Rate Design, and AMI Rollout
Direct

21. Minnesota Power* On Behalf of the MN CUB
ECOSS and low-income rate design

20. Pennsylvania Power and Light: DER Management Petition (DKT: P-2019-3010128) On Behalf of the PA OCA
DER integration
Direct | Surrebuttal (note: please type in the docket number, the testimony cannot be directly referenced)

19. Public Service of New Hampshire (dba Eversource Energy) (DKT: DE 19-057) On Behalf of the NH OCA
Embedded and marginal COS, Rate Design, and PBR
Direct

18. Liberty Utilities (DKT: DE 19-064) On Behalf of the NH OCA
Marginal COS, Rate Design, decoupling and PBR
Direct
*Settled before direct was filed

17. Oklahoma Gas and Electric (DKT: 201800140) On Behalf of AARP
Rate Design and CCOSS
Direct

16. Vectren Energy Delivery of Ohio (DKT: 18-0298-GA-AIR) On Behalf of the Environmental Law and Policy Center
CCOSS and Rate Design
Direct | Supplemental | Case link

15. Commonwealth Edison (DKT: 18-0753) On Behalf of the IL AG
Distributed Generation Rebates and Smart Inverter Specifications
Direct | Rebuttal | Case link

14. Ameren Illinois Company (DKT: 18-0537) On Behalf of the IL AG
Distributed Generation Rebates and Smart Inverter Specifications
Direct | Rebuttal | Case file

Ron Nelson

Senior Director

Expert Testimony (Continued)

13. Public Service Company of Oklahoma (DKT: 201800096) On Behalf of AARP
Formula Rates, Performance Metrics, Rate Design, and CCOSS
Direct

12. Oklahoma Gas and Electric (DKT: 201700496) On Behalf of AARP
CCOSS and Revenue Apportionment
Responsive | Case link

11. Minnesota Power (DKT: E-002/GR-16-664) On Behalf of the MN OAG
CCOSS, Rate Design, and the Utility Business Model
Surrebuttal | Rebuttal: | Testimony | Case Link

10. Minnesota Power (DKT: E-002/GR-16-664) On Behalf of the MN OAG
CCOSS, Rate Design, and the Utility Business Model
Surrebuttal | Rebuttal: | Testimony | Case Link

9. Otter Tail Power (DKT: E-002/GR-15-1033) On Behalf of the MN OAG
Marginal and Embedded CCOSS and Rate Design
Opening Statement | Direct | Rebuttal | Case link

8. Xcel Energy (DKT: E-002/GR-15-826) On Behalf of the MN OAG
CCOSS, Rate Design, and Performance-Based Regulation
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7. Minnesota Energy Resources Corp. (DKT: G-011/GR-15-736) On Behalf of the MN OAG
CCOSS and Rate Design
Direct : | Rebuttal | Surrebuttal | Case link

6. CenterPoint Energy (DKT: E-002/GR-15-424) On Behalf of the MN OAG
CCOSS and Rate Design
Opening Statement | Direct | Rebuttal | Surrebuttal | Case link

5. Dakota Energy Association (DKT: E-002/GR-14-482) On Behalf of the MN OAG
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Direct | Rebuttal | Surrebuttal | Case link

4. Xcel Energy (DKT: E-002/GR-13-868) On Behalf of the MN OAG
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3. Xcel Energy, Minnesota Energy Resources Corp, CenterPoint Energy (DKT: 21-138)
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Case Details | Direct

Ron Nelson

Senior Director

Expert Testimony (Continued)

2. Minnesota Energy Resources Corp. (DKT: G-011/GR-13-617) On Behalf of the MN OAG
CCOSS
Direct | Surrebuttal | Case Link

1. CenterPoint Energy (DKT: G-008/GR-13-316) On Behalf of the MN OAG
CCOSS
Direct | Surrebuttal | Case Link

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 10

Response Date: May 22, 2024

OCA-10-3

Reference: March 30, 2023, L2 Program Annual Report and March 27, 2024, EV Charging Pilot Annual Report, which are available using the link that PECO provided in footnote 6 on page 8 of its Statement No. 9. Please answer the following:

a. Provide an explanation for the more the 2X increase in program administration costs.
b. Explain the challenges with data collection from network providers and the steps the Company has taken to address these issues.

RESPONSE:

[redacted]

[redacted]

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 10

Response Date: May 22, 2024

OCA-10-5

Reference: PECO-Electric Statement No. 9 and the Company's previous EV pilots. Please answer the following:

a. Explain all the load management programs and rate design offerings that have been directly informed by the EV load data collection and analysis. Provide the analysis used to inform said program or rate.
    i. Provide the Company's plan, including a detailed timeline, for utilizing the EV load data collection to design load management programs and rates.

b. Explain all the distribution system planning processes, assumptions, forecasting, and criteria that has been modified based on the EV load data collection and analysis.
    i. Provide the Company's plan, including a detailed timeline, for utilizing the EV load data collection to improve distribution system planning processes and analysis.

c. Where applicable, provide your response to the above in a live, unlocked Excel spreadsheet with all links and formula intact.

RESPONSE:

a. PECO has not yet utilized EV load data to directly inform EV load management programs or rate design offerings because the Company has not yet collected data from enough sites to have confidence that the aggregate data is representative of specific EV charging use cases.

Through year-end 2023, PECO had issued rebates for 32 completed projects, which resulted in 17 public, 11 workplace, 3 multi-unit dwelling, and 1 fleet charging sites. As the number of chargers and sites in a data set grows, the load diversity in the data set tends to increase. It is not yet clear how many sites will be needed in each use case group for the data to converge into an aggregate load curve that has a high likelihood of being representative of the average loads for all customers in that use case, but PECO believes it may have to be at least 30 to 40. Additionally, since any program design will need to consider critical peak load contributions, the data set will need to include summer data for each participating site. Given the low participation to date of multi-unit dwellings and fleet charging sites to date, it may take several years to reach a critical mass of participating sites in those use cases. This need for a critical mass in each use case was a factor in PECO's decision to recommend a five-year extension of the pilot.

b. As noted in the response to subpart (a), PECO has not yet utilized EV load data to directly inform distribution system planning processes, assumptions, forecasting, and criteria because the Company has not yet collected data from enough sites to have confidence that the aggregate data is representative of specific EV charging use cases. As part of the EV load and capacity analysis referenced in the response to OCA-10-2, the Company intends to evaluate whether the data to be collected through 2024 is sufficiently robust to inform the analysis which is to be completed in the first quarter of 2025. However, as with the use of the data for rate and program design, it may take several years for the EV Charging Pilot to have enough participating customers to yield a robust data set.

c. No applicable Excel spreadsheets exist.

Responsible Witness: Steven J. DeMott

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 19

Response Date: June 10, 2024

OCA-19-3

Electric Vehicle (EV)

Reference: Company's response to OCA-10-5(a) and (b). Answer the following:

a. Regarding "specific EV charging use cases", list all use cases the Company is collecting data for.

b. How is the Company determining what a large enough sample size is (e.g., a statistical test)? Explain how this does or does not align with load research for other customers.

c. Explain in detail what is meant by "converge into an aggregate load curve that has a high likelihood of being representative" from a mathematic, statistical, and/or engineering perspective (i.e., not a qualitative perspective).

d. Define "critical peak load contributions" and explain in detail how it is determined.

e. Has the Company evaluated third party providers to better forecast (e.g., loadSEER) and integrate (e.g., Kevala) EVs into distribution system planning? If so, provide the analysis conducted by the Company. If not, explain why not including an explanation of how the Company is confident that the pilot process is a cost-effective approach to obtaining load data for rate design, load management, and planning.

RESPONSE:

a) As part of its data collection from applicants for EV Charging Pilot rebates, the Company requires the customer to self-identify their predominant EV charging use case from the following list. The Company may combine some of these use cases for analysis and reporting purposes where data doesn't show statistically significant differences in usage profiles.

- Public/Customer parking; typically less than 4 hours
- Public/Customer parking; typically 4 or more hours, but not overnight
- Public/Customer parking; typically overnight
- Employee parking; single shift
- Employee parking; two shifts / day
- Employee parking; 24-hour operations
- Fleet; school buses
- Fleet; single shift
- Fleet; two shifts / day
- Fleet; 24-hour operations
- Multi-Unit Dwelling resident/guest parking
- Other, please specify:

b) The Company is seeking a sample size large enough to represent the diversity of load across customers with similar use cases. The sample size of "at least 30 to 40" referenced in the Company's response to OCA-10-5(a) is derived from both a statistics rule of thumb suggesting a minimum sample size of 30 and from the Company's past experience with load diversity analysis that, although load diversity continues to have benefits to counts of hundreds of customers, most of those benefits are realized at a level of 30 to 40 customers. When PECO does load research for other customers, the Company typically looks at all customers on a substation, circuit, feeder, or transformer or at all customers of a specific use case. Those populations, with the exception of customers on a specific transformer, are typically much larger than 30 to 40. EV charging is unique at this point in time as a new load type that has the potential to add a large amount of distributed load but that is still in a very early stage of adoption at which large customer counts are not available for analysis.

c) In performing load analysis, the Company starts by building aggregate or average load profiles of customer usage. Those load profiles typically look at time of day (typically hourly), day of week, workday vs. holiday, and weather (temperature and storm activity). Such load curves are built by applying best-fit curves to the data available. As the sample size increases, the data can be said to converge when adding more samples doesn't cause significant alteration to the shape of the curve. For example, if the load curve for 30

customers is nearly identical to the load curve for 25 customers, then that data will likely be adequate for planning, but if going from 25 to 30 customers in the data set significantly changes the load curve, then the Company may need to wait for the sample size to continue to grow before using the data to capacity planning for future load growth.

d) PECO's distribution system is summer peaking and experiences maximum demand for electricity on the hottest summer days, typically those with ambient temperatures in excess of 95 degrees. The term "critical peak load" as used in the response to OCA-10-5(a) refers to the peak demand hours on such days.

e) Yes. PECO participated in an Exelon evaluation of load forecasting and distribution system planning tools, including LoadSEER and Kevala. Confidential Attachment OCA-19-3(e) provides that analysis.

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

Responsible Witness: Steven J. DeMott

Pennsylvania Public Utility Commission
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Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 17

Response Date: June 03, 2024

OCA-17-2

Reference: PECO-Electric, St. 9, EV-FC Rider, meter eligibility. Please answer the following questions about metering and submetering based on the current proposal and all lessons learned from PECO's previous EV pilots, programs, rates, etc.

a. Has PECO evaluated the feasibility of using submetering approaches (e.g., data from networked EVSE) as a substitute for separate meters?

b. Has the Company, or does it plan to, evaluated the accuracy of the networked load data for billing purposes? If yes, provide any analysis and the results. If not, explain why not.

RESPONSE:

a) Yes. The team that developed the proposed modifications to the EV-FC Rider discussed the feasibility of submetering approaches and identified that using device data for billing would require a reliable daily data interface. PECO does not currently have such an interface in place for any program; the device level interval data for the EV Charging Pilot ("Pilot") is collected quarterly because the ability of EV Service Providers (EVSPs) to compile and transmit such data varies widely from vendor to vendor. Creating such a capability would require engaging a program administrator to undertake daily collection the data from multiple EVSPs, construction of a daily data interface with that administrator, and modifications to the Company's billing system to utilize that data for billing. Given the small number of customers expected to participate in the Pilot, and that almost all currently

participating customers are separately metered, the Company chose not to further investigate a device data option for EV-FC.

b) No, the Company has not evaluated the accuracy for billing purposes of the networked data being collected through the EV Charging Pilot because that data is not being used for billing, is not collected on a daily basis as would be required for billing, and is collected from third party sources from which the Company currently has no means of verifying its accuracy.

Responsible Witness: Steven J. DeMott

Pennsylvania Public Utility Commission
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PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 17

Response Date: June 03, 2024

OCA-17-4

Reference: PECO-Electric, St. 9. Does the Company have plans, or currently offer, automated load management (also known as demand management technologies) to EV charging customers during its connection process (i.e., through the line extension or any EV program process)?[1] If yes, provide the Company's plans. If not, explain why not.

RESPONSE:

[redacted]

[1] Automated load management (ALM) reduces the behind-the-meter and/or front-of-the-meter capacity upgrades costs by reducing the customers point of connection capacity requirements. Common ALM approaches employ energy management systems and/or BTM energy storage facilities.

[redacted]

[redacted]

OCA EXHIBIT RN-7
PECO's CONFIDENTIAL Attachment
OCA-19-3(e)
Redacted in its Entirety

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 10

Response Date: May 22, 2024

OCA-10-2

Reference: PECO-Electric, St. 9. Explain the Company's technology roadmap and associated strategies (communications, DERMS, active network management, orchestration strategy, etc.) for integrating EV and other DERs and managing EV load.

RESPONSE:

[redacted]

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

[redacted]
[redacted]
[redacted]

[redacted]

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Ron Nelson, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 6, 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 17, 2024

Signature: RON Nelson
Ron Nelson

Address: Volt-Watt Consulting LLC
1311 SE 53rd Avenue
Portland, OR 97215

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No.: R-2024-3046931
v.	:	
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PECO Energy Company – Electric Division	:	

REBUTTAL TESTIMONY

OF

Ron Nelson

On behalf of the

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

Date Served:

July 16, 2024

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I. Introduction

Q. Please state your name and business address.

A. My name is Ron Nelson. My business address is 1311 SE 53rd Avenue, Portland, Oregon, 97215.

Q. For whom are you testifying in the matter?

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

Q. Did you previously submit testimony in this matter?

A. Yes. My direct testimony was submitted on behalf of the OCA as OCA Statement 6 on June 17, 2024.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my testimony is to respond to the direct testimony of EVGO Services LLC witness Lindsey Stegall (EVGO St. No. 1) , Electrify America, LLC witness Jigar Shah (EA Statement No. 2), and Walmart Inc. witness Lisa V. Perry (Walmart St. No. 1) (collectively, the "Intervenors") regarding PECO Energy Company's ("PECO's" or "Company's") proposals to extend and modify its EV pilot programming.

II. Response to Intervenors' Direct Testimony Regarding PECO's EV Pilot Program

Q. In your direct testimony, what position did you take regarding PECO's proposals to extend the terms for its EV Pilot Program?

A. In my direct testimony, I opposed PECO's proposal to extend its EV Charging Pilot through December 31, 2029 and its proposal to extend the term of its EV-FC Rider through December 31, 2030. As I explained in my direct testimony, PECO should extend both pilots only until May 31, 2029 so that they conclude in line with the timing of PECO's default

service plan period. By aligning the EV pilot programming term with PECO's default service plan term, which will likely conclude on May 31, 2029, a congruent evaluation of the impacts and outcomes of the EV pilot and the default service plan will better inform future decisions and coordination of any EV-specific time-of-use programming.[1] Importantly, as I expressed concerns regarding PECO's rate design for its EV-FC pilot, which do not reflect temporal cost causation, and which should be revisited in conjunction with PECO's default service rates.[2]

Q. What aspect of Intervenors' direct testimonies are you responding to?

A. My rebuttal testimony responds to the Intervenors' recommendations on the timeline for extending PECO's EV Pilots and the resulting impacts their recommended timelines would impose by continuing and, in some cases, expanding, proposed rate design components that I indicated should be reconsidered alongside PECO's next default service proceeding in order to align supply rates with underlying distribution tariffs for EV chargers.

Q. How did the Intervenors generally respond to the Company's proposed timeline for extending its EV-FC Pilot Rider?

A. In total, all Intervenors made recommendations for PECO to continue the EV-FC Pilot Rider beyond my recommended end date of May 31, 2029. Walmart witness Lisa Perry and EVGO witness Lindsey Stegall testified in support of PECO's proposal to extend the EV-FC Pilot Rider to December 31, 2030.[3] Electrify America witness Shah goes a slight step further by enlarging the context of his timing recommendation. Specifically, while witness Shah opines that the term of the EV-FC Pilot Rider should be extended to

[1] OCA St. 6 at 21-22
[2] OCA St. 6 at 20.
[3] Walmart St. No. 1 at 23; EVGO St. No. 1 at 5-6.

December 31, 2030, as PECO proposes, he expands his recommendation further to include an extension for PECO's demand credit such that it would extend extend through December 31, 2030.[4]

Q. How do you respond to the Intervenors' recommendations for expansion of the EV-FC Pilot Rider timeline beyond the May 31, 2029 end date you recommended??

A. Overall, their recommendations will prevent the alignment of PECO's EV Pilot programming with the conclusion of PECO's current default service plan and prevent informed decision making and evaluation of EV rates. Additionally, the December 31, 2030 end period the Intervenors each support will extend rate offerings that do not accurately reflect cost causation for a longer period and commensurately extend any negative impact upon ratepayers. As suggested by several Intervenors' positions in direct testimony, the timeline an EV program is offered, and the associated rate design offerings have an interrelated impact on participants and ratepayers. Participants within EV programs are trying to get financing for sometimes substantial projects that benefit from longer timelines and the associated certainty. This certainty must be balanced with ratepayer cost. In my direct testimony, I suggest a pilot timeline that slightly shortens PECO's timeline proposal to align it with default supply procurements. Alignment with default supply procurements is important because it will allow for comprehensive and complementary rate changes to occur. In my view, rate modernization is needed first and foremost. Addressing rate modernization will help to improve certainty for developers by creating durable rate options that are not revisited programmatically. Adopting a longer timeline for the EV-FC Pilot program, or associated demand credits, than I recommended

[4] EA St. No. 2 at 7.

would lock in rudimentary rate approaches that do not provide sufficient price signals or options for EV customers. This will add cost to the program over the long run for ratepayers. For these reasons, I continue to recommend a shorter timeline, with PECO's EV Pilot Programs ending on May 31, 2029, as it is intended to ultimately address market uncertainty.

Q. Electrify American witness Shah recommended that PECO's EV-FC demand credit should extend through December 31, 2030. What is your response?

A. Witness Shah's recommendation should be rejected, because as I explained in my direct testimony, the demand credit is an adjustment to the ratcheted demand charge component, which should be modernized with more effective prices signals.[5] Because witness Shah's recommendation would extend inefficient price signals beyond that which PECO proposed, it should be rejected.

III. Conclusion

Q. Has the testimony of the Intervenors caused you to change your recommendations regarding PECO's EV Pilot Programming?

A. No. I stand by the recommendations made in my direct testimony

Q. Does this conclude your rebuttal testimony?

A. Yes.

[5] OCA St. 6 at 20-21.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Ron Nelson, hereby state that the facts above set forth in my Rebuttal Testimony, OCA Statement 6R, 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 16, 2024

Signature: RON Nelson

Ron Nelson

Address: Volt-Watt Consulting LLC
1311 SE 53rd Avenue
Portland, OR 97215

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	Docket No.: R-2024-3046931
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PECO Energy Company –Electric Division	:	

SURREBUTTAL TESTIMONY

OF

Ron Nelson

On behalf of the

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

August 2, 2024

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A. Data Collection, Submetering, and Metrics 4

B. Pilot Term and Rate Design 8

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III. Conclusion 12

I. Introduction

Q. Please state your name and business address.

A. My name is Ron Nelson. My business address is 1311 SE 53rd Avenue, Portland, Oregon, 97215.

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

A. I am the President and Founder of Volt-Watt Consulting LLC.

Q. For whom are you testifying in the matter?

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

Q. Did you previously submit testimony in this matter?

A. Yes. My direct testimony was submitted on behalf of the OCA as OCA Statement 6 on June 17, 2024. Additionally, my rebuttal testimony was submitted as OCA Statement 6R on July 16, 2024.

Q. What is the purpose of your rebuttal testimony?

A. I respond to the PECO Energy Company – Electric Division ("PECO" or "Company") witness Steven J. DeMott[1] on the topics of Electric Vehicle Charging Pilots and Automated Load Management ("ALM").

Q. Please summarize your conclusions and recommendations.

A. I find that the Company's rebuttal testimony fails to refute the arguments presented in my direct testimony and it fails to provide a basis to deny my recommendations. As explained below, I continue to support the recommendations in my direct testimony, with minor modifications made solely to recognize clarifications provided in the Company's rebuttal

[1] PECO-Electric, Statement No. 9-R, DeMott Rebuttal.

testimony. Specifically, I modify the following recommendations from my Direct Testimony:

- **Data Collection:** In my direct testimony, I recommended that the Commission require the Company to report on the load data not being collected. Specifically, I recommended that PECO report monthly on the number of customers and charges from which the Company is and is not collecting data.[2] Below I explain that I am now modifying my position to recommend instead that the Commission require the Company to provide more detailed updates within existing work group meetings.
- **Metering:** In my direct testimony, I recommended that the Commission require PECO to evaluate submetering with networked electric vehicle supply equipment (EVSE) within the EV Charging Pilot.[3] Below I explain that I am modifying my position to recommend that the Commission require the Company to evaluate submetering only for networked L2 electric vehicle supply equipment (EVSE) within the EV Charging Pilot.

II. Response to PECO

Q. How is this section of your testimony organized?

A. I organize my response to PECO into three sections: (1) Data Collection, Submetering, and Metrics, (2) Pilot Term and Rate Design, and (3) Automated Load Management.

Q. Please provide a high-level response to PECO's rebuttal.

A. I discuss many issues in my surrebuttal testimony, but all are tied back to PECO's need for rate modernization and the need to reconsider how load is connected to the power system.[4]

[2] OCA St. 6 at 4.
[3] OCA St. 6 at 4.
[4] There is a need to reconsider how we connect exporting facilities as well, and these efforts should be coordinated because similar technologies are used for both.

EVgo[5] and Electrify America[6] witnesses also addressed the need for rate modernization and rethinking how we connect load to the grid, albeit using different terminology. For example, Electrify America witness Shah recommends that the Commission prohibit PECO from using nameplate capacity for purposes of determining maximum contract demand.[7] This is related to the use of Automated Load Management (ALM). I believe that both witness Shah and I are arguing that the Company's load expectations are unreasonable and inflexible, and that this needs to be addressed. While witness Shah, understandably, focuses on the financial impact of connections (i.e., maximum contract demand charges), I focus on system planning aspects to reduce costs for all customers (i.e., ALM).[8]

While I found PECO program design to be reasonable, except for the issues noted below, there is a significant lack of transparency around how its distribution system planning and rates will evolve over the near-term. This should be highly concerning to regulators. While the program design will impact a small set of customers for a relatively short period of time, the Company's planning and rates have long lasting and broad impacts on customers. I continue to recommend transparency improvement for distribution system planning and that the Commission begin modernizing rates through the default service proceeding. PECO witness DeMott's rebuttal testimony rebuts each witness separately, which conceals that many of the objections and recommended alterations to the EV Pilots are rate design related. However, nothing in witness DeMott's rebuttal causes me to change my position on rate modernization or timing.

[5] EVGO St. No. 1 at 5-6.
[6] EA St. No. 2 at 7.
[7] EA St. No. 2 at 8-9.
[8] My statement is not intended to suggest witness Shah's recommendation would not also benefit all customers through reduced system costs.

A. Data Collection, Submetering, and Metrics

Q. How did PECO respond to your concerns related to data collection?

A. The Company provided additional information on the exact data collection issues it has been experiencing. Specifically, the Company noted that the problem is not that data is not being collected, it is that the collection of the data is delayed.[9]

Q. How do you respond?

A. I find delayed load data collection to be a lesser problem than missing data collection. However, this is still an issue the Company fails to offer any solutions for. At a minimum, the Company should provide more detailed updates within its ongoing work group meetings and consider future programmatic changes to address the issue if it continues. I recommend more detailed updates within the work group meetings because this is the appropriate forum for informing stakeholders on data collection. I apparently misinterpreted previous information provided through the workgroup and this topic was not addressed in the Company's direct testimony.

Q. How did the Company respond to your concern regarding its lack of data utilization for rate design?

A. The Company clarified the data it currently has collected and the duration for which it has been collected. Based on this clarification, the Company argues that "It is unreasonable to expect to that any utility would generalize data from just one Pilot participant for use in capacity planning or rate design."[10]

[9] PECO-Electric, Statement No. 9-R, DeMott Rebuttal at 3-4.
[10] PECO-Electric, Statement No. 9-R, DeMott Rebuttal at 5, lines 1-2.

Q. How do you respond?

A. The Company mischaracterized my testimony and did not address my main concerns. I never claimed that the current data from the pilots should be directly utilized for rate design or planning purposes. I noted, more importantly, that the Company does not have a clear plan to ever utilize the pilot data for rate design and planning.[11] Not having a plan to utilize pilot data for rate design and planning is problematic, given the emphasis the Company has put on its value and it being a primary objective of the pilots. The Company has claimed one of the primary purposes of the pilots is to inform rate design and planning and they have no plan for achieving this objective. The lack of a plan undermines the value of the pilot. Additionally, I pointed out that there are substitutes for pilot derived data that may be more cost-effective, which the Company does not rebut.

Q. Have other Pennsylvania utilities filed transportation electrification pilots with clearer plans for utilizing pilot data?

A. Yes. Duquesne Light Company (Duquesne) filed its transportation electrification portfolio.[12] The filing included a time-of-use (TOU) and managed charging pilot. Both pilots had clearer objectives and plans for using pilot data than PECO's current filing. PECO should have a clearer vision of how the pilots will inform rate design and planning. This is one reason why I continue to recommend increased transparency related to the Company distribution system planning.

[11] See OCA St. 6 at 11; See also PECO's response to OCA-10-5, which was attached to my direct testimony as Exhibit RN-3.
[12] See Pa. PUC Duquesne Light Company, Docket No. R-2024-3046523, Statement No. 6, Olexsak Direct Testimony.

Q. How did the Company respond to your recommendations related the submetering of DCFC chargers within the EV-FC Pilot?

A. The Company clarified that it is requiring DCFC sites to be metered, not individual DCFC chargers within a given site.[13]

Q. Does this clarification of the EV-FC Pilot requirements change your recommendation?

A. Yes. I do not recommend the Company explore submetering within the EV-FC Pilot. I recommended submetering because I was under the impression that each charger was being metered, which I found odd and for which I desired to find a cheaper alternative.

Q. How did the Company respond to your recommendations related to submetering networked L2 chargers within the EV Charging Pilot?

A. The Company noted that submetering would require field testing to determine accuracy and additional data collection. Additionally, PECO notes that it "is aware that utilization of submeters that are integrated into electric vehicles and/or networked EVSE is a viable option for metering electric usage … If PECO identifies a future need to validate the accuracy of device integrated submeters, e.g., in support of a future EV-specific rate, a laboratory approach to such validation would almost certainly be far more cost effective than field testing."[14] Lastly, the Company noted that accuracy requirements would not be needed if accuracy standards were waived as they have been in other states.

Q. How do you respond?

A. PECO notes that it is aware of submetering but it makes no claim to have evaluated whether it is the most cost-effective solution for metering electric usage now or in the future. That

[13] PECO-Electric, Statement No. 9-R, DeMott Rebuttal at 5.
[14] PECO-Electric, Statement No. 9-R, DeMott Rebuttal at 6-7.

is a problem for ratepayers, and that is what my recommendation to require them to explore submetering for networked L2 chargers seeks to address. There are instances where submetering will likely be more cost effective and advantageous, such as active management of fleets or other EVs. For that reason, PECO should be developing these capabilities.

Q. How did PECO respond to your proposed program metrics?

A. The Company claimed the industry was changing too fast to warrant setting targets at this time.[15]

Q. How do you respond?

A. The metrics I proposed were of the Company's own creation.[16] Specifically, I recommended that the Commission should require PECO to create metrics and targets associated with the following:[17]

1. Ratio of DCFC charging stations to current and projected future EVs in operation;
2. Percentage of highway interchanges having a DCFC site within one mile that meets National Electric Vehicle Infrastructure program specifications;
3. Percentage of ZIP codes having at least one public DCFC site.

It is unclear why PECO is abandoning these metrics so quickly when they evaluated them as important data points in the decision to propose an extension to the EV-FC Rider Pilot. The proposed metrics do not have a financial component, and so they have low stakes. The proposed metrics are intended to help the Commission and stakeholders better determine

[15] PECO-Electric, Statement No. 9-R, DeMott Rebuttal at 7-8.
[16] See PECO Confidential Response to OCA-10-4, attached as Exhibit RN-1-SR. Note that PECO has agreed that its response to 10-4(b) need not be marked confidential and this is the only portion of the response relied upon here and displayed in Exhibit RN-1-SR.
[17] OCA St. 6 at 6.

the value of continued ratepayer funding for EV pilots, and can be updated to reflect new expectations and industry conditions.

B. Pilot Term and Rate Design

Q. Please summarize the Company's response to your rate design concerns.

A. The Company lists six reasons for rejecting my rate design recommendations.[18] As I demonstrate below, these reasons are inadequate, and they do not warrant the rejection of my recommendation.

Q. How do you respond to the Company's list of factors.

A. I provide a brief summary of the Company argument for each reason and respond in turn directly below the alleged reason.

1) The Company argues that because this is a distribution rate case, it would be inappropriate for the Commission to mandate an action within the default service proceeding. I strongly disagree. PECO fails to point to any underlying authority that limits the Commission's broad authority and it offers no support for its claim.

2) The Company notes that the Commission's draft policy statement encourages, but does not mandate, rate design actions, and that doing so would be inconsistent. I strongly disagree. The Commission has broad authority and can consider the facts in this case to warrant such action. Furthermore, the Commission would not be mandating that a rate be implemented, only proposed for further consideration.

[18] PECO St. 9-R at 8-10.

3) The Company questions the benefit to non-residential EV charging customers of an EV specific rate. Having testified across the country on this topic, I can say several utilities have non-residential EV charging rate designs and there is participation within the rates.[19] PECO does not support its position.

4) The Company argues that there is little evidence to suggest that TOU pricing would influence charging behavior at public stations. To support the Company's position, it cited to a "finding by the New York Public Service Commission that public DCFC station loads are largely inelastic to event-based price signals."[20] First, the Company's are carefully limiting these comments to public DCFC chargers, which the rate does not need to be limited to. The Company is also ignoring the principles of rate design. The sole purpose of rate design is not to get load to shift, instead, one of the primary purposes, is to reflect cost causation. If DCFC chargers are causing peak demand costs during high use periods, they should pay the corresponding costs. It is also important to note that the Company's cited NY PSC order states that DCFC load is inelastic "at this phase in the EV adoption cycle."[21] This statement is important because DCFC chargers will manage their load at some point, likely using energy management system and/or energy storage systems. But unless DCFC chargers are provided

[19] These states include Massachusetts, Minnesota, Georgia, and Colorado, among others.
[20] PECO-Electric, Statement No. 9-R, DeMott Rebuttal at 9-10.
[21] *See* "Electric Vehicle Service Providers Joint Comments on the Pennsylvania Public Utility Commission's Proposed Policy Statement on EV Charging Rate Design," www.puc.pa.gov/pcdocs/1813441.pdf, p. 6 at footnote 15.

efficient and strong price signals, they won't have an incentive to make these investments.

5) The Company claims that it is unclear whether additional rates will be needed to encourage fleet charging customers, and notes the "inherent incentive in demand charges to shift schedulable loads away from the customer's peak usage hours."[22] I strongly disagree with the Company. The Company has a ratcheted demand charge based on the highest consumption over approximately a year. This means the demand charge essentially gives the same price signal for each hour of the year[23]—antithetical to the Company's claim.

6) The Company mentions other avenues for developing rates noting "If PECO determines that one or more new default service rates would be appropriate for EV charging customers, the Company need not wait … ." There is an obvious problem with waiting for a monopoly service provider to determine whether and when a new rate is needed. The monopoly is incentivized to maximize profit which is dependent to the amount of capital it can spend upgrading and expanding the system. The monopoly is unlikely to introduce new rates when existing rates are financially advantageous for it. For this reason, regulators need to require rate modernization.

[22] PECO-Electric, Statement No. 9-R at 10.
[23] OCA St. 6 at 16-17.

C. Automated Load Management

Q. Please summarize PECO's response to your recommendations on Automated Load Management (ALM).

A. Witness DeMott explains that the Company is familiar with ALM, believes that cost-effective implementation may be a good tool to offer customers, and that educating customers has value.[24] Witness DeMott focuses on a particular form of ALM, software-based ALM systems, to note that additional expenses would need to be incurred to enable this form of ALM. Witness DeMott concludes with stating that PECO does not reject "all possible approaches to flexible interconnection," and provides examples of other forms of ALM.

Q. How do you respond?

A. PECO's response demonstrates why the Commission should adopt my recommendation. PECO acknowledges the potential value to the system and customers, but cherry picks different forms of ALM to make different points. The first step of my proposal is to "define ALM approaches[25]." PECO's initial explanation of the different forms of ALM demonstrates this need because there are several options that need to be developed, and will likely be developed in a specific sequence to ensure cost-effectiveness.

The software-based solutions PECO is referencing appear to require active network management based on the Company's description. I do not disagree that at scale, these software-based solutions would require sophisticated, and potentially significant, utility solutions. However, PECO does not need a distributed energy resources management system (DERMS) or active network management to pilot these solutions. Sophisticated

[24] PECO-Electric, Statement No. 9-R, DeMott Rebuttal at 18-19.
[25] OCA St. 6 at 25.

ALM can be piloted with SCADA by potentially pairing SCADA with a switch or relay. Furthermore, there are several ALM configurations and processes that do not create PECO's cherry-picked worst-case scenario. I acknowledge that ALM is technical, which is why the Commission should adopt my recommendation to transparently evaluate ALM options to identify and capture value for customers and the system.

III. Conclusion

Q. Please summarize your recommendations.

A. I recommend:

- **Data Collection:** I recommend that the Commission require the Company to provide more detailed updates within existing work group meetings on data collection challenges to provide a clearer understanding of what is and is not being collected.
- **Metering:** I recommend that the Commission require the Company to evaluate submetering only for networked L2 electric vehicle supply equipment (EVSE) within the EV Charging Pilot.
- **Rate design (i.e., demand credit and contract maximum demand charge):** I recommend that the Commission require the Company to propose tariffs that align supply rates with underlying distribution tariffs for EV chargers. Specifically, and consistent with the OCA's policy preference for this case, I recommend that the Company be required to propose an EV-specific TOU or other dynamic rate that differentiates both supply (i.e., generation and transmission) and distribution (i.e., substations and primary voltages) for customers that are able to participate in both proposed EV Pilots.
- **Time period for extending pilot/Rate design:** the pilots should be extended only until May 31, 2029 so that they conclude in line with the timing of PECO's default service plan

period. I note that PECO's existing default service plan is in place for the four-year period extending from June 1, 2021 through May 31, 2025[26], and the next iteration of the plan will likely extend from June 1, 2025 through May 31, 2029. Aligning the EV pilot programming term with PECO's default service plan term will permit congruent evaluations of the impacts and outcomes of the EV pilot and the default service plan to better inform future decisions. the Commission should require the Company to provide to the OCA and other stakeholders the proposed updated rate design 9 months prior to filing their next default service proceeding or rate case in which it would propose the broader EV Pilots filing.. This will provide stakeholders with time to evaluate the proposed rate design(s) and determine whether the modifications to the default supply rate is reasonable.

- **Automated load management (ALM)**: The Commission should require the Company to define ALM approaches for customers and begin offering these flexible connection approaches. To this end, the Company should, in coordination with stakeholders, develop a standard site evaluation methodology that would be applied to all EV charging sites during the preliminary site design process to determine if ALM can be used to cost-effectively meet the customer's charging needs.[27] If ALM is deemed suitable for a particular site, this information can then be communicated to the customer for the customer to review and make any modifications to the project before signing off on the construction of the charging site.
- **Distribution system planning**: the Commission and stakeholders should aim to gain a better understanding of key investments that Company is making in the near future. To

[26] Petition of PECO Energy Company for Approval of its Default Service Program for the Period from June 1, 2021 through May 31, 2025, P-2020-3019290, Opinion and Order at 67 (December 3, 2020).
[27] See Pacific Gas & Electric's proposed site evaluation criteria, Electric Vehicle Charge 2 Prepared Testimony, Chapter 5, Attachment A, Case Number A.21- 10-010, BEG.

start with the Commission should require certain distribution system planning by the Company that I outline in Section IV.D, below.

- **Metrics:** The Commission should require the Company to create metrics and proposed targets associated with the following:
  - Ratio of DCFC charging stations to current and projected future EVs in operation;
  - Percentage of highway interchanges having a DCFC site within one mile that meets National Electric Vehicle Infrastructure program specifications;
  - Percentage of ZIP codes having at least one public DCFC site.

Q. Other than the modifications you identified and explained in this surrebuttal testimony, are there any other changes that you wish to make to your recommendations?3

A. No. Where PECO provided an adequate reason for me to reevaluate my recommendations, I have done so already in this testimony. Therefore, I stand by my recommendations above.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set 10

Response Date: May 22, 2024

OCA-10-4

Reference: PECO-Electric Statement No. 9, EV-FC Rider section. Please answer the following:

a. Explain all demand charge alternatives considered by the Company, the pros and cons of each option, and why the proposed solution was found to be superior.
b. Explain the metrics, goals, or targets being used to evaluate when incentives are no longer needed for DCFC.
c. Provide an analysis on the historic participants that calculates the rates paid under the current and proposed demand charge discount. Provide your response to the above in a live, unlocked Excel spreadsheet with all links and formula intact.

RESPONSE:

[redacted]

[redacted]

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]



b. In developing the proposal to extend the EV-FC Rider Pilot, PECO considered the following factors to evaluate whether incentives are still needed for DCFC. The Company may identify additional or different factors as the EV charging market and technologies evolve.

- Ratio of DCFC charging stations to current and projected future EVs in operation;
- Percentage of highway interchanges having a DCFC site within one mile that meets National Electric Vehicle Infrastructure program specifications;
- Percentage of ZIP codes having at least one public DCFC site;
- Input and feedback about the value of the EV-FC Rider Pilot received from customers, stakeholders, and participants in the PECO-hosted Transportation Electrification Collaborative; and
- Preliminary guidance from the Commission in the form of the draft policy statement on Electric Utility Rate Design for Electric Vehicle Charging and stakeholder comments on that draft.

[redacted]

THIS RESPONSE AND ITS ATTACHMENT PROVIDE CONFIDENTIAL INFORMATION THAT IS PROVIDED ONLY TO THOSE WHO HAVE EXECUTED NON-DISCLOSURE AGREEMENTS UNDER THE PROTECTIVE ORDER.

Responsible Witness: Steven J. DeMott

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Ron Nelson, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 6SR, 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 2, 2024

Signature: RON Nelson
Ron Nelson

Address: Volt-Watt Consulting LLC
1311 SE 53rd Avenue
Portland, OR 97215

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
	:	
v.	**:**	**Docket No. R-2024-3046931**
	:	
PECO Energy Company– Electric Division	**:**	

TESTIMONY AND EXHIBITS
OF THE
OFFICE OF SMALL BUSINESS ADVOCATE
TO BE ADMITTED INTO THE EVIDENTIARY RECORD

The Office of Small Business Advocate ("OSBA") intends to admit the attached testimony and exhibits as evidence into the evidentiary record at the Evidentiary Hearings scheduled on August 7, 2024, August 8, 2024, August 12, 2024, and August 13, 2024, in the above-captioned proceeding:

- Direct Testimony, labelled OSBA Statement No. 1 with signed Verification of Kevin C. Higgins
- Rebuttal Testimony, labelled OSBA Statement No. 1-R, with signed Verification of Kevin C. Higgins
- Surrebuttal Testimony, labelled OSBA Statement No. 1-S, with signed Verification of Kevin C. Higgins

Date: August 6, 2024

COMMONWEALTH OF PENNSYLVANIA

June 17, 2024

The Honorable Darlene Heep
Administrative Law Judge
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

The Honorable Marta Guhl
Administrative Law Judge
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

Re: Pennsylvania Public Utility Commission v. PECO Energy Company – Electric Division / Docket No. R-2024-3046931

Dear Judge Heep and Judge Guhl:

Enclosed please find the Direct Testimony of Kevin C. Higgins, labelled OSBA Statement No. 1, on behalf of the Office of Small Business Advocate ("OSBA"), in the above-captioned proceeding.

Copies will be served on all known parties in this proceeding, as indicated on the attached Certificate of Service.

If you have any questions, please do not hesitate to contact me.

Sincerely,

/s/ Sharon E. Webb

Sharon E. Webb
Assistant Small Business Advocate
Attorney ID No. 73995

Enclosures
cc: PA PUC, Secretary, Rosemary Chiavetta (Cover Letter and Certificate of Service Only)
Kevin C. Higgins
Parties of Record

OSBA STATEMENT NO. 1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITIES COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	**Docket No. R-2024-3046931**
PECO Energy Company (Electric)	:	

Direct Testimony of Kevin C. Higgins

on behalf of

Pennsylvania Office of Small Business Advocate

June 17, 2024

Topics:

Class Cost Allocation

Revenue Allocation

Date Served: June 17, 2024

Date Submitted for the Record: _____

DIRECT TESTIMONY OF KEVIN C. HIGGINS

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevin C. Higgins. My business address is 111 East Broadway, Suite 1200, Salt Lake City, Utah, 84111.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Principal in the firm of Energy Strategies, LLC. Energy Strategies is a private consulting firm specializing in economic and policy analysis applicable to energy production, transportation, and consumption.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. My testimony is being sponsored by the Pennsylvania Office of Small Business Advocate ("OSBA").

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND QUALIFICATIONS.

A. My academic background is in economics, and I have completed all coursework and field examinations toward the Ph.D. in Economics at the University of Utah. In addition, I have served on the adjunct faculties of both the University of Utah and Westminster College, where I taught undergraduate and graduate courses in economics. I joined Energy Strategies in 1995, where I assist private and public sector clients in the areas of energy-related economic and policy analysis, including evaluation of electric and gas utility rate matters.

Prior to joining Energy Strategies, I held policy positions in state and local government. From 1983 to 1990, I was an economist, then assistant director, for the Utah Energy Office, where I helped develop and implement state energy policy. From 1991 to 1994, I was chief of staff to the chairman of the Salt Lake County Commission, where I was responsible for development and implementation of a broad spectrum of public policy at the local government level.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes. In 2006, I testified in a proceeding concerning the rate transition plans filed by Metropolitan Edison Company and Pennsylvania Electric Company, Docket Nos. P-00062213 *et al*. In 2022, I filed testimony on behalf of the Pennsylvania OSBA on revenue requirement issues in the Leatherstocking Gas Company LCC general rate case, Docket No. R-2022-3032764. In 2023, I testified in National Fuel Gas Distribution Corporation's general rate case, Docket No. R-2022-3035730, Pennsylvania-American Water Company's ("PAWC") Butler Area Sewer Authority acquisition case, Docket No. A-2022-3037047, and Pittsburgh Water and Sewer Authority's general rate case, Docket Nos. R-2023-3039920, *et al.* In 2024, I testified in PAWC's base rate case, Docket Nos. R-2023-3043189 and R-2023-3043190 and PAWC's Audubon Water Company acquisition case, Docket Nos. A-2023-3043194 and A-2023-3043196.

Q. HAVE YOU TESTIFIED BEFORE UTILITY REGULATORY COMMISSIONS IN OTHER STATES?

A. Yes. I have testified in approximately 285 proceedings on the subjects of utility rates and regulatory policy before state utility regulators in Alaska, Arizona, Arkansas, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Michigan, Minnesota, Missouri, Montana, Nevada, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Texas, Utah, Virginia, Washington, West Virginia, and Wyoming. I have also filed affidavits in proceedings before the Federal Energy Regulatory Commission and prepared expert reports in state and federal court proceedings involving utility matters.

OVERVIEW AND CONCLUSIONS

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

A. My testimony responds to the electric base rate case filed by PECO Energy Company ("PECO" or the "Company") on the topics of class cost allocation and revenue allocation.

Q. WHAT CONCLUSIONS AND RECOMMENDATIONS DO YOU OFFER IN YOUR TESTIMONY?

A. I agree with PECO that it is appropriate to recognize that poles and conductors have a significant customer-related component. While PECO's approach does not rely on a special study such as a minimum-size or zero-intercept study, PECO's overall customer-classified proportions of these facilities are within a reasonable range. Therefore, I recommend that PECO's classification and allocation approach for poles, towers and fixtures; overhead conductors and devices;

underground conduit; and underground conductors and devices be approved for the purpose of this case. It may be appropriate for PECO to conduct a minimum-size or zero-intercept study prior to its next base rate case to ensure the accurate classification of its distribution costs.

I recommend that the classification and allocation of transformer costs should also include a customer component, rather than PECO's approach which treats transformer costs as 100% demand-related. I provide the results of a cost-of-service study incorporating a customer component in the allocation of transformer costs.

I believe that PECO's proposed electric revenue allocation among classes is generally reasonable at the Company's proposed revenue requirement. If the Commission approves a lower electric revenue requirement increase than requested by PECO, I recommend scaling each class's base distribution revenues in proportion to each class's share of total proposed base distribution revenues at PECO's requested revenue requirement increase.

CLASS COST ALLOCATION

Q. PLEASE DESCRIBE PECO'S PROPOSED ALLOCATION OF THE COSTS ASSOCIATED WITH DISTRIBUTION POLES AND CONDUCTORS AMONG ITS ELECTRIC RATE CLASSES.

A. As described in the Direct Testimony of Ms. Tamara J. Jamison, PECO functionalizes its poles, towers and fixtures (Account 364), overhead conductors and devices (Account 365), underground conduit (Account 366), and underground

conductors and devices (Account 367) between Primary High Tension ("HT")/Primary and Secondary Distribution based on a study of the respective costs. PECO further divides this plant between Primary HT and Primary based on wire miles of conductors. The Company allocates Primary HT and Primary plant among rate classes based on Non-Coincident Demand ("NCP") at the Primary HT and Primary voltage levels, respectively. PECO classifies Secondary Distribution plant as customer-related and allocates these costs among classes based on the number of customer locations served.[1]

Q. DO YOU HAVE ANY COMMENTS ON PECO'S ALLOCATION OF DISTRIBUTION POLES AND CONDUCTORS?

A. Yes. It is appropriate to recognize that the cost of poles and conductors has a significant customer-related component. These facilities are installed to deliver service to customer premises. As such, a significant portion of the investment required to provide these facilities is directly related to the number of customers and their geographic dispersion on the utility's system. A well-designed and fair distribution cost-of-service study should take these aspects of cost causation into account.

The NARUC Cost Allocation Manual is very clear on this subject. Regarding the allocation of distribution costs, the manual states:

> The customer component of distribution facilities is that portion of costs which varies with the number of customers. Thus, the number of poles, conductors, transformers, services, and meters are directly related to the number of customers on the utility's system.[2]

[1] Direct Testimony of Tamara J. Jamison (PECO Energy Company Statement No. 6), pp. 17-18.
[2] National Association of Regulatory Utility Commissioners Electric Utility Cost Allocation Manual, 1992, p. 90.

The most commonly used methods to determine the customer-related portion of poles, conductors, and transformers are the minimum-size method and the zero-intercept method, which are both described in the NARUC Cost Allocation Manual. However, according to Ms. Jamison, PECO did not conduct a special study to classify these facilities as customer or demand-related. As Ms. Jamison explains:

> Special studies, such as a minimum size study, are sometimes used to classify poles, conductors, and transformers between customer-related and demand-related investment. A special study was not performed in this case because investment related to such plant operating at secondary voltage was considered to be customer-related and investment in plant operating at primary voltage was considered to be demand-related and, therefore, such plant was classified as customer and demand, respectively.[3]

PECO's approach classifies and allocates poles and conductors based on voltage, classifying Secondary Distribution costs as customer-related and Primary HT and Primary costs as demand-related. This approach effectively classifies 27.8% of overhead conductors and devices as customer-related and 72.2% as demand-related. PECO applies these same proportions to poles, towers and fixtures to classify those facilities as customer or demand-related. PECO classifies 24.2% of its underground conductors and devices as customer-related and 75.8% as demand-related and applies these same proportions to classify its underground conduit. In total, PECO classifies 26.1% of FERC Accounts 364-367 as customer-related and 73.9% as demand-related.[4]

PECO's approach may not be optimal, since it does not rely on a special study such as a minimum-size or zero-intercept study. However, PECO's overall

[3] Direct Testimony of Tamara J. Jamison (PECO Statement No. 6), p. 14.
[4] Based on PECO Exhibit TJJ-2, page 4; PECO Exhibit TJJ-7, p. 4.

customer-classified proportions of poles and conductors are within a reasonable range relative to the typical results of such studies conducted by other utilities. Therefore, I recommend that PECO's classification and allocation approach for poles, towers and fixtures; overhead conductors and devices; underground conduit; and underground conductors and devices be approved for the purpose of this case. It may be appropriate for PECO to conduct a minimum-size or zero-intercept study prior to its next base rate case to ensure the accurate classification of its distribution costs.

Q. HOW DOES PECO CLASSIFY AND ALLOCATE THE COST OF LINE TRANSFORMERS?

A. PECO functionalizes line transformers (Account 368) plant to Secondary Distribution, classifies these costs as demand-related, and allocates these costs based on NCP demands at secondary voltage.[5] That is, PECO treats line transformers as 100% demand-related.

Q. DO YOU AGREE WITH PECO'S ALLOCATION APPROACH FOR LINE TRANSFORMERS?

A. No. As is the case for poles and conductors, the cost of transformers has a customer-related component. PECO's approach fails to account for the customer-related component, which under-assigns cost responsibility based on the number of customers served and over-assigns cost responsibility based on demand.

[5] Direct Testimony of Tamara J. Jamison (PECO Statement No. 6), pp. 17-18.

Q. WHAT IS THE COST OF SERVICE IMPACT OF INCORPORATING A CUSTOMER COMPONENT IN THE ALLOCATION OF TRANSFORMER COSTS?

A. Since I have not conducted a minimum-size or zero-intercept study, I applied PECO's average customer-classified proportion of FERC Accounts 364-367, 26.1%,[6] to PECO's transformer costs as a proxy for the customer-related component. The purpose of this analysis is to illustrate the impact of incorporating a customer component in transformer cost allocation. Table KCH-1, below, compares the results of PECO's cost-of-service study to a study that allocates 26.1% of transformer costs based on the number of secondary customer locations served and the remaining 73.9% of transformer costs based on NCP demands at secondary voltage.

Table KCH-1
Comparison of Cost-of-Service Study Results
($000)

	PECO CCOSS[7]				Illustrative OSBA CCOSS - Transformers with Cust. Component[8]		
Rate Class	Total Dist. Rate Base	COS Increase at System Avg. ROR[9]	Current Ratio to Average Dist. ROR		Total Dist. Rate Base	COS Increase at System Avg ROR	Current Ratio to Average Dist. ROR
Residential	$4,506,478	$189,036	1.16		$4,546,560	$195,344	1.15
Res. Heating	$1,181,481	$94,091	0.59		$1,170,413	$92,349	0.60
Gen. Service	$1,698,858	$97,936	0.92		$1,665,453	$92,678	0.95
Prim. Dist.	$47,950	$3,279	0.76		$47,950	$3,279	0.76
High Tension	$1,179,541	$70,652	0.89		$1,179,541	$70,652	0.89
Electric Prop.	$56,810	$4,590	0.57		$56,810	$4,590	0.57
Lighting	$129,418	$4,048	1.33		$133,810	$4,739	1.26
Total Electric	$8,800,537	$463,632	1.00		$8,800,537	$463,632	1.00

[6] Based on PECO Exhibit TJJ-2, page 4.
[7] From PECO Exhibit TJJ-1, lines 23, 120, and 25.
[8] From CONF PECO ECOS – OSBA WP.
[9] Represents the cost of service increase without the forfeited discount increase.

As shown in Table KCH-1, incorporating a customer component in transformer cost allocation decreases the costs allocated to the Residential Heating and General Service classes, increases costs allocated to the Residential and Lighting classes, and has no impact on the Primary Distribution, High Tension, or Electric Propulsion classes (since these latter classes are not allocated transformer costs).

Q. HOW DOES PECO ALLOCATE AND RECOVER ITS CUSTOMER ASSISTANCE PROGRAM ("CAP") COSTS?

A. According to the Direct Testimony of Mr. Joseph A. Bisti, PECO's CAP provides bill credits to qualifying low-income residential customers. A portion of the CAP costs are recovered through base rates paid by residential customers, and the amount not recovered in base rates is recovered from or refunded to residential customers through the Universal Service Fund Charge.[10]

Q. DO YOU AGREE THAT CAP COSTS SHOULD BE ALLOCATED AND RECOVERED FROM RESIDENTIAL CUSTOMERS ONLY?

A. Yes. Since only residential customers are eligible for the CAP program, I agree that these costs should be allocated and recovered entirely from residential customers.

[10] Direct Testimony of Joseph A. Bisti, (PECO Statement No. 7), pp. 10-11.

REVENUE ALLOCATION

Q. HOW DOES PECO PROPOSE TO ALLOCATE ITS ELECTRIC REVENUE REQUIREMENT INCREASE AMONG RATE CLASSES?

A. PECO's proposed revenue allocation is described by Mr. Bisti and shown in PECO Exhibit JAB-1. According to Mr. Bisti, the Company's revenue allocation moves each class toward its cost of service while employing the principle of gradualism.[11] As shown in PECO Exhibit JAB-1, higher increases are proposed for classes earning below-average rates of return under current rates, while the classes earning above-average rates of return receive lower increases.

Q. DO YOU HAVE ANY COMMENTS ON PECO'S PROPOSED REVENUE ALLOCATION?

A. Yes. I believe that PECO's proposed revenue allocation is generally reasonable at the Company's proposed overall revenue requirement.

Q. WHAT DO YOU RECOMMEND REGARDING THE SCALE-BACK OF RATES AT A LOWER REVENUE REQUIREMENT?

A. If the Commission approves a lower electric revenue requirement increase than requested by PECO, I recommend scaling each class's base distribution revenues in proportion to each class's share of total proposed base distribution revenues at PECO's requested revenue requirement increase, as shown in PECO Exhibit JAB-1.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

[11] Direct Testimony of Joseph A. Bisti, (PECO Statement No. 7), pp. 3-5.

APPENDIX

KEVIN D. HIGGINS

RESUME AND EXPERT TESTIMONY LIST

KEVIN C. HIGGINS

Principal, Energy Strategies, L.L.C.
111 East Broadway, Suite 1200, Salt Lake City, UT 84111
khiggins@energystrat.com

Vitae

PROFESSIONAL EXPERIENCE

Principal, Energy Strategies, L.L.C., Salt Lake City, Utah, January 2000 to present. Responsible for energy-related economic and policy analysis, regulatory intervention, and strategic negotiation on behalf of industrial, commercial, and public sector interests. Previously Senior Associate, February 1995 to December 1999.

Adjunct Instructor in Economics, Westminster College, Salt Lake City, Utah, September 1981 to May 1982; September 1987 to May 1995. Taught in the economics and M.B.A. programs. Awarded Adjunct Professor of the Year, Gore School of Business, 1990-91.

Chief of Staff to the Chairman, Salt Lake County Board of Commissioners, Salt Lake City, Utah, January 1991 to January 1995. Senior executive responsibility for all matters of county government, including formulation and execution of public policy, delivery of approximately 140 government services, budget adoption and fiscal management (over $300 million), strategic planning, coordination with elected officials, and communication with consultants and media.

Assistant Director, Utah Energy Office, Utah Department of Natural Resources, Salt Lake City, Utah, August 1985 to January 1991. Directed the agency's resource development section, which provided energy policy analysis to the Governor, implemented state energy development policy, coordinated state energy data collection and dissemination, and managed energy technology demonstration programs. Position responsibilities included policy formulation and implementation, design and administration of energy technology demonstration programs, strategic management of the agency's interventions before the Utah Public Service Commission, budget preparation, and staff development. Supervised a staff of economists, engineers, and policy analysts, and served as lead economist on selected projects.

Utility Economist, Utah Energy Office, January 1985 to August 1985. Provided policy and economic analysis pertaining to energy conservation and resource development, with an emphasis on utility issues. Testified before the state Public Service Commission as an expert witness in cases related to the above.

Acting Assistant Director, Utah Energy Office, June 1984 to January 1985. Same responsibilities as Assistant Director identified above.

Research Economist, Utah Energy Office, October 1983 to June 1984. Provided economic analysis pertaining to renewable energy resource development and utility issues. Experience includes preparation of testimony, development of strategy, and appearance as an expert witness for the Energy Office before the Utah PSC.

Operations Research Assistant, Corporate Modeling and Operations Research Department, Utah Power and Light Company, Salt Lake City, Utah, May 1983 to September 1983. Primary area of responsibility: designing and conducting energy load forecasts.

Instructor in Economics, University of Utah, Salt Lake City, Utah, January 1982 to April 1983. Taught intermediate microeconomics, principles of macroeconomics, and economics as a social science.

Teacher, Vernon-Verona-Sherrill School District, Verona, New York, September 1976 to June 1978.

EDUCATION

Ph.D. Candidate, Economics, University of Utah (coursework and field exams completed, 1981).

> Fields of Specialization: Public Finance, Urban and Regional Economics, Economic Development, International Economics, History of Economic Doctrines.

Bachelor of Science, Education, State University of New York at Plattsburgh, 1976 (cum laude).

Danish International Studies Program, University of Copenhagen, 1975.

SCHOLARSHIPS AND FELLOWSHIPS

University Research Fellow, University of Utah, Salt Lake City, Utah 1982 to 1983.
Research Fellow, Institute of Human Resources Management, University of Utah, 1980 to 1982.
Teaching Fellow, Economics Department, University of Utah, 1978 to 1980.
New York State Regents Scholar, 1972 to 1976.

EXPERT TESTIMONY

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Service Rates by Approximately $140.2 Million Per Year or 21.6 Percent and to Revise the Energy Cost Adjustment Mechanism," **Wyoming** Public Service Commission, Docket No. 20000-633-ER-23. Confidential direct testimony submitted August 14, 2023. Cross examined November 1, 2023.

"In the Matter of the Application of Pittsburgh Water and Sewer Authority to Increase Its Water, Wastewater And Stormwater Rates $46.8 Million in FY2024, $45.4 Million in FY2025 and $53.9 Million in FY2026," Public Utilities Commission of **Pennsylvania**, Docket Nos. R-2023-3039919, R-2023-3039920, and R-2023-3039921. Direct testimony submitted August 9, 2023.

"Application of Nevada Power Company d/b/a NV Energy, filed under Advice Letter No. 535, to revise Tariff No. 1-B to revise Large Customer Market Price Energy Schedule No. LCMPE to set forth when an Energy Supply Agreement must be filed with an Integrated Resource Plan ("IRP") or IRP amendment, a requirement for a short form statement O, pursuant to the Order issued in Docket No. 22-03025;" "Application of Sierra Pacific Power Company d/b/a Nevada NV Energy, filed under Advice Letter No. 622-E, to revise Tariff No. 1 to revise Large Customer Market Schedule No. LCMPE to set forth when an Energy Supply Agreement must be filed with an Integrated Resource Plan ("IRP") or IRP amendment, a requirement for a short form statement O, pursuant to the Order issued in Docket No. 22-03025," Public Utilities Commission of **Nevada**, Docket Nos. 23-02010 and 23-02011. Direct testimony submitted July 14, 2023. Cross examined August 14, 2023.

"Application of Pennsylvania-American Water Company under Sections 1102(a) and 1329 of the Pennsylvania Public Utility Code, 66 Pa C.S. § § 1102(a) and 1329, approval of (1) the transfer, by sale, to Pennsylvania American Water Company, of substantially all of the assets, properties and rights related to the wastewater collection and treatment system owned by the Butler Area Sewer Authority, (2) the rights of Pennsylvania-American Water Company to begin to offer or furnish wastewater service to the public in the City of Butler, and portions of the Borough of East Butler, and portions of the Townships of Butler, Center, Connoquenessing, Oakland, and Summit, in Butler County, Pennsylvania," Public Utilities Commission of **Pennsylvania**, Docket No. A-2022-3037047. Direct testimony submitted July 12, 2023. Surrebuttal testimony submitted July 21, 2023.

"In the Matter of the Application of Rocky Mountain Power for Approval of a 3-Year Demand Side Management Plan and for Authority to Adjust Rates in Tariff Schedule 191," **Wyoming** Public Service Commission, Docket No. 20000-632-ET-23. Direct testimony submitted June 29, 2023. Cross examined September 21, 2023.

"In the Matter of PacifiCorp, dba Pacific Power 2024 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE 420. Opening testimony submitted June 23, 2023. Rebuttal testimony submitted August 16, 2023.

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, and to Approve Rate Schedules Designed to Develop Such Return," **Arizona** Corporation Commission, Docket No. E-01345A-22-0144. Confidential direct testimony submitted June 5, 2023 (revenue requirements) and June 15, 2023 (cost of service). Surrebuttal testimony submitted July 26, 2023. Cross examined August 28, 2023.

"In the Matter of Advice Letter No. 1906- Electric, Of Public Service Company of Colorado to Revise Its Colorado PUC No. 8-Electric Tariff, To Revise Jurisdictional Base Rate Revenues, Implement New Base Rates for All Electric Rate Schedules, and Make Other Proposed Tariff Changes Effective December 31, 2022; In the Matter of Advice Letter No. 1902- Electric, Filed by Public Service Company of Colorado to Revise the Company's Transmission Cost Adjustment in Its Colorado PUC No. 8-Electric Tariff Effective January 1, 2023," **Colorado** Public Utilities Commission, Proceeding Nos. 22AL-0530E and 22AL-0478E. Answer testimony submitted May 3, 2023.

"In the Matter of Southwestern Public Service Company's Application for: (1) Revision of Its Retail Rates Under Advice Notice No. 312; (2) Authority to Abandon the Plant X Unit 1, Plant X Unit 2, and Cunningham Unit 1 Generating Stations and Amend the Abandonment Date of the Tolk Generating Station; and (3) Other Related Relief, **New Mexico** Public Regulation Commission, Case No. 22-00286-UT. Direct testimony submitted April 21, 2023. Testimony in support of stipulation submitted May 26, 2023.

"In re the Application of Montana-Dakota Utilities Co. for Authority to Establish Increased Rates for Electric Service," **Montana** Public Service Commission, Docket No. 2022.11.099, Direct testimony submitted April 7, 2023. Cross intervenor testimony submitted May 19, 2023.

"In the Matter of the Revenue Requirement Study Designated as TA510-1 and the Tariff Revision Designated as TA511-1 Filed by Alaska Electric Light & Power Company," Regulatory Commission of **Alaska**, Docket No. U-22-078. Direct testimony submitted April 6, 2023.

"CORE Electric Cooperative f/k/a Intermountain Rural Electric Association, Plaintiff, v Public Service Company of Colorado, Defendant," **District Court, Denver County, Colorado**, Case No. 2021CV032787. Expert report, "An Overview Of How Electric Utility Rates Are Set" submitted February 9, 2023. Rebuttal report submitted April 14, 2023.

"National Fuel Gas Distribution Corporation's 2022 General Base Rate Increase Filing," Public Utilities Commission of **Pennsylvania,** Docket No. R2022-3035730. Direct testimony submitted January 24, 2023. Rebuttal testimony submitted February 24, 2023. Surrebuttal testimony submitted March 3, 2023. Cross examined March 8, 2023.

"In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Properties of Tucson Electric Power Company Devoted to Its Operations Throughout the State of Arizona and for Related Approvals," **Arizona** Corporation Commission, Docket No. E-01933A-22-0107. Direct testimony submitted January 11, 2023 (revenue requirements) and January 27, 2023 (cost of service). Surrebuttal testimony submitted March 6, 2023. Cross examined April 7, 2023.

"In the Matter of Northwestern Energy's Application for Authority to Increase Its Retail Electric and Natural Gas Utility Service Rates and for Approval of Its Electric and Natural Gas Service Schedules and Rules and Allocated Cost of Service and Rate Design," **Montana** Public Service Commission, Docket No. 2022.07.078. Direct testimony submitted December 19, 2022. Cross intervenor testimony submitted March 6, 2023. Cross examined April 12, 2023.

"In the Matter of the Application of Public Service Company of Colorado for Approval of a Number of Strategic Issues Relating to Its Electric and Gas Demand Side Management and Beneficial Electrification Plan," **Colorado** Public Utilities Commission, Proceeding No. 22A-0309EG. Answer testimony submitted December 8, 2022. Cross answer testimony submitted January 19, 2023. Cross examined February 9, 2023.

Rocky Mountain Power's Application for Approval of the 2022 Energy Balancing Account," **Utah** Public Service Commission, Docket No. 22-035-01. Confidential direct testimony submitted October 17, 2022. Surrebuttal testimony submitted December 5, 2022. Cross examined December 8, 2022.

"In the Matter of Southwestern Public Service Company's Advice Notice No. 303," **New Mexico** Public Regulation Commission, Case No. 22-00155-UT. Direct testimony submitted October 17, 2022. Rebuttal testimony submitted November 22, 2022. Cross examined January 5, 2023 and April 10, 2023. Testimony in support of Stipulation submitted April 10, 2023.

"In the Matter of Southwestern Public Service Company's Annual 2023 Renewable Energy Portfolio Procurement Plan and Requested Approvals Therein; Proposed 2023 Renewable Portfolio Standard Cost and Reconciliation Riders; Application for an RPS Incentive; and Other Associated Relief," **New Mexico** Public Regulation Commission, Case No. 22-00177-UT. Direct testimony submitted September 26, 2022. Cross examined October 26, 2022.

"Leatherstocking Gas Company LLC 2022 General Base Rate Increase (Gas) Filing," Docket No. R2022-3032764, Public Utilities Commission of **Pennsylvania.** Direct testimony submitted September 13, 2022.

"In the Matter of the Application of Dominion Energy Utah to Increase Distribution Rates and Charges and Make Tariff Modifications," **Utah** Public Service Commission, Docket No. 22-057-03. Direct testimony submitted August 26, 2022 (revenue requirements) and September 15, 2022 (cost allocation). Rebuttal testimony submitted September 21, 2022 (revenue requirements) and October 13, 2022 (cost allocation). Surrebuttal testimony submitted October 13, 2022 (revenue requirements) and November 3, 2022 (cost allocation). Cross examined October 20, 2022 (revenue requirements) and November 17, 2022 (cost allocation).

"In the Matter of PacifiCorp, dba Pacific Power, Request for a General Rate Revision," **Oregon** Public Utility Commission, Docket No. UE 399. Rebuttal testimony submitted August 11, 2022.

"2022 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-220066 and UG-220067. Response testimony submitted July 28, 2022. Settlement testimony submitted August 26, 2022. Cross examined October 3, 2022.

"Application of Nevada Power Company d/b/a NV Energy and Sierra Pacific Power Company d/b/a NV Energy for Approval of their Cost Recovery for the 2021 Natural Disaster Protection Plan Regulatory Asset Account," Public Utilities Commission of **Nevada**, Docket No. 22-03006. Direct testimony submitted June 17, 2022. Cross examined July 13, 2022.

"In the Matter of PacifiCorp, dba Pacific Power 2023 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE 400. Opening testimony submitted May 25, 2022. Joint testimony supporting stipulation submitted August 11, 2022

"Petition of Northern Indiana Public Service Company LLC for (1) Authority to Modify Its Rates and Charges for Gas Utility Service Through a Phase In of Rates; (2) Approval of New Schedules of Rates and Charges, General Rules and Regulations, and Riders; (3) Approval of Revised Depreciation Rates Applicable to Its Gas Plant in Service; (4) Approval of Mechanism to Modify Rates Prospectively for Changes in Federal or State Income Tax Rates; Utility Receipts Tax Rates, and Public Utility Fee Rates; (5) Approval of Necessary and Appropriate Accounting Relief; and (6) Authority to Implement Temporary Rates Consistent with the Provisions of Ind. Code § 8-1-2-42.7, **Indiana** Utility Regulatory Commission, Cause No. 45621. Direct testimony submitted January 20, 2022.

"In the Matter of the Application of Rocky Mountain Power to Establish New Tariff Schedule 400 Special Contract," **Wyoming** Public Service Commission, Docket No. 20000-602-ET-21. Direct testimony submitted November 17, 2021. Cross answer testimony submitted December 22, 2021. Cross examined February 9, 2022.

"In the Matter of Advice Letter No. 1857- Electric, Of Public Service Company of Colorado to Revise Its Colorado PUC No. 8-Electric Tariff, To Revise Jurisdictional Base Rate Revenues for All Electric Rate Schedules, and Make Other Proposed Tariff Changes Effective August 2,

2021," **Colorado** Public Utilities Commission, Proceeding No. 21AL-0317E. Answer testimony submitted November 3, 2021. Cross answer testimony submitted December 3, 2021.

"In the Matter of Portland General Electric Request for a General Rate Revision," **Oregon** Public Utility Commission, Docket No. UE 394. Opening testimony submitted October 25, 2021. Rebuttal testimony submitted January 13, 2022.

"Application of El Paso Electric Company to Change Rates," Public Utility Commission of **Texas**, Docket No. 52195. Direct testimony submitted October 22, 2021. Cross rebuttal testimony submitted November 19, 2021. Cross examined January 11, 2022.

"In re: Petition for Rate Increase by Tampa Electric Company," **Florida** Public Service Commission, Panel appearance in support of settlement agreement on October 21, 2021.

"In the Matter of Rocky Mountain Power's Application for Alternative Cost Recovery for Major Plant Additions of the Pryor Mountain and TB Flats Wind Projects," **Utah** Public Service Commission, Docket No. 21-035-42. Confidential direct testimony submitted October 6, 2021. Surrebuttal testimony submitted November 18, 2021. Cross examined November 30, 2021.

"In the Matter of Southwestern Public Service Company's Annual 2022 Renewable Energy Portfolio Procurement Plan and Requested Approvals Therein; Proposed 2022 Renewable Portfolio Standard Cost and Reconciliation Riders; Application for an RPS Incentive; and Other Associated Relief." **New Mexico** Public Regulation Commission, Case No. 21-00172-UT. Direct testimony submitted September 3, 2021. Cross examined October 4, 2021.

"Application of Rocky Mountain Power to Establish a Balancing Account for Pension Settlement Losses," **Utah** Public Service Commission, Docket No. 20-035-14. Direct testimony submitted June 22, 2021. Surrebuttal testimony submitted August 3, 2021. Cross examined August 23, 2021.

"Application of Nevada Power Company d/b/a NV Energy and Sierra Pacific Power Company d/b/a NV Energy for Approval of a Regulatory Asset Account to Recover Costs Relating to the Development and Implementation of Their Joint Disaster Protection Plan," Public Utilities Commission of **Nevada**, Docket No. 21-03040. Direct testimony submitted June 17, 2021. Cross examined July 13, 2021.

"In the Matter of PacifiCorp, dba Pacific Power 2022 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE 390. Opening testimony submitted June 9, 2021. Rebuttal testimony submitted July 30, 2021.

"Application of Nevada Power Company d/b/a NV Energy and Sierra Pacific Power Company d/b/a NV Energy for Approval of the First Amendment to the 2020 Natural Disaster Protection Plan ("NDPP")," Public Utilities Commission of **Nevada**, Docket No. 21-03004. Direct testimony submitted May 20, 2021.

"In the Matter of Southwestern Public Service Company's Application for: (1) Revision of Its Retail Rates under Advice Notice No. 292; (2) Authorization and Approval to and Abandon Its Plant X Unit 3 Generating Station; and (3) Other Related Relief," **New Mexico** Public Regulation Commission, Case No. 20-00238-UT. Confidential direct testimony submitted May 17, 2021. Stipulation testimony submitted July 1, 2021. Supplemental Stipulation Testimony submitted November 12, 2021. Oral examination conducted July 28, 2021 and November 16, 2021.

"In the Matter of the Application of Rocky Mountain Power for an Accounting Order to Defer Costs Related to the 2018 Depreciation Study," **Wyoming** Public Service Commission, Docket No. 20000-581-EA-20. Direct testimony submitted April 2, 2021. Cross examined July 27, 2021.

"Re: In the Matter of Advice No. 1835-Electric of Public Service Company of Colorado to Revise Its Colorado PUC No. 8-Electric Tariff to Eliminate the Currently Effective General Rate Schedule Adjustments to Place into Effect Revised Base Rates and Other Phase II Tariff Proposals to Become Effective November 19, 2020," **Colorado** Public Utilities Commission, Proceeding No. 20AL-0432E. Answer testimony submitted March 8, 2021. Cross answer testimony submitted April 7, 2021.

"In the Matter of the Application of Rocky Mountain Power for a Deferred Accounting Order Regarding Costs Incurred Due to the Covid-19 Public Health Emergency," **Wyoming** Public Service Commission, Docket No. 20000-581-EA-20. Direct testimony submitted February 5, 2021. [Applicant's request later withdrawn.]

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, To Approve Rate Schedules Designed To Develop Such Return," **Arizona** Corporation Commission, Docket No. E-01345A-19-0236. Direct testimony submitted October 2, 2020 (revenue requirement) and October 9, 2020 (cost of service / rate design). Surrebuttal testimony submitted December 4, 2020. Cross examined February 24, 2021.

"In the Matter of the Application of Public Service Company of Colorado for Approval of Its 2021-2023 Transportation Electrification Plan," **Colorado** Public Utilities Commission, Proceeding No. 20A-0204E. Answer testimony submitted September 28, 2020. Cross answer testimony submitted October 23, 2020.

"In the Matter of Southwestern Public Service Company's Annual 2021 Renewable Energy Portfolio Procurement Plan and Requested Approvals Therein; Proposed 2021 Renewable Portfolio Standard Cost and Reconciliation Riders; Application for an RPS Incentive; and Other Associated Relief." **New Mexico** Public Regulation Commission, Case No. 20-00143-UT. Direct testimony submitted September 11, 2020. Cross examined October 21, 2020.

"Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 20-035-02. Confidential direct testimony submitted September 2, 2020. Rebuttal testimony submitted October 5, 2020. Confidential surrebuttal testimony submitted October 29, 2020. Cross examined November 5-6, 2020.

"Application of Nevada Power Company d/b/a NV Energy for Authority to Adjust Its Annual Revenue Requirement for General Rates Charged to All Classes of Electric Customers and for Relief Properly Related Thereto," Public Utilities Commission of **Nevada**, Docket No. 20-06003. Direct testimony (overearnings) submitted August 17, 2020. Cross examined September 1, 2020.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Service Rates by Approximately $7.1 Million per Year or 1.1 Percent, to Revise the Energy Cost Adjustment Mechanism, and to Discontinue Operations at Cholla Unit 4," **Wyoming** Public Service Commission, Docket No. 20000-578-ER-20. Confidential direct testimony submitted August 7, 2020. Confidential cross answer testimony submitted September 11, 2020. Confidential response testimony submitted November 13, 2020. Cross examined February 19, 2021.

"In the Matter of the Application of Rocky Mountain Power for Approval of a 3 Year Demand Side Management Plan," **Wyoming** Public Service Commission, Docket No. 20000-580-ET-20. Direct testimony submitted July 22, 2020. Cross examined September 23, 2020.

"In the Matter of PacifiCorp d/b/a Pacific Power Request for a General Rate Revision," **Oregon** Public Utility Commission, Docket No. UE 374. Answer testimony submitted June 4, 2020. Rebuttal testimony Submitted July 24, 2020.

"In the Matter of PacifiCorp, dba Pacific Power 2021 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE 375. Answer testimony submitted May 15, 2020.

"Application of Rocky Mountain Power for an Accounting Order to Defer Costs Related to Repowered Wind Plants or for Alternative Relief," **Utah** Public Service Commission, Docket No. 19-035-45. Confidential direct testimony submitted March 4, 2020. [Applicant's request later withdrawn.]

"Application of Rocky Mountain Power, a Division of PacifiCorp, for Authority to Change Its Depreciation Rates Effective January 1, 2021," **Utah** Public Service Commission, Docket No. 18-035-36. Phase I surrebuttal testimony submitted April 3, 2020. Phase II direct testimony submitted September 2, 2020. Phase II rebuttal testimony submitted October 5, 2020. Phase II surrebuttal testimony submitted October 29, 2020. Cross examined November 5, 2020.

"2019 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-190529 and UG-190530. Response testimony submitted November 22, 2019. Cross-Answering testimony submitted January 15, 2020.

"In the Matter of Southwestern Public Service Company's Application for: (1) Revision of Its Retail Rates under Advice Notice No. 282; (2) Authorization and Approval to Shorten the Service Life of and Abandon the Tolk Generating Station Units; and (3) Other Related Relief," **New Mexico** Public Regulation Commission, Case No. 19-00170-UT. Direct testimony submitted November 19, 2019. Rebuttal testimony submitted December 20, 2019. Stipulation testimony submitted January 21, 2020. Oral examination conducted February 18, 2020.

"In the Matter of Georgia Power Company's 2019 Rate Case," **Georgia** Public Service Commission, Docket No. 42516. Direct testimony submitted October 17, 2019. Cross examined November 5, 2019.

"In the Matter of the Application of Dominion Energy Utah to Increase Distribution Rates and Charges and Make Tariff Modifications," **Utah** Public Service Commission, Docket No. 19-057-02. Confidential direct testimony submitted October 17, 2019 (revenue requirement) and November 14, 2020 (cost of service). Confidential surrebuttal testimony submitted December 5, 2019 (revenue requirement). Rebuttal testimony submitted December 13, 2019 (cost of service). Surrebuttal testimony submitted January 6, 2020 (cost of service). Cross examined January 15, 2020.

"In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Properties of Tucson Electric Power Company Devoted to Its Operations Throughout the State of Arizona and for Related Approvals," **Arizona** Corporation Commission, Docket No. E-01933A-19-0028. Confidential direct testimony submitted October 11, 2019 (revenue requirement) and October 28, 2019 (cost of service / rate design). Confidential surrebuttal testimony submitted December 16, 2019. Cross examined January 31, 2020.

"In the Matter of Advice Letter No. 1797 Filed by Public Service Company of Colorado to Reset the Currently Effective General Rate Schedule Adjustment (GRSA) as Applied to Base Rates for All Electric Rate Schedules as well as Implement a Base Rate kWh Charge, General Rate Schedule Adjustment-Energy (GRSA-E) to become Effective June 20, 2019," **Colorado** Public Utilities Commission, Proceeding No. 19AL-0268E. Answer testimony submitted September 20, 2019. Errata submitted October 25, 2019. Cross answer testimony submitted October 11, 2019. Cross examined November 8, 2019

"New Load Direct Access, Portland General Electric Company," **Oregon** Public Utility Commission, Docket No. UE-358. Cross answering & rebuttal testimony submitted August 21, 2019. Oral examination given October 17, 2019.

"In the Matter of the Application of Rocky Mountain Power to Decrease Rates by $0.4 Million under Tariff Schedule 197, 2017 Federal Tax Cut Adjustment," **Wyoming** Public Service Commission, Docket No. 20000-560-EA-19. Direct testimony submitted August 19, 2019. Stipulation testimony submitted November 8, 2019. Oral examination given November 13, 2019.

"In the Matter of the Application of Rocky Mountain Power for an Accounting Order for Settlement Charges Related to Its Pension Plans," **Wyoming** Public Service Commission, Docket No. 20000-550-EA-18. Direct testimony submitted August 5, 2019. Cross examined October 29, 2019.

"In the Matter of the Application of Rocky Mountain Power for a Modification of Avoided Cost Methodology and Reduced Contract Term of PURPA Power Purchase Agreements," **Wyoming** Public Service Commission, Docket No. 20000-547-ET-18. Confidential direct testimony submitted April 19, 2019. Cross answer testimony submitted May 24, 2019. Cross examined July 10, 2019.

"In the Matter of PacifiCorp, dba Pacific Power 2019 Renewable Adjustment Clause," **Oregon** Public Utility Commission, Docket No. UE-352. Opening testimony submitted April 2, 2019. Rebuttal testimony submitted June 3, 2019. Joint stipulation testimony submitted August 1, 2019.

"In the Matter of the Application of Rocky Mountain Power for a Certificate of Public Convenience and Necessity to Remove Existing Wind Turbines, Construct New Wind Turbines and Update Collector Liens at Its Foote Creek I Wind Energy Site," **Wyoming** Public Service Commission, Docket No. 20000-553-EN-19. Confidential direct testimony submitted March 22, 2019. Cross examined April 25, 2019.

"Delta-Montrose Electric Association, Complainant vs. Tri-State Transmission and Generation Association, Inc., Respondent," **Colorado** Public Utilities Commission, Proceeding No. 18F-0866E. Highly confidential direct testimony submitted March 15, 2019. Confidential rebuttal testimony submitted June 28, 2019.

"In the Matter of the Application of Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., for Authority to Establish Increased Rates for Electric Service; In the Matter of the Application of Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., for Authority to Establish Increased Rates for Electric Service," **Montana** Public Service Commission, Docket No. D2018.9.60. Confidential direct testimony submitted February 19, 2019. Oral testimony provided April 30, 2019.

"In the Matter of Northwestern Energy's Application for Authority to Increase Its Retail Electric Utility Service Rates and for Approval of Its Electric Service Schedules and Rules," **Montana** Public Service Commission, Docket No. D2018.2.12. Direct testimony submitted February 12, 2019. Cross intervenor testimony submitted April 5, 2019. Additional Issue testimony

submitted March 22, 2019. Oral testimony provided May 17, 2019.

"In the Matter of the Petition of Black Bear Wind, LLC for the Commission to set certain Terms and Conditions of Contract between NorthWestern Energy and Black Bear Wind, LLC," **Montana** Public Service Commission, Docket No. D2019.02.09. Direct testimony submitted February 5, 2019. Rebuttal testimony submitted May 29, 2019. Cross examined June 13, 2019.

"In the Matter of the Petition of Grizzly Wind, LLC for the Commission to set certain Terms and Conditions of Contract between NorthWestern Energy and Grizzly Wind, LLC," **Montana** Public Service Commission, Docket No. D2019.02.08. Direct testimony submitted February 4, 2019. Rebuttal testimony submitted May 23, 2019. Cross examined June 13, 2019.

"Petitions of Kroger Limited Partnership I and Harris Teeter, LLC for approval to aggregate demand pursuant to § 56-577 A 4 of the Code of Virginia, **Virginia** Corporation Commission, Case Nos. PUR-2018-00150 and PUR-2018-00151. Confidential direct testimony submitted December 12, 2018. Confidential rebuttal testimony submitted February 13, 2019. Cross examined February 27, 2019.

"In the Matter of Portland General Electric Company, Investigation into Proposed Green Tariff," **Oregon** Public Utility Commission, Docket No. UM-1953. Reply and Cross Answer Testimony submitted October 22, 2018.

"In the Matter of the Application of Rocky Mountain Power to Decrease Rates by $26.4 Million to Refund Customers for the 2017 Tax Reform Act," **Wyoming** Public Service Commission, Docket No. 20000-536-ER-15. Direct testimony submitted October 15, 2018.

"Appalachian Power Company and Wheeling Power Company, Application to Change Depreciation Rates; Appalachian Power Company and Wheeling Power Company, Rule 42T application to increase rates and charges," Public Service Commission of **West Virginia**, Case Nos. 18-0645-E-D and 18-0646-E-42T. Direct testimony submitted October 9, 2018. Rebuttal testimony submitted October 24, 2018.

"In the Matter of the Application of Montana-Dakota Utilities to Address the Impacts of the Tax Cuts and Jobs Act of 2017," **Montana** Public Service Commission, Docket No. D2018.4.22. Direct testimony submitted October 2, 2018. Cross examined December 4, 2018.

"Investigation of Revenue Requirement Impacts of the New Federal Tax Legislation Titled: 'An act to provide for reconciliation pursuant to titles II and V of the concurrent resolution of the budget for fiscal year 2018,'" **Utah** Public Service Commission, Docket No 17-035-69. Confidential direct testimony submitted August 28, 2018.

"In the Matter of the Investigation of Federal Tax Reform Impacts on NorthWestern Energy's Revenue Requirements," **Montana** Public Service Commission, Docket No. D2018.4.24. Direct testimony submitted July 3, 2018. Cross examined August 31, 2018.

"In the Matter of PacifiCorp, dba Pacific Power 2019 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE-339. Opening testimony submitted June 11, 2018. Joint stipulation testimony submitted July 23, 2018.

"In the Matter of Portland General Electric Company, Request for a General Rate Revision," **Oregon** Public Utility Commission, Docket No. UE-335. Opening testimony submitted June 6, 2018. Joint stipulation testimony submitted August 20, 2018. Response testimony submitted September 17, 2018.

"Application of Nevada Power Company d/b/a NV Energy filed under Advice Letter No. 485 to revise Tariff No. I-B to establish the 2017 Tax Rate Reduction Rider," Public Utilities Commission of **Nevada**, Docket No. 18-02010. Direct testimony submitted May 25, 2018. Cross examined July 11, 2018.

"In the Matter of the Application of Rocky Mountain Power for Approval of a 3 Year Demand Side Management Plan," **Wyoming** Public Service Commission, Docket No. 20000-526-EA-17. Direct testimony submitted March 16, 2018. Cross answer testimony submitted April 6, 2018. Cross examined May 8, 2018.

"Petition of Northern Indiana Public Service Company for (1) Authority To Modify Its Rates and Charges for Gas Utility Service through a Phase In of Rates; (2) Modification of the Settlement Agreements Approved in Cause No. 43894; (3) Approval of New Schedules of Rates and Charges, General Rules And Regulations, and Riders; (4) Approval of Revised Depreciation Rates Applicable to Its Gas Plant in Service; (5) Approval of Necessary and Appropriate Accounting Relief; and (6) Authority to Implement Temporary Rates Consistent with the Provisions of Ind. Code CH. 8-1-2-42.7," **," Indiana** Utility Regulatory Commission, Cause No. 44988. Direct testimony submitted March 2, 2018. Settlement testimony submitted April 20, 2018.

"In the Matter of Application of Duke Energy Carolinas, LLC, For Adjustment of Rates and Charges Applicable to Electric Service in North Carolina," **North Carolina** Utilities Commission, Docket No. E-7, Sub 1146. Direct testimony submitted January 23, 2018.

"In the Matter of the Application of Public Service Company of Colorado for Approval of a Number of Strategic Issues Relating to Its Electric and Gas Demand Side Management Plan," **Colorado** Public Utilities Commission, Proceeding No. 17A-0462EG. Answer testimony submitted December 5, 2017. Cross answer testimony submitted January 23, 2018. Rehearing testimony submitted July 31, 2018. Cross examined August 17, 2018.

"In the Matter of the Application of Rocky Mountain Power for Certificates of Public Convenience and Necessity and Nontraditional Ratemaking for Wind and Transmission Facilities," **Wyoming** Public Service Commission, Docket No. 20000-520-EA-17. Direct testimony submitted November 20, 2017.

"In the Matter of Advice Letter No. 742 Filed by Black Hills/Colorado Electric Utility LP to Update Base Rates as Required by Commission Decision No. C16-1140 to Become Effective August 11, 2017," **Colorado** Public Utilities Commission, Proceeding No. 17AL-0477E. Answer testimony submitted October 23, 2017. Cross answer testimony submitted November 15, 2017. Cross examined November 29, 2017.

"Electronic Application of Kentucky Power Company for (1) A General Adjustment of Its Rates For Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs and Riders; (4) An Order Approving Accounting Practices to Establish Regulatory Assets and Liabilities; and (5) An Order Granting All Other Required Approvals and Relief," **Kentucky** Public Service Commission, Case No. 2016-00179. Direct testimony submitted October 2, 2017. Settlement testimony submitted December 4, 2017. Cross examined December 7, 2017.

"In the Matter of the Voluntary Request of Rocky Mountain Power for Approval of Resource Decision to Repower Wind Facilities," **Utah** Public Service Commission, Docket No. 17-035-39. Direct testimony submitted September 20, 2017. Rebuttal testimony submitted October 19, 2017. Surrebuttal testimony submitted November 16, 2017. Response testimony submitted April 2, 2018. Cross examined May 4, 2018.

"In the matter of the Application of DTE Electric Company for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority," **Michigan** Public Service Commission, Case No. U-18255. Direct testimony submitted August 29, 2017. Confidential rebuttal testimony submitted September 22, 2017. Surrebuttal testimony submitted November 16, 2017.

"In the Matter of the Application of the Ohio Development Services Agency for an Order Approving Adjustments to the Universal Service Fund Riders of Jurisdictional Ohio Electric Distribution Utilities," Public Utilities Commission of **Ohio,** Case No. 17-1377-EL-USF. Direct testimony submitted July 24, 2017. Reply testimony submitted August 11, 2017. Cross examined August 18, 2017.

"2016 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-170033 and UG-170034. Response testimony submitted June 30, 2017. Cross-Answering testimony submitted August 9, 2017.

"Application of El Paso Electric Company to Change Rates," Public Utility Commission of **Texas**, Docket No. 44941. Direct testimony submitted June 23, 2017. Cross rebuttal testimony submitted July 21, 2017.

"In the Matter of PacifiCorp, dba Pacific Power 2018 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE-323. Opening testimony submitted June 9, 2017. Confidential rebuttal testimony submitted August 2, 2017.

"In the Matter of Public Utilities Commission of Oregon Investigation to Examine PacifiCorp's Non-Standard Avoided Cost Pricing," **Oregon** Public Utility Commission, Docket No. UM-1802. Reply testimony submitted May 5, 2017. Response testimony submitted August 14, 2017.

"In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143, in the Form of an Electric Security Plan; In the Matter of the Application of Ohio Power Company for Approval of Certain Accounting Authority," Public Utilities Commission of **Ohio**, Case Nos. 16-1852-EL-SSO and16-1853-EL-AAM. Direct testimony submitted May 2, 2017.

"Puget Sound Energy Retail Wheeling," **Washington** Utilities and Transportation Commission, Docket No. UE-161123. Settlement testimony submitted April 11, 2017.

"In the Matter of the Application of Rocky Mountain Power to Adjust Rates for Electric Service Schedule 92, Bonus Tax Depreciation," **Wyoming** Public Service Commission, Docket No. 20000-506-EA-16. Direct testimony submitted March 27, 2017. Cross examined May 31, 2017.

"In the Matter of the Application of Powder River Energy Corporation, Sundance, Wyoming, to Revise Its Rules and Regulations Pertaining to Deposits", **Wyoming** Public Service Commission, Docket No. 10014-175-CT-16. Direct testimony submitted February 23, 2017. Cross examined May 18, 2017.

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop Such Return," **Arizona** Corporation Commission, Docket No. E-01345A-16-0036. Confidential direct testimony submitted December 28, 2016 (revenue requirement) and February 3, 2017 (cost of service / rate design). Settlement testimony submitted April 3, 2017.

"In the Matter of the Application of Rocky Mountain Power for Approval to Adjust the Category 2 And 3 Demand-Side Management Surcharge Rates in Electric Service Schedule 191, Customer Efficiency Service Charge," **Wyoming** Public Service Commission, Docket No. 20000-502-EA-16. Direct testimony submitted January 17, 2017. Direct examination by Commission on March 9, 2017.

In the Matter of the Application of The Dayton Power and Light Company to Establish a Standard Service Offer in the Form of an Electric Security Plan; In the Matter of the Application of The Dayton Power and Light Company for Approval of Revised Tariffs; In the Matter of the Application of The Dayton Power and Light Company for Approval of Certain Accounting Authority Pursuant to Ohio Rev. Code §4905.13," Case Nos. 16-0395-EL-SSO, 16-0396-EL-ATA, and 16-0397-EL-AAM, Public Utilities Commission of **Ohio**. Confidential direct testimony submitted November 21, 2016 (errata filed December 12, 2016). Confidential Supplemental testimony filed March 8, 2017.

"In The Matter of the Application of Powder River Energy Corporation, Sundance, Wyoming, for Authority to Increase Its Cost of Power Adjustment by $18,393,590 per Annum to Reflect a Change in Average Wholesale Power Costs," **Wyoming** Public Service Commission, Docket No. 10014-172-CP-16. Confidential direct testimony submitted November 17, 2016. Cross examined February 1, 2017.

"Application of Columbia Gas of Kentucky, Inc. for an Adjustment of Rates," **Kentucky** Public Service Commission, Case No. 2016-00162. Direct testimony submitted September 2, 2016.

"In the Matter of PacifiCorp, dba Pacific Power 2017 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE-307. Opening testimony submitted July 8, 2016. Rebuttal testimony submitted August 12, 2016.

"In the Matter of Advice Letter No. 1712-Electric Filed by Public Service Company of Colorado PUC No. 7-Electric Tariff with Colorado PUC No. 8-Electric Tariff (Phase II Rate Case)," **Colorado** Public Utilities Commission, Proceeding No. 16-AL-0048E. Direct testimony submitted June 6, 2016. Settlement testimony submitted September 2, 2016.

"In the Matter of the Application of Powder River Energy Corporation for Authority to Implement a General Rate Increase of $11,506,749 per Annum and Revise Tariffs," **Wyoming** Public Service Commission, Docket No. 10014-168-CR-16. Confidential direct testimony submitted June 3, 2016. Cross answer testimony submitted July 8, 2016. Cross examined September 1, 2017.

"In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Properties of Tucson Electric Power Company Devoted to its Operations Throughout the State of Arizona, and for Related Approvals," **Arizona** Corporation Commission, Docket No. E-01933A-15-0322. Confidential direct testimony submitted June 3, 2016 (revenue requirements) and June 24, 2016 (cost of service). Surrebuttal testimony submitted August 25, 2016. Phase II surrebuttal testimony submitted September 27, 2017. Cross examined September 14, 2017 and October 26, 2017 (Phase II).

"Appalachian Power Company and Wheeling Power Company, Public Utilities. Petition to Initiate the Annual Review and to Update the ENEC Rates Currently in Effect," **West Virginia** Public Service Commission, Case No. 16-0239-E-P. Direct testimony submitted May 16, 2016. Direct examination by Commission on June 2, 2016.

"In the Matter of PacifiCorp, dba Pacific Power, Petition Inter-Jurisdictional Allocation Protocol," **Oregon** Public Utility Commission, Docket No. UM 1050. Direct testimony submitted April 1, 2016.

"In the Matter of the Application of UNS Electric INC. for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Properties of UNS Electric, INC. Devoted to Its Operations Throughout the State of Arizona and for Related Approvals," **Arizona** Corporation Commission, Docket No. E-04204A-15-0142. Direct Testimony submitted December 9, 2015. Surrebuttal testimony submitted February 23, 2016. Cross examined March 9, 2016.

"Verified Petition of Duke Energy Indiana, INC. for; (1) Approval of Petitioner's 7-Year Plan for Eligible Transmission, Distribution and Storage System Improvements, Pursuant to Indiana code § 8-1-39-10; (2) Approval of Transmission and Distribution Infrastructure Improvement Cost Rate Adjustment and Deferrals, Pursuant to Indiana code §8-1-39-9; (3) Approval of Certain Regulatory Assets; (4) Approval of Voluntary Dynamic Pricing Riders; (5) Approval of a New Depreciation Rate for Advanced Meters," **Indiana** Utility Regulatory Commission. Cause No. 44720. Direct testimony submitted February 18, 2016. Errata testimony submitted February 19, 2016. Settlement testimony submitted March 17, 2016.

"In the Matter of the Application of Rocky Mountain Power for Modification of Contract Term of PURPA Power Purchase Agreements with Qualifying Facilities," **Wyoming** Public Service Commission, Docket No. 20000-481-EA-15. Direct testimony submitted January 4, 2016. Confidential cross answer testimony submitted January 29, 2016. Cross examined March 30, 2016.

"Application of El Paso Electric Company to Change Rates," Public Utility Commission of **Texas**, Docket No. 44941. Direct testimony submitted December 11, 2015. Cross rebuttal testimony submitted January 15, 2016.

"In the Matter of the Application of Montana-Dakota Utilities CO., a Division of MDU Resources Group, Inc., for Authority to Establish Increased Rates for Electric Service," **Montana** Public Service Commission, Docket No. D2015.6.51. Direct testimony submitted November 20, 2015. Cross intervenor and response testimony submitted January 14, 2016. Direct examination by Commission on February 10, 2016.

"In the Matter of the Application of Entergy Arkansas, INC. for Approval of Changes in Rates for Retail Electric Service," **Arkansas** Public Service Commission, Docket No. 15-015-U. Direct Testimony Submitted September 29, 2015. Surrebuttal testimony submitted November 24, 2015.

"In the Matter of the Application of Rocky Mountain Power for Modification of Contract Term of PURPA Power Purchase Agreements with Qualifying Facilities," **Utah** Public Service Commission, Docket No. 15-035-53. Direct testimony submitted September 16, 2015. Surrebuttal testimony submitted October 28, 2015. Cross examined November 12, 2015.

"In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement Rider"; "In the Matter of the Application of Ohio

Power Company for Approval of Certain Accounting Authority," Public Utilities Commission of **Ohio,** Docket Nos. 14-1693-EL-RDR and 14-1694-EL-AAM. Direct testimony submitted September 11, 2015. Cross examined October 20, 2015.

"In the Matter of the Application of Rocky Mountain Power for Authority of a General Rate Increase in its Retail Electric Rate Increase Utility Service Rates in Wyoming of $32.4 Million per Year or 4.5 Percent," **Wyoming** Public Service Commission, Docket No. 20000-469-ER-15. Confidential direct testimony submitted July 28, 2015. Confidential cross-answer testimony submitted September 16, 2015. Cross examined November 3, 2015.

"In the Matter of the Joint Application of Westar Energy, INC. and Kansas Gas and Electric Company for Approval to Make Certain Changes in their Charges for Electric Service," **Kansas** State Corporation Commission. Docket No. 15-WSEE-115-RTS. Direct testimony submitted July 9, 2015. Errata Testimony submitted August 17, 2015.

"In the Matter of PacifiCorp, dba Pacific Power 2016 Transition Adjustment Mechanism," **Oregon** Public Utility Commission, Docket No. UE-296. Opening testimony submitted June 29, 2015. Reply testimony submitted June 29, 2015.

"In the Matter of Public Utility Commission of Oregon Investigation into Qualifying Facility Contracting and Pricing," **Oregon** Public Utility Commission. Docket No. UM 1610. Opening testimony submitted May 22, 2015. Reply testimony submitted August 7, 2015.

"In the Matter of the Application of Questar Gas Company to Make Tariff Modifications to Charge Transportation Customers for Supplier Non-Gas Services," **Utah** Public Service Commission, Docket No. 14-057-31. Direct testimony submitted May 5, 2015. Rebuttal testimony submitted July 31, 2015. Surrebuttal testimony submitted August 14, 2015. Cross examined August 26, 2015.

"In the Matter of the Voluntary Request of Rocky Mountain Power for Approval of Resource Decision and Request for Accounting Order," **Utah** Public Service Commission, Docket No. 14-035-147. Direct testimony submitted March 17, 2015.

"In the Matter of the Application of Rocky Mountain Power for Approval of the Transaction for Closure of Deer Creek Mine and a Deferred Accounting Order," **Wyoming** Public Service Commission. Docket No. 20000-464-EA-14. Direct testimony submitted March 11, 2015. Stipulation direct testimony submitted April 27, 2015. Oral examination by Commission on May 5, 2015.

"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan," Public Utilities Commission of **Ohio,** Case No. 14-1297-EL-SSO. Direct testimony submitted December 22, 2014. Supplemental testimony submitted February 5, 2015.

"Verified Petition of Duke Energy Indiana, Inc. for Approval of Petitioner's 7-Year Plan for Eligible Transmission, Distribution and Storage System Improvements, Pursuant to Ind. Code 8-1-39-10 and Approval of a Transmission and Distribution Infrastructure Improvement Cost Rate Adjustment and Deferrals, Pursuant to Ind. Code 8-1-39-9, and Approval of Certain Regulatory Assets," **Indiana** Utility Regulatory Commission, Cause No.44526. Direct testimony submitted November 14, 2014.

"In the Matter of Advice Letter No. 1672 – Electric: Of Public Service Company of Colorado to Revise the General Rate Schedule Adjustment (GRSA) Rider Applicable to All Electric Base Rate Schedules and Revise the Transmission Cost Adjustment (TCA) to Remove Costs That Have Been Shifted to Base Rates to Become Effective July 18, 2014"; "In the Matter of the Application of Public Service Company of Colorado for Approval of Its Arapahoe Decommissioning and Dismantling Plan," **Colorado** Public Utilities Commission, Proceeding Nos. 14AL-0660E and 14A-0680E. Answer testimony submitted November 7, 2014.

"In the Matter of the Petition of Puget Sound Energy to Update Methodologies Used to Allocate Electric Cost of Service and for Electric Rate Design Purposes," **Washington** Utilities and Transportation Commission, Docket No. UE-141368. Joint testimony in support of settlement stipulation submitted November 4, 2014.

"In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service"; "In the Matter of the Application of Duke Energy Ohio for Authority to Amend Its Certified Supplier Tariff, P.U.C.O. No. 20," Public Utilities Commission of **Ohio**, Case Nos. 14-841-EL-SSO and 14-842-EL-ATA. Direct testimony submitted September 26, 2014. Deposed October 3, 2014. Cross examined October 28, 2014.

"Application of Nevada Power Company d/b/a NV Energy for Authority to Increase Its Annual Revenue Requirement for General Rates Charged to All Classes of Electric Customers and for Relief Properly Related Thereto"; "Petition of Sierra Pacific Power Company d/b/a NV Energy for Cost Recovery for the Advanced Service Delivery Project and Nevada Dynamic Pricing Trial Pursuant to the Order Issued in Docket Nos. 13-06002, 13-06003, and 13-06004," Public Utilities Commission of **Nevada**, Docket Nos. 14-05004 and 14-05005. Direct testimony submitted September 10, 2014. Cross examined September 24, 2014.

"In the Matter of Rocky Mountain Power's Proposed Revisions to Electric Service Schedule 32, Service from Renewable Energy Facilities," **Utah** Public Service Commission, Docket No. 14-035-T02. Direct testimony submitted September 9, 2014. Surrebuttal testimony submitted December 2, 2014. Cross examined December 9, 2014.

"Application of Appalachian Power Company for a 2014 Biennial Review of the Rates, Terms and Conditions for the Provision of Generation, Distribution and Transmission Services Pursuant

to §56-585.1 A of the Code of Virginia," **Virginia** Corporation Commission, Case No. PUE-2014-00026. Direct testimony submitted August 6, 2014.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Utility Service Rates in Wyoming Approximately $36.1 Million per Year or 5.3 Percent," **Wyoming** Public Service Commission, Docket No. 20000-446-ER-14. Direct testimony submitted July 25, 2014. Surrebuttal testimony submitted September 19, 2014. Cross examined October 21, 2014.

"In the Matter of Portland General Electric Company Request for a General Rate Revision," **Oregon** Public Utilities Commission, Docket No. UE-283. Reply testimony submitted June 11, 2014. Joint testimony in support of partial stipulations submitted July 17, 2014 and September 2, 2014.

"In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to §4928.143, Revised Code, in the Form of an Electric Security Plan; "In the Matter of the Application of Ohio Power Company for Approval of Certain Accounting Authority," Public Utilities Commission of **Ohio**, Case Nos. 13-2385-EL-SSO and 13-2386-EL-AAM. Direct testimony submitted May 6, 2014. Cross examined June 12, 2014.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Utility Service Rates in Utah and for Approval of Its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 13-035-184. Direct testimony submitted May 1, 2014.

"Verified Petitions of Southern Indiana Gas and Electric Company D/B/A Vectren Energy Delivery Of Indiana, Inc., and Indiana Gas Company, Inc. D/B/A Vectren Energy Delivery of Indiana, Inc. for: (1) Approval of and a Certificate of Public Convenience and Necessity for Federally Mandated Natural Gas Transmission and Distribution Projects, and the Costs Thereof, Related to Compliance with Various Federally Mandated Requirements Relating to Natural Gas Pipeline Safety and Integrity; (2) Approval of Certain Transmission, Distribution and Storage System Projects, and the Costs Thereof, Undertaken for Purposes of Safety, Reliability, System Modernization, or Economic Development; (3) Approval of a 7-Year Plan for Transmission, Distribution and Storage System Improvements Pursuant To Ind. Code Ch. 8-1-39 (and for Federally Mandated Projects, in the Event and to the Extent the Commission Concludes that Such Projects Do Not Meet the Requirements of Ind. Code Ch. 8-1-8.4, Including a Process for Annual Updates to the Plan; (4) Approval of a Rate Adjustment Mechanism and Related Authority to Utilize Accounting Deferrals, Pursuant to Ind. Code Chapters 8-1-8.4 and 8-1-39, for the Timely Recovery and Deferral of Costs Related to Such Federally Mandated and Transmission, Distribution and Storage Projects (Including Financing Costs Incurred During Construction); (5) Approval of Other Related Ratemaking Relief and Tariff Proposals Consistent with Ind. Code Ch. 8-1-8.4 and 8-1-39; (6) If Necessary, Granting of Confidential Treatment For Certain Confidential and Proprietary Information That May Be Submitted in this Cause; and (7)

Approval of Other Relief as May Be Appropriate," **Indiana** Utility Regulatory Commission, Cause Nos. 44429 and 44430. Cross-answering testimony submitted April 11, 2014.

"In the Matter of the Application of Rocky Mountain Power for Authority to Amend Schedule 38, Avoided Cost Purchases from Non-Standard Qualifying Facilities," **Wyoming** Public Service Commission, Docket No. 20000-435-EA-13. Direct testimony submitted February 28, 2014. Direct examination by Commission on April 22, 2014.

"In the Matter of the Application of Republic Steel for Approval of a Reasonable Arrangement for Republic Steel's Lorain Ohio Facility," Public Utilities Commission of **Ohio**, Case No. 13-1913-EL-AEC. Direct testimony submitted February 6, 2014. Direct examination by Commission on February 13, 2014.

"Questar Gas Company, a Utah corporation, and Wexpro Company, a Utah corporation, Plaintiffs, v. QEP Field Services Company, a Utah corporation, Defendant; QEP Field Services Company, a Utah corporation, Counterclaimant, v. Questar Gas Company, a Utah corporation, Counterclaim Defendant," Third District Court in and for Salt Lake County, State of **Utah**, Civil Case No. 120902969. Expert report submitted February 6, 2014. Deposed on April 10, 2014. Affidavit submitted May 30, 2014.

"In the Matter of the Application of the Dayton Power and Light Company for Authority to Recover Certain Storm-Related Service Restoration Costs; In the Matter of the Application of the Dayton Power and Light Company for Approval of Certain Accounting Authority," Public Utilities Commission of **Ohio**, Case Nos. 12-3062-EL-RDR and 12-3266-EL-AAM. Direct testimony submitted January 31, 2014. Deposed on March 7, 2014.

"In the Matter of the Application of Powder River Energy Corporation Sundance, Wyoming, for Authority to Adjust Rates and Implement New Tariffs Effective March 10, 2014," **Wyoming** Public Service Commission, Docket No. 10014-145-CR-13. Direct testimony submitted January 22, 2014. Cross answer testimony submitted February 11, 2014. Cross examined March 11-12, 2014.

"Application of Entergy Texas, Inc. for Authority to Change Rates and Reconcile Fuel Costs," Public Utility Commission of **Texas**," Docket No. 41791. Direct testimony submitted January 10, 2014. Cross rebuttal testimony submitted January 31, 2014.

"In the Matter of the Application of Questar Gas Company to Increase Distribution Rates and Charges and Make Tariff Modifications," **Utah** Public Service Commission, Docket No. 13-057-05. Direct testimony submitted October 30, 2013.

"In the Matter of Georgia Power Company's 2013 Rate Case," **Georgia** Public Service Commission, Docket No. 36989. Direct testimony submitted October 18, 2013. Cross examined November 6, 2013.

"In the Matter of the Application of Public Service Company of Colorado for a Number of Strategic Issues Relating to Its Demand Side Management Plan," **Colorado** Public Utilities Commission, Docket No. 13A-0686EG. Answer testimony submitted October 16, 2013. Cross Answer testimony submitted December 20, 2013. Surrebuttal testimony submitted January 21, 2014. Response to Surrebuttal testimony submitted February 21, 2014. Oral examination conducted by Commission on April 24, 2014.

"In the Matter of Rocky Mountain Power's Application for an Order Authorizing a Change in Depreciation Rates Applicable to Electric Property," **Wyoming** Public Service Commission, Docket No. 20000-427-EA-13. Direct testimony in support of Stipulation submitted September 19, 2013. Oral examination conducted by Commission on October 10, 2013.

"In the Matter of PacifiCorp, dba Pacific Power Transition Adjustment, Five-Year Cost of Service Opt-Out," **Oregon** Public Utilities Commission, Docket No. UE-267. Reply testimony submitted September 13, 2013. Joint testimony in support of partial stipulation submitted February 19, 2014.

"In the Matter of the Application of Rocky Mountain Power to Increase the Deferred EBA Rate through the Energy Balancing Account Mechanism," **Utah** Public Service Commission, Docket No. 13-035-32. Direct testimony submitted August 20, 2013.

"La Plata Electric Association, Inc., Empire Electric Association, Inc., and White River Electric Association, Inc., Complainants v. Tri-State Generation and Transmission Association, Inc., Respondent," **Colorado** Public Utilities Commission, Docket No. 13F-0145E. Rebuttal testimony submitted July 19, 2013 and October 2, 2014. Direct testimony submitted July 15, 2014. Cross examined July 31, 2013. Deposed August 8, 2014.

"Application to Increase Rates by $6.0 Million to Recover Deferred Net Power Costs Pursuant to Tariff Schedule 95 Energy Cost Adjustment Mechanism and To Increase Rates by $15.4 Million Pursuant to Tariff Schedule 93, REC and SO2 Revenue Adjustment Mechanism," **Wyoming** Public Service Commission," Docket No. 20000-432-EA-13. Direct testimony submitted July 10, 2013. Oral examination by Commission on September 16, 2013.

"In the Matter of the Commission's Investigation into the Possible Approval of a Self-Direct Demand Side Management Program for Certain Large Customers," **Indiana** Utility Regulatory Commission, Cause No. 44310. Direct testimony submitted June 27, 2013. Responsive testimony submitted August 15, 2013.

"In the Matter of Application of Duke Energy Carolinas, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina," **North Carolina** Utilities Commission, Docket No. E-7, Sub 1026. Direct testimony submitted June 17, 2013. Supplemental direct testimony submitted June 21, 2013.

"In the Matter of Portland General Electric Company Request for a General Rate Revision," **Oregon** Public Utilities Commission, Docket No. UE-262. Reply testimony submitted June 14, 2013.

"In the Matter of PacifiCorp, dba Pacific Power 2014 Transition Adjustment Mechanism," **Oregon** Public Utilities Commission, Docket No. UE-264. Reply testimony submitted June 4, 2013.

"Puget Sound Energy Expedited Rate Filing and Decoupling Proposal," **Washington** Utilities and Transportation Commission, Docket Nos. UE-130137, UG-130138, UE-121697, and UG-121705. Response testimony submitted April 26, 2013. Oral examination by Commission on May 16, 2013. Joint testimony in Support of Joint Response submitted November 1, 2013.

"In the Matter of the Application of Duke Energy Ohio, Inc. for the Establishment of a Charge Pursuant to Revised Code Section 4909.18; In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Change Accounting Methods; In the Matter of the Application of Duke Energy Ohio, Inc., for the Approval of a Tariff for New Service," Public Utilities Commission of **Ohio**, Case Nos.12-2400-EL-UNC, 12-2401-EL-AAM, and 12-2402-EL-ATA. Direct testimony submitted March 26, 2013. Cross examined April 25, 2013.

"In the Matter of the Application of the Dayton Power and Light Company for Approval of Its Market Rate Offer; In the Matter of the Application of the Dayton Power and Light Company for Approval of Revised Tariffs; In the Matter of the Application of the Dayton Power and Light Company for Approval of Certain Accounting Authority; In the Matter of the Application of the Dayton Power and Light Company for the Waiver of Certain Commission Rules; In the Matter of the Application of the Dayton Power and Light Company to Establish Tariff Riders," Public Utilities Commission of **Ohio**," Case Nos. 12-426-EL-SSO, 12-427-EL-ATA, 12-428-EL-AAM, 12-429-EL-WVR, and 12-672-EL-RDR. Direct testimony submitted March 1, 2013. Deposed March 8, 2013. Cross examined March 26, 2013.

"Application of Progress Energy Carolinas, Inc. for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina," **North Carolina** Utilities Commission, Docket No. E-2, Sub 1023. Direct testimony submitted February 18, 2013. Cross examined March 20, 2013.

"Deseret Generation & Transmission Co-operative vs. PacifiCorp," **United States District Court**, District of Utah, Central Division, Case No. 2:10-cv-159. Expert Report submitted January 28, 2013. Deposed August 30, 2013.

"In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of Its Operations Throughout the State of Arizona," **Arizona** Corporation Commission, Docket No. E-01933A-12-0291. Direct testimony submitted December 21, 2012 **(**revenue requirements), January 11, 2013 (rate design and cost of service), and February 15, 2013 (settlement agreement). Cross examined March 7, 2013.

"In the Matter of Application of Kentucky Utilities Company for an Adjustment of Its Electric Rates," **Kentucky** Public Service Commission, Case No. 2012-00221. Direct testimony submitted October 3, 2012.

"In the Matter of Application of Louisville Gas & Electric Company for an Adjustment of Its Electric Rates, **Kentucky** Public Service Commission, Case No. 2012-00221. Direct testimony submitted October 3, 2012.

"In the Matter of PacifiCorp's Filing of Revised Tariff Schedules for Electric Service in Oregon," **Oregon** Public Utilities Commission, Docket No. UE-246. Rebuttal testimony submitted August 13, 2012.

"In the Matter of the Application of Tucson Electric Power Company for Approval of Its 2011-2012 Energy Efficiency Implementation Plan," **Arizona** Corporation Commission, Docket No. E-01933A-11-0055. Direct testimony submitted June 15, 2012. Rebuttal testimony submitted July 6, 2012. Cross examined July 11, 2012.

"In the Matter of PacifiCorp, dba Pacific Power 2013 Transition Adjustment Mechanism," **Oregon** Public Utilities Commission, Docket No. UE-245. Reply testimony submitted June 6, 2012.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 11-035-200. Direct testimony submitted June 4, 2012.

"In the In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to §4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan; In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Approval of Certain Accounting Authority," Public Utilities Commission of **Ohio**, Case Nos. 11-346-EL-SSO and11-348-EL-SSO. Direct testimony submitted May 4, 2012. Cross examined May 25, 2012.

"In the Matter of the Application of Rocky Mountain Power for Approval of a General Rate Increase in Its Retail Electric Utility Service Rates in Wyoming of $62.8 Million Per Year or an Average Overall Increase of 10.4 Percent," **Wyoming** Public Service Commission, Docket No. 20000-405-ER-11. Direct testimony submitted April 30, 2012. Settlement testimony submitted June 22, 2012. Cross examined July 16, 2012.

"Application of Entergy Texas, Inc. for Authority to Change Rates and Reconcile Fuel Costs," Public Utility Commission of **Texas**," Docket No. 39896. Direct testimony submitted March 27, 2012. Cross rebuttal testimony submitted April 13, 2012.

"In the Matter of Advice Letter No. 1597 – Electric Filed by Public Service Company of Colorado to Revise Its Colorado PUC No. 7 – Electric Tariff to Implement a General Rate Schedule Adjustment and Other Changes Effective December 23, 2011," **Colorado** Public Utilities Commission, Docket No. 11AL-947E. Answer testimony submitted March 2, 2012. Supplemental testimony submitted April 18, 2012.

"In the Matter of the Rocky Mountain Power Proposed Schedule 94, Energy Balancing Account (EBA) Pilot Program Tariff," **Utah** Public Service Commission, Docket No. 11-035-T10. Direct testimony submitted February 23, 2012. Rebuttal testimony submitted March 15, 2012. Supplemental rebuttal testimony submitted March 16, 2012. Cross examined April 24, 2012.

"Investigation into the Changes Proposed for the 3 and 5 Year Cost Of Service Opt-Out Program for Large Nonresidential Customers," **Oregon** Public Utilities Commission, Docket No. UE-236. Joint testimony in support of Stipulation submitted January 11, 2012.

"In the Matter of the Joint Application of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes in Their Charges for Electric Service," **Kansas** Corporation Commission," Docket No. 12-WSEE-112-RTS. Direct testimony submitted January 5, 2012. Cross-Answering testimony submitted January 17, 2012.

"In the Matter of the Petition of Public Service Company of Colorado Pursuant to C.R.S. § 40-6-111(1)(d) for Interim Rate Relief Effective on or before January 21, 2012," **Colorado** Public Utilities Commission, Docket No. 11M-951E. Affidavit submitted December 23, 2011.

"2011 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket No. UG-101644. Response testimony submitted December 3, 2011. Cross Answer testimony submitted January 17, 2012. Joint testimony in support of electric rate design stipulation filed January 13, 2012. Joint testimony in support of gas rate design stipulation filed January 17, 2012. Oral testimony in support of stipulations presented February 14, 2012.

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop Such Return," **Arizona** Corporation Commission, Docket No. E-01345A-11-0224. Direct testimony submitted November 18, 2011 (revenue requirement), December 2, 2011 (cost of service), January 18, 2012 (settlement agreement), and June 19, 2014 (Four Corners adjustment mechanism). Responsive testimony submitted January 25, 2012 (settlement agreement). Cross examined February 1, 2012.

"In the Matter of the Application of Duke Energy Carolinas, LLC for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina," **North Carolina** Utilities Commission, Docket No. E-7, Sub 989. Direct testimony submitted October 31, 2011.

"Application of Nevada Power Company d/b/a NV Energy, for Authority to Increase Its Annual Revenue Requirement for General Rates Charged to All Classes of Customers, Begin to Recover the Costs of Constructing Harry Allen Combined Cycle, Goodsprings and Other Generating, Transmission and Distribution Plant Additions, and to Reflect Changes in Cost of Service and for Relief Properly Thereto; Application of Nevada Power Company d/b/a/ NV Energy for Approval of New and Revised Depreciation Rates for Its Electrical Operations; Application of Sierra Pacific Power Company d/b/a/ NV Energy for a Determination of the Reasonableness of the Ely Energy Center Project Development Costs and for Authority to Reclassify Those Costs from a Deferred Debit to a Regulatory Asset with an Appropriate Carrying Charge," Public Utilities Commission of **Nevada**, Docket Nos. 11-06006, 11-06007, and 11-06008. Direct testimony submitted October 12, 2011. Cross examined November 2, 2011.

"In the Matter of the Application of Idaho Power Company for Authority to Increase Its Rates and Charges for Electric Service in Idaho," **Idaho** Public Utilities Commission, Case No. IPC-E-11-08. Direct testimony submitted October 7, 2011. Rebuttal testimony submitted November 16, 2011. Cross examined December 5, 2011.

"In the Matter of the Application of Public Service Company of Colorado for an Order Approving Regulatory Treatment of Margins Earned from Certain Renewable Energy Credit and Energy Transactions and Petition for Declaratory Order Clarifying the Meaning of the Phrase) "Transactions Executed" as that Phrase Is Used in the Settlement Agreement Approved in Docket No. 09A-602E," **Colorado** Public Utilities Commission, Docket No. 11A-510E. Answer testimony submitted September 19, 2011. Cross examined October 20, 2011.

"In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to §4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan," Public Utilities Commission of **Ohio**," Case Nos. 11-346-EL-SSO and Case No. 11-348-EL-SSO. "In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Approval of Certain Accounting Authority," Case Nos. 11-349-EL-AAM and 11-350-EL-AAM. Direct testimony submitted July 25, 2011. Direct testimony in support of Stipulation submitted October 28, 2011.

"In the Matter of the Application of Appalachian Power Company for an Adjustment of Electric Base Rates," **Virginia** Corporation Commission, Case No. PUE-2011-00037. Direct testimony submitted July 20, 2011.

"Ameren Illinois Company d/b/a Ameren Illinois, Proposed General Increase in Electric Delivery Service Rates; Ameren Illinois Company d/b/a Ameren Illinois, Proposed General Increase in Natural Gas Rates," **Illinois** Commerce Commission, Docket Nos. 11-0279 and 11-0282. Direct testimony submitted June 29, 2011. Rebuttal testimony submitted August 23, 2011.

"In the Matter of PacifiCorp, dba Pacific Power 2012 Transition Adjustment Mechanism," Public Utility Commission of **Oregon**, Docket No. UE-227. Reply testimony submitted June 24, 2011. Rebuttal testimony submitted August 16, 2011.

"In the Matter of the Application of Rocky Mountain Power to Implement a Permanent Avoided Cost Methodology for Customers That Do Not Qualify for Tariff Schedule 37 – Avoided Cost Purchases from Qualifying Facilities," **Wyoming** Public Service Commission, Docket No. 20000-388-EA-11. Direct testimony submitted May 26, 2011. Cross examined August 2, 2011.

"In the Matter of the Application of Public Service Company of New Mexico for Revision of Its Retail Electric Rates Pursuant to Advice Notice Nos. 397 and 32 (Former TNMP Services), Public Service Company of New Mexico, Applicant," **New Mexico** Public Regulation Commission, Case No. 10-00086-UT. Direct testimony in Opposition to Stipulation submitted April 14, 2011. Cross examined May 12, 2011.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Utility Service Rates in Wyoming Approximately $97.9 Million Per Year or 17.3 Percent," **Wyoming** Public Service Commission, Docket No. 20000-384-ER-10. Direct testimony submitted April 11, 2011. Cross answer testimony submitted May 6, 2011. Stipulation testimony submitted June 9, 2011. Cross examined June 20, 2011.

"In the Matter of the Application of Rocky Mountain Power for Approval of an Adjustment to the Demand-Side Management Program and Suspend Schedule 191 Rate Surcharges," **Wyoming** Public Service Commission, Docket No. 20000-383-ER-10. Direct testimony submitted March 30, 2011. Cross examined May 11, 2011.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 10-035-124. Direct testimony submitted March 9, 2011 (test period); May 26, 2011 (revenue requirement); and June 2, 2011 (cost of service). Rebuttal testimony submitted March 17, 2011 (test period) and June 30, 2011 (revenue requirement). Surrebuttal testimony submitted July 19, 2011 (revenue requirement). Cross examined March 24, 2011 (test period); August 3, 2011 (revenue requirement stipulation); and August 8, 2011 (cost of service stipulation).

"Application of Nevada Power Company d/b/a NV Energy to Establish Interim Base Energy Efficiency Program Rates and Base Energy Efficiency Implementation Rates Pursuant To NRS 704.785 and the Order Issued in Docket No. 09-07016; Application of Sierra Pacific Power Company d/b/a NV Energy to Establish Interim Base Energy Efficiency Program Rates and Base Energy Efficiency Implementation Rates Pursuant to NRS704.785 and the Order Issued in Docket No. 09-07016," Public Utilities Commission of **Nevada,** Docket Nos. 10-10024 and 10-10025. Direct testimony submitted March 8, 2011. Cross examined March 29, 2011.

"2010 Puget Sound Energy Tariff Filing," **Washington** Utilities and Transportation Commission, Docket No. UG-101644. Joint testimony in support of stipulation filed February 11, 2011. Oral testimony in support of stipulation presented March 1, 2011.

"Petition of Duke Energy Indiana, Inc. for Approval to Offer Additional Energy Efficiency Programs; For Approval of Program Cost Recovery, Lost Revenues and Incentives Pursuant to 170 IAC 4-8-5, 170 IAC 4-8-6, and 170 IAC 4-8-7; Authority to Defer Costs Pending Approval and for Authority to Implement Annual Tracking Mechanism," **Indiana** Utility Regulatory Commission, Cause No. 43955. Direct testimony submitted February 9, 2011.

"In the Matter of the Application of Duke Energy Ohio for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications, and Tariffs for Generation Service," Public Utilities Commission of **Ohio**, Case No. 10-2586-EL-SSO. Direct testimony submitted December 21, 2010. Deposed December 22, 2010. Cross examined January 18, 2011.

"In the Matter of the Application of Public Service Company of Colorado for Approval of a Number of Strategic Issues Relating To Its DSM Plan, Including Long-Term Electric Energy Savings Goals and Incentives," **Colorado** Public Utilities Commission, Docket No. 10A-554EG. Answer testimony submitted December 17, 2010. Cross answer testimony submitted February 4, 2011. Cross examined March 2, 2011.

"In the Matter of Appalachian Power Company and Wheeling Power Company," Public Service Commission of **West Virginia**, Case No. 10-0699-E-42T. Direct testimony submitted November 10, 2010. Rebuttal testimony submitted November 23, 2010.

"In the Matter of the Application of Rocky Mountain Power for Alternative Cost Recovery for Major Plant Additions of the Populus to Ben Lomond Transmission Line and Dunlap I Wind Project," **Utah** Public Service Commission, Docket No. 10-035-89. Confidential direct testimony submitted October 26, 2010. Oral testimony in support of stipulation presented December 6, 2010.

"In the Matter of Georgia Power Company's 2010 Rate Case," **Georgia** Public Service Commission, Docket No. 31958. Direct testimony submitted October 22, 2010. Cross examined November 8, 2010.

"In the Matter of the Application of Rocky Mountain Power for Authority to Implement an Energy Cost Adjustment Mechanism," **Wyoming** Public Service Commission, Docket No. 20000-368-EA-10. Direct testimony submitted September 10, 2010. Cross examined November 9, 2010.

"Application of Entergy Texas, Inc. for Authority to Change Rates and Reconcile Fuel Costs," Public Utility Commission of **Texas**, Docket No. 37744. Direct testimony submitted June 9, 2010.

"Portland General Electric General Rate Case Filing," Public Utility Commission of **Oregon**, Docket No. UE-215. Opening testimony submitted June 4, 2010. Joint testimony in support of stipulation submitted August 2, 2010.

"In the Matter of the Application of Duke Energy Ohio, Inc. to Establish and Adjust the Initial Level of its Distribution Reliability Rider," Public Utilities Commission of **Ohio**, Case No. 09-1946-EL-RDR. Direct testimony submitted May 18, 2010.

"In the Matter of PacifiCorp, dba Pacific Power, 2011 Transition Adjustment Mechanism," Public Utility Commission of **Oregon**, Docket No. UE-216. Reply testimony submitted May 12, 2010. Joint testimony in support of stipulation submitted July 26, 2010.

"In the Matter of the Application of Rocky Mountain Power for Alternative Cost Recovery for Major Plant Additions of the Ben Lomond to Terminal Transmission Line and the Dave Johnston Generation Unit 3 Emissions Control Measure," **Utah** Public Service Commission, Docket No. 10-035-13. Direct testimony submitted April 26, 2010.

"In the Matter of a Notice of Inquiry into Energy Efficiency," **Arkansas** Public Service Commission, Docket No. 10-010-U. Direct testimony submitted March 23, 2010. Cross examined October 18, 2010.

"In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service," **Arkansas** Public Service Commission," Docket No. 09-084-U. Direct testimony submitted February 26, 2010.

"In the Matter of the Application of Rocky Mountain Power for Approval of a General Rate Increase of Approximately $70.9 Million per Year or 13.7 Percent," **Wyoming** Public Service Commission, Docket No. 20000-352-ER-09. Direct testimony submitted February 16, 2010. Cross answer testimony submitted March 15, 2010. Direct settlement testimony submitted March 31, 2010. Cross examined April 23, 2010.

"Amended Petition of Puget Sound Energy, Inc., for an Order Authorizing the Use of the Proceeds from the Sale of Renewable Energy Credits and Carbon Financial Instruments," **Washington** Utilities and Transportation Commission, Docket No. UE-070725. Response testimony submitted January 28, 2010.

"Application of Appalachian Power Company for a 2009 Statutory Review of Rates Pursuant to § 56.585.1 A of the Code of Virginia," **Virginia** Corporation Commission, Case No. PUE-2009-00030. Direct testimony submitted December 28, 2009. Additional direct testimony submitted March 8, 2010. Cross examined April 1, 2010.

"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Approval of a Market Rate Offer to Conduct a

Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications with Reconciliation Mechanism and Tariffs for Generation Service," Public Utilities Commission of **Ohio**, Case No. 09-906-EL-SSO. Direct testimony submitted December 4, 2009. Deposed December 10, 2009.

"2009 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-090704 and UG-090705. Response testimony submitted November 17, 2009. Joint testimony in support of stipulation submitted January 8, 2010.

"In the Matter of the Application of Rocky Mountain Power for Approval of Its Proposed Energy Cost Adjustment Mechanism," **Utah** Public Service Commission, Docket No. 09-035-15. Direct Phase I testimony submitted November 16, 2009. Direct Phase II testimony submitted August 4, 2010. Rebuttal Phase II testimony submitted September 15, 2010. Surrebuttal Phase I testimony submitted January 5, 2010. Surrebuttal Phase II testimony submitted October 13, 2010. Cross examined January 12, 2010 (Phase I) and November 2, 2010 (Phase II). Rebuttal testimony regarding Final EBA Report submitted November 16, 2016. Surrebuttal testimony regarding Final EBA Report submitted December 15, 2016. Cross examined January 17, 2017.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of Its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 09-035-23. Direct testimony submitted October 8, 2009. Rebuttal testimony submitted November 12, 2009. Surrebuttal testimony submitted November 30, 2009. Cross examined December 15-16, 2009.

"Re: The Tariff Sheets Filed by Public Service Company of Colorado with Advice Letter No. 1535 – Electric," **Colorado** Public Utilities Commission, Docket No. 09AL-299E. Answer testimony submitted October 2, 2009. Surrebuttal testimony submitted December 18, 2009.

"In the Matter of the Applications of Westar Energy, Inc., and Kansas Gas and Electric Company for Approval to Make Certain Changes in their Charges for Electric Service," **Kansas** Corporation Commission, Docket No. 09-WSEE-925-RTS. Direct testimony submitted September 30, 2009. Cross answer testimony submitted October 16, 2009.

"Central Illinois Light Company d/b/a AmerenCILCO Proposed General Increase in Electric Delivery Service Rates; Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Electric Delivery Service Rates; Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Electric Delivery Service Rates; Central Illinois Light Company d/b/a AmerenCILCO Proposed General Increase in Gas Delivery Service Rates; Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Gas Delivery Service Rates; Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Gas Delivery Service Rates," **Illinois** Commerce Commission, Docket Nos. 09-0306, 09-0307, 09-0308, 09-

0309, 09-0310, and 09-0311. Direct testimony submitted September 28, 2009. Rebuttal testimony submitted November 20, 2009.

"In the Matter of the Complaint of Nucor Steel-Indiana, a Division of Nucor Corporation against Duke Energy Indiana, Inc. for Determination of Reasonable and Just Charges and Conditions for Electric Service and Request for Expedited Adjudication," **Indiana** Utility Regulatory Commission, Cause No. 43754. Direct testimony submitted September18, 2009. Rebuttal testimony submitted December 3, 2009. Testimony withdrawn pursuant to settlement agreement.

"In the Matter of PacifiCorp's Filing of Revised Tariff Schedules for Electric Service in Oregon," Public Utility Commission of **Oregon,** Docket No. UE-210. Reply testimony submitted July 24, 2009. Joint testimony in support of stipulation submitted September 25, 2009.

"In the Matter of the Application of Rocky Mountain Power to Establish an Avoided Cost Methodology for Customers That Do Not Qualify for Tariff Schedule 37 – Avoided Cost Purchases from Qualifying Facilities," **Wyoming** Public Service Commission, Docket No. 20000-342-EA-09. Direct testimony submitted July 21, 2009. Cross examined September 1, 2009.

"In the Matter of PacifiCorp, dba Pacific Power, 2010 Transition Adjustment Mechanism," Public Utility Commission of **Oregon,** Docket No. UE-207. Reply testimony submitted July 14, 2009. Joint testimony in support of stipulation submitted September 25, 2009.

"In The Matter of the Application of The Detroit Edison Company for Authority to Increase Its Rates, Amend Its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy," **Michigan** Public Service Commission, Case No. U-15768. Direct testimony submitted July 9, 2009. Rebuttal testimony submitted July 30, 2009.

"In the Matter of the Investigation of Westar Energy, Inc., and Kansas Gas and Electric Company to Consider the Issue of Rate Consolidation and Resulting Rate Design," **Kansas** Corporation Commission," Docket No. 09-WSEE-641-GIE. Direct testimony submitted June 26, 2009. Cross examined August 17, 2009.

"Illinois Commerce Commission on Its Own Motion vs Commonwealth Edison Company, Investigation of Rate Design Pursuant to Section 9-250 of the Public Utilities Act," **Illinois** Commerce Commission, Docket No. 08-0532. Direct testimony submitted May 22, 2009.

"In the Matter of the Application of Duke Energy Kentucky, Inc. for Approval of Energy Efficiency Plan, Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs," **Kentucky** Public Service Commission, Case No. 2008-00495. Direct testimony submitted May 11, 2009.

"In the Matter of the Application by Nevada Power Company d/b/a NV Energy, filed Pursuant to NRS§704.110(3) and NRS §704.110(4) for Authority to Increase Its Annual Revenue Requirement for General Rates Charged to All Classes of Customers, Begin to Recover the Costs of Acquiring the Bighorn Power Plant, Constructingthe Clark Peakers, Environmental Retrofits and Other Generating, Transmission and Distribution Plant Additions, to Reflect Changes in Cost of Service and for Relief Properly Related Thereto, Public Utilities Commission of **Nevada**, Docket No. 08-12002. Direct testimony submitted April 14, 2009 (revenue requirement) and April 21, 2009 (cost of service/rate design). Cross examined May 6, 2009.

"Verified Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission to Approve an Alternative Regulatory Plan Pursuant to the Ind. Code 8-1-2.5, *Et Seq*., for the Implementation of an Electric Distribution System "SmartGrid" and Advanced Metering Infrastructure, Distribution Automation Investments, and a Distribution Renewable Generation Demonstration Project and Associated Accounting and Rate Recovery Mechanisms, Including a Ratemaking Proposal to Update Distribution Rates Annually and a "Lost Revenue" Recovery Mechanism, in Accordance with Ind. Code 8-1-2-42(a) and 8-1-2.5-1 *Et Seq*. and Preliminary Approval of the Estimated Costs and Scheduled Deployment of the Company's SmartGrid Initiative," **Indiana** Utility Regulatory Commission, Cause No. 43501. Direct testimony submitted February 27, 2009.

"In The Matter of the Application of Duke Energy Ohio for an Increase in Electric Distribution Rates," Public Utilities Commission of **Ohio**, Case No. 08-709-EL-AIR; "In the Matter of the Application of Duke Energy Ohio for Tariff Approval," Case No. 08-710-EL-ATA; "In the Matter of the Application of Duke Energy Ohio for Approval to Change Accounting Methods," Case No. 08-711-EL-AAM. Direct testimony submitted February 26, 2009.

"In The Matter of the Amended Application of Rocky Mountain Power for Approval of a General Rate Increase of Approximately $28.8 Million per Year (6.1 Percent Overall Average Increase)", **Wyoming** Public Service Commission, Docket No. 20000-333-ER-08. Direct testimony submitted January 30, 2009. Summary of cross answer testimony submitted February 27, 2009. Settlement testimony submitted March 13, 2009. Cross examined March 24, 2009.

"In the Matter of the Application of Dayton Power and Light Company for Approval of Its Electric Security Plan," Public Utilities Commission of **Ohio**, Case No. 08-1094-EL-SSO; "In the Matter of the Application of Dayton Power and Light Company for Approval of Revised Tariffs, Case No. 08-1095-EL-ATA; "In the Matter of the Application of Dayton Power and Light Company for Approval of Certain Accounting Authority Pursuant to Ohio Rev. Code §4905.13," Case No. 08-1096-EL-AAM; In the Matter of the Application of Dayton Power and Light Company for Approval of Its Amended Corporate Separation Plan, Case No. 08-1097-EL-UNC. Direct testimony submitted January 26, 2009. Deposed February 6, 2009. Testimony withdrawn pursuant to stipulation filed February 24, 2009.

"Application of Oncor Electric Delivery Company LLC for Authority to Change Rates," Public Utility Commission of **Texa**s, SOAH Docket No. 473-08-3681, PUC Docket No. 35717. Direct testimony submitted November 26, 2008. Cross examined February 3, 2009.

"In the Matter of the Application of Columbus Southern Power Company for Approval of Its Electric Security Plan; An Amendment to Its Corporate Separation Plan; and the Sale of Certain Generating Assets", Public Utilities Commission of **Ohio**, Case No. 08-917-EL-SSO; "In the Matter of the Application of Ohio Power Company for Approval of Its Electric Security Plan; and an Amendment to Its Corporate Separation Plan," Case No. 08-918-EL-SSO. Direct testimony submitted October 31, 2008. Cross examined November 25, 2008.

"Application of Louisville Gas and Electric Company for an Adjustment of Its Electric and Gas Base Rates," **Kentucky** Public Service Commission, Case No. 2008-00252. Direct testimony submitted October 28, 2008.

"Application of Kentucky Utilities Company for an Adjustment of Base Rates," **Kentucky** Public Service Commission, Case No. 2008-00251. Direct testimony submitted October 28, 2008.

"In the Matter of the Application of Idaho Power Company for Authority to Increase its Rates and Charges for Electric Service," **Idaho** Public Utilities Commission, Case No. IPC-E-08-10. Direct testimony submitted October 24, 2008. Rebuttal testimony submitted December 3, 2008. Cross examined December 19, 2008.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 08-035-38. Direct testimony submitted October 7, 2008 (test period) and February 12, 2009 (revenue requirement). Cross examined October 28, 2008 (test period).

"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form of an Electric Security Plan," Public Utility Commission of **Ohio**, Case No. 08-935-EL-SSO. Direct testimony submitted September 29, 2008. Deposed October 13, 2008. Cross examined October 21, 2008.

"In the Matter of the Application of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes In Their Charges for Electric Service," State Corporation Commission of **Kansas**, Docket No. 08-WSEE-1041-RTS. Direct testimony submitted September 29, 2008. Cross Answer testimony submitted October 8, 2008.

"In the Matter of Appalachian Power Company's Application for Increase in Electric Rates," **Virginia** State Corporation Commission, Case No. PUE-2008-00046. Direct testimony submitted September 26, 2008.

"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications with Reconciliation Mechanism and Tariffs for Generation Service," Public Utility Commission of **Ohio**, Case No. 08-936-EL-SSO. Direct testimony submitted September 9, 2008. Deposed September 16, 2008.

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop Such Return," **Arizona** Corporation Commission, Docket No. E-01345A-08-0172. Direct testimony submitted August 29, 2008 (interim rates), December 19, 2008 (revenue requirement), January 9, 2009 (cost of service, rate design), and July 1, 2009 (settlement agreement). Reply testimony submitted August 6, 2009 (settlement agreement). Cross examined September 16, 2008 (interim rates) and August 20, 2009 (settlement agreement).

"Verified Joint Petition of Duke Energy Indiana, Inc., Indianapolis Power & Light Company, Northern Indiana Public Service Company and Vectren Energy Delivery of Indiana, Inc. for Approval, if and to the Extent Required, of Certain Changes in Operations That Are Likely To Result from the Midwest Independent System Operator, Inc.'s Implementation of Revisions to Its Open Access Transmission and Energy Markets Tariff to Establish a Co-Optimized, Competitive Market for Energy and Ancillary Services Market; and for Timely Recovery of Costs Associated with Joint Petitioners' Participation in Such Ancillary Services Market," **Indiana** Utility Regulatory Commission, Cause No. 43426. Confidential direct testimony submitted August 6, 2008. Confidential direct testimony in opposition to Settlement Agreement submitted November 12, 2008.

"In The Matter of the Application of The Detroit Edison Company for Authority to Increase Its Rates, Amend Its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy, and for Miscellaneous Accounting Authority," **Michigan** Public Service Commission, Case No. U-15244. Direct testimony submitted July 15, 2008. Rebuttal testimony submitted August 8, 2008.

"Portland General Electric General Rate Case Filing," Public Utility Commission of **Oregon,** Docket No. UE-197. Direct testimony submitted July 9, 2008. Surrebuttal testimony submitted September 15, 2008.

"In the Matter of PacifiCorp, dba Pacific Power, 2009 Transition Adjustment Mechanism, Schedule 200, Cost-Based Supply Service," Public Utility Commission of **Oregon,** Docket No. UE-199. Reply testimony submitted June 23, 2008. Joint testimony in support of stipulation submitted September 4, 2008.

"2008 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-072300 and UG-072301. Response testimony submitted May 30, 2008. Cross-Answer testimony submitted July 3, 2008. Joint testimony in support of partial

stipulations submitted July 3, 2008 (gas rate spread/rate design), August 12, 2008 (electric rate spread/rate design), and August 28, 2008 (revenue requirements). Cross examined September 3, 2008.

"Verified Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission to Approve an Alternative Regulatory Plan Pursuant to the Ind. Code 8-1-2.5, Et Seq., for the Offering of Energy Efficiency Conservation, Demand Response, and Demand-Side Management Programs and Associated Rate Treatment Including Incentives Pursuant to a Revised Standard Contract Rider No. 66 in Accordance with Ind. Code 8-1-2.5-1 Et Seq. and 8-1-2-42(a); Authority to Defer Program Costs Associated with Its Energy Efficiency Portfolio of Programs; Authority to Implement New and Enhanced Energy Efficiency Programs in Its Energy Efficiency Portfolio of Programs; and Approval of a Modification of the Fuel Adjustment Clause Earnings and Expense Tests," **Indiana** Utility Regulatory Commission, Cause No. 43374. Confidential direct testimony submitted May 21, 2008 and October 27, 2008. Testimony withdrawn pursuant to stipulation, but re-submitted June 1, 2010. Confidential supplemental direct testimony submitted June 10, 2010. Application withdrawn by Duke Energy Indiana, June 2010.

"Cinergy Corp., Duke Energy Ohio, Inc., Cinergy Power Investments, Inc., Generating Facilities LLCs," **Federal Energy Regulatory Commission**, Docket No. EC-08-78-000. Affidavit filed May 14, 2008.

"Application of Entergy Gulf States, Inc. for Authority to Change Rates and to Reconcile Fuel Costs, Public Utility Commission of **Texas**, Docket No. 34800 [SOAH Docket No. 473-08-0334]. Direct testimony submitted April 11, 2008. Testimony withdrawn pursuant to stipulation.

"Central Illinois Light Company d/b/a AmerenCILCO Proposed General Increase in Electric Delivery Service Rates, Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Electric Delivery Service Rates, Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Electric Delivery Service Rates, Central Illinois Light Company d/b/a AmerenCILCO, Proposed General Increase in Gas Delivery Service Rates, Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Gas Delivery Service Rates, Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Gas Delivery Service Rates," **Illinois** Commerce Commission, Docket Nos. 07-0585, 07-0586, 07-0587, 07-0588, 07-0589, 07-0590. Direct testimony submitted March 14, 2008. Rebuttal testimony submitted April 8, 2008.

"In the Matter of the Application of Public Service Company of Colorado for Authority to Implement an Enhanced Demand Side Management Cost Adjustment Mechanism to Include Current Recovery and Incentives," **Colorado** Public Utilities Commission, Docket No. 07A-420E. Answer testimony submitted March 10, 2008. Cross examined April 25, 2008.

"An Investigation of the Energy and Regulatory Issues in Section 50 of Kentucky's 2007 Energy Act," **Kentucky** Public Service Commission, Administrative Case No. 2007-00477. Direct

testimony submitted February 29, 2008. Supplemental direct testimony submitted April 1, 2008. Cross examined April 30, 2008.

"In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of Its Operations throughout the State of Arizona," **Arizona** Corporation Commission, Docket No. E-01933A-07-0402. Direct testimony submitted February 29, 2008 (revenue requirement), March 14, 2008 (rate design), and June 12, 2008 (settlement agreement). Cross examined July 14, 2008.

"Commonwealth Edison Company Proposed General Increase in Electric Rates," **Illinois** Commerce Commission, Docket No. 07-0566. Direct testimony submitted February 11, 2008. Rebuttal testimony submitted April 8, 2008.

"In the Matter of the Application of Questar Gas Company to File a General Rate Case," **Utah** Public Service Commission, Docket No. 07-057-13. Direct testimony submitted January 28, 2008 (test period), March 31, 2008 (rate of return), April 21, 2008 (revenue requirement), and August 18, 2008 (cost of service, rate spread, rate design). Rebuttal testimony submitted September 22, 2008 (cost of service, rate spread, rate design). Surrebuttal testimony submitted May 12, 2008 (rate of return) and October 7, 2008 (cost of service, rate spread, rate design). Cross examined February 8, 2008 (test period), May 21, 2008 (rate of return), and October 15, 2008 (cost of service, rate spread, rate design).

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations, Consisting of a General Rate Increase of Approximately $161.2 Million Per Year, and for Approval of a New Large Load Surcharge," **Utah** Public Service Commission, Docket No. 07-035-93. Direct testimony submitted January 25, 2008 (test period), April 7, 2008 (revenue requirement), and July 21, 2008 (cost of service, rate design). Rebuttal testimony submitted September 3, 2008 (cost of service, rate design). Surrebuttal testimony submitted May 23, 2008 (revenue requirement) and September 24, 2008 (cost of service, rate design). Cross examined February 7, 2008 (test period).

"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Increase Rates for Distribution Service, Modify Certain Accounting Practices and for Tariff Approvals," Public Utilities Commission of **Ohio**, Case Nos. 07-551-EL-AIR, 07-552-EL-ATA, 07-553-EL-AAM, and 07-554-EL-UNC. Direct testimony submitted January 10, 2008.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Utility Service Rates in Wyoming, Consisting of a General Rate Increase of Approximately $36.1 Million per Year, and for Approval of a New Renewable Resource Mechanism and Marginal Cost Pricing Tariff," **Wyoming** Public Service Commission, Docket

No. 20000-277-ER-07. Direct testimony submitted January 7, 2008. Cross examined March 6, 2008.

"In the Matter of the Application of Idaho Power Company for Authority to Increase Its Rates and Charges for Electric Service to Electric Customers in the State of Idaho," **Idaho** Public Utilities Commission, Case No. IPC-E-07-8. Direct testimony submitted December 10, 2007. Cross examined January 23, 2008.

"In The Matter of the Application of Consumers Energy Company for Authority to Increase Its Rates for the Generation and Distribution Of Electricity and Other Relief," **Michigan** Public Service Commission, Case No. U-15245. Direct testimony submitted November 6, 2007. Rebuttal testimony submitted November 20, 2007.

"In the Matter of Montana-Dakota Utilities Co., Application for Authority to Establish Increased Rates for Electric Service," **Montana** Public Service Commission, Docket No. D2007.7.79. Direct testimony submitted October 24, 2007.

"In the Matter of the Application of Public Service Company of New Mexico for Revision of its Retail Electric Rates Pursuant to Advice Notice No. 334," **New Mexico** Public Regulation Commission, Case No. 07-0077-UT. Direct testimony submitted October 22, 2007. Rebuttal testimony submitted November 19, 2007. Cross examined December 12, 2007.

"In The Matter of Georgia Power Company's 2007 Rate Case," **Georgia** Public Service Commission, Docket No. 25060-U. Direct testimony submitted October 22, 2007. Cross examined November 7, 2007.

"In the Matter of the Application of Rocky Mountain Power for an Accounting Order to Defer the Costs Related to the MidAmerican Energy Holdings Company Transaction," **Utah** Public Service Commission, Docket No. 07-035-04; "In the Matter of the Application of Rocky Mountain Power, a Division of PacifiCorp, for a Deferred Accounting Order To Defer the Costs of Loans Made to Grid West, the Regional Transmission Organization," Docket No. 06-035-163; "In the Matter of the Application of Rocky Mountain Power for an Accounting Order for Costs related to the Flooding of the Powerdale Hydro Facility," Docket No. 07-035-14. Direct testimony submitted September 10, 2007. Surrebuttal testimony submitted October 22, 2007. Cross examined October 30, 2007.

"In the Matter of General Adjustment of Electric Rates of East Kentucky Power Cooperative, Inc.," **Kentucky** Public Service Commission, Case No. 2006-00472. Direct testimony submitted July 6, 2007. Supplemental direct testimony submitted March 18, 2008.

"In the Matter of the Application of Sempra Energy Solutions for a Certificate of Convenience and Necessity for Competitive Retail Electric Service," **Arizona** Corporation Commission, Docket No. E-03964A-06-0168. Direct testimony submitted July 3, 2007. Rebuttal testimony submitted January 17, 2008 and February 7, 2007.

"Application of Public Service Company of Oklahoma for a Determination that Additional Electric Generating Capacity Will Be Used and Useful," **Oklahoma** Corporation Commission, Cause No. PUD 200500516; "Application of Public Service Company of Oklahoma for a Determination that Additional Baseload Electric Generating Capacity Will Be Used and Useful," Cause No. PUD 200600030; "In the Matter of the Application of Oklahoma Gas and Electric Company for an Order Granting Pre-Approval to Construct Red Rock Generating Facility and Authorizing a Recovery Rider," Cause No. PUD200700012. Responsive testimony submitted May 21, 2007. Cross examined July 26, 2007.

"Application of Nevada Power Company for Authority to Increase Its Annual Revenue Requirement for General Rates Charged to All Classes of Electric Customers and for Relief Properly Related Thereto," Public Utilities Commission of **Nevada**, Docket No. 06-11022. Direct testimony submitted March 14, 2007 (Phase III – revenue requirements) and March 19, 2007 (Phase IV – rate design). Cross examined April 10, 2007 (Phase III – revenue requirements) and April 16, 2007 (Phase IV – rate design).

"In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service," **Arkansas** Public Service Commission, Docket No. 06-101-U. Direct testimony submitted February 5, 2007. Surrebuttal testimony submitted March 26, 2007.

"Monongahela Power Company and The Potomac Edison Company, both d/b/a Allegheny Power – Rule 42T Application to Increase Electric Rates and Charges," Public Service Commission of **West Virginia**, Case No. 06-0960-E-42T; "Monongahela Power Company and The Potomac Edison Company, both d/b/a Allegheny Power – Information Required for Change of Depreciation Rates Pursuant to Rule 20," Case No. 06-1426-E-D. Direct and rebuttal testimony submitted January 22, 2007.

"In the Matter of the Tariffs of Aquila, Inc., d/b/a Aquila Networks-MPS and Aquila Networks-L&P Increasing Electric Rates for the Services Provided to Customers in the Aquila Networks-MPS and Aquila Networks-L&P Missouri Service Areas," **Missouri** Public Service Commission, Case No. ER-2007-0004. Direct testimony submitted January 18, 2007 (revenue requirements) and January 25, 2007 (revenue apportionment). Supplemental direct testimony submitted February 27, 2007.

"In the Matter of the Filing by Tucson Electric Power Company to Amend Decision No. 62103, **Arizona** Corporation Commission, Docket No. E-01933A-05-0650. Direct testimony submitted January 8, 2007. Surrebuttal testimony filed February 8, 2007. Cross examined March 8, 2007.

"In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area," **Missouri** Public Service Commission, Case No. ER-2007-0002. Direct testimony submitted December 15, 2006 (revenue requirements) and December 29, 2006 (fuel adjustment

clause/cost-of-service/rate design). Rebuttal testimony submitted February 5, 2007 (cost-of-service). Surrebuttal testimony submitted February 27, 2007. Cross examined March 21, 2007.

"In the Matter of Application of The Union Light, Heat and Power Company d/b/a Duke Energy Kentucky, Inc. for an Adjustment of Electric Rates," **Kentucky** Public Service Commission, Case No. 2006-00172. Direct testimony submitted September 13, 2006.

"In the Matter of Appalachian Power Company's Application for Increase in Electric Rates," **Virginia** State Corporation Commission, Case No. PUE-2006-00065. Direct testimony submitted September 1, 2006. Cross examined December 7, 2006.

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, To Approve Rate Schedules Designed to Develop Such Return, and to Amend Decision No. 67744, **Arizona** Corporation Commission," Docket No. E-01345A-05-0816. Direct testimony submitted August 18, 2006 (revenue requirements) and September 1, 2006 (cost-of-service/rate design). Surrebuttal testimony submitted September 27, 2006. Cross examined November 7, 2006.

"Re: The Tariff Sheets Filed by Public Service Company of Colorado with Advice Letter No 1454 – Electric," **Colorado** Public Utilities Commission**,** Docket No. 06S-234EG. Answer testimony submitted August 18, 2006.

"Portland General Electric General Rate Case Filing," Public Utility Commission of **Oregon,** Docket No. UE-180. Direct testimony submitted August 9, 2006. Joint testimony regarding stipulation submitted August 22, 2006.

"2006 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-060266 and UG-060267. Response testimony submitted July 19, 2006. Joint testimony regarding stipulation submitted August 23, 2006.

"In the Matter of PacifiCorp, dba Pacific Power & Light Company, Request for a General Rate Increase in the Company's Oregon Annual Revenues," Public Utility Commission of **Oregon**, Docket No. UE-179. Direct testimony submitted July 12, 2006. Joint testimony regarding stipulation submitted August 21, 2006.

"Petition of Metropolitan Edison Company for Approval of a Rate Transition Plan," **Pennsylvania** Public Utilities Commission, Docket Nos. P-00062213 and R-00061366; "Petition of Pennsylvania Electric Company for Approval of a Rate Transition Plan," Docket Nos. P-0062214 and R-00061367; Merger Savings Remand Proceeding, Docket Nos. A-110300F0095 and A-110400F0040. Direct testimony submitted July 10, 2006. Rebuttal testimony submitted August 8, 2006. Surrebuttal testimony submitted August 18, 2006. Cross examined August 30, 2006.

"In the Matter of the Application of PacifiCorp for approval of its Proposed Electric Rate Schedules & Electric Service Regulations," **Utah** Public Service Commission, Docket No. 06-035-21. Direct testimony submitted June 9, 2006 (Test Period). Surrebuttal testimony submitted July 14, 2006.

"Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy for the Approval of the Conservation Enabling Tariff Adjustment Option and Accounting Orders," **Utah** Public Service Commission, Docket No. 05-057-T01. Direct testimony submitted May 15, 2006. Rebuttal testimony submitted August 8, 2007. Cross examined September 19, 2007.

"Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, Illinois Power Company d/b/a AmerenIP, Proposed General Increase in Rates for Delivery Service (Tariffs Filed December 27, 2005)," **Illinois** Commerce Commission, Docket Nos. 06-0070, 06-0071, 06-0072. Direct testimony submitted March 26, 2006. Rebuttal testimony submitted June 27, 2006.

"In the Matter of Appalachian Power Company and Wheeling Power Company, both dba American Electric Power," Public Service Commission of **West Virginia**, Case No. 05-1278-E-PC-PW-42T. Direct and rebuttal testimony submitted March 8, 2006.

"In the Matter of Northern States Power Company d/b/a Xcel Energy for Authority to Increase Rates for Electric Service in Minnesota," **Minnesota** Public Utilities Commission, Docket No. G-002/GR-05-1428. Direct testimony submitted March 2, 2006. Rebuttal testimony submitted March 30, 2006. Cross examined April 25, 2006.

"In the Matter of the Application of Arizona Public Service Company for an Emergency Interim Rate Increase and for an Interim Amendment to Decision No. 67744," **Arizona** Corporation Commission**,** Docket No. E-01345A-06-0009. Direct testimony submitted February 28, 2006. Cross examined March 23, 2006.

"In the Matter of the Applications of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes in Their Charges for Electric Service," State Corporation Commission of **Kansas**, Case No. 05-WSEE-981-RTS. Direct testimony submitted September 9, 2005. Cross examined October 28, 2005.

"In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Recover Costs Associated with the Construction and Ultimate Operation of an Integrated Combined Cycle Electric Generating Facility," Public Utilities Commission of **Ohio**," Case No. 05-376-EL-UNC. Direct testimony submitted July 15, 2005. Cross examined August 12, 2005.

"In the Matter of the Filing of General Rate Case Information by Tucson Electric Power

Company Pursuant to Decision No. 62103," **Arizona** Corporation Commission, Docket No. E-01933A-04-0408. Direct testimony submitted June 24, 2005.

"In the Matter of Application of The Detroit Edison Company to Unbundle and Realign Its Rate Schedules for Jurisdictional Retail Sales of Electricity," **Michigan** Public Service Commission, Case No. U-14399. Direct testimony submitted June 9, 2005. Rebuttal testimony submitted July 1, 2005.

"In the Matter of the Application of Consumers Energy Company for Authority to Increase Its Rates for the Generation and Distribution of Electricity and Other Relief," **Michigan** Public Service Commission, Case No. U-14347. Direct testimony submitted June 3, 2005. Rebuttal testimony submitted June 17, 2005.

"In the Matter of Pacific Power & Light, Request for a General Rate Increase in the Company's Oregon Annual Revenues," Public Utility Commission of **Oregon**, Docket No. UE 170. Direct testimony submitted May 9, 2005. Surrebuttal testimony submitted June 27, 2005. Joint testimony regarding partial stipulations submitted June 2005, July 2005, and August 2005.

"In the Matter of the Application of Trico Electric Cooperative, Inc. for a Rate Increase," **Arizona** Corporation Commission, Docket No. E-01461A-04-0607. Direct testimony submitted April 13, 2005. Surrebuttal testimony submitted May 16, 2005. Cross examined May 26, 2005.

"In the Matter of the Application of PacifiCorp for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 04-035-42. Direct testimony submitted January 7, 2005.

"In the Matter of the Application by Golden Valley Electric Association, Inc., for Authority to Implement Simplified Rate Filing Procedures and Adjust Rates," Regulatory Commission of **Alaska**, Docket No. U-4-33. Direct testimony submitted November 5, 2004. Cross examined February 8, 2005.

"Advice Letter No. 1411 - Public Service Company of Colorado Electric Phase II General Rate Case," **Colorado** Public Utilities Commission, Docket No. 04S-164E. Direct testimony submitted October 12, 2004. Cross-answer testimony submitted December 13, 2004. Testimony withdrawn January 18, 2005, following Applicant's withdrawal of testimony pertaining to TOU rates.

"In the Matter of Georgia Power Company's 2004 Rate Case," **Georgia** Public Service Commission, Docket No. 18300-U. Direct testimony submitted October 8, 2004. Cross examined October 27, 2004.

"2004 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-040641 and UG-040640. Response testimony submitted September 23, 2004. Cross-answer testimony submitted November 3, 2004. Joint testimony regarding stipulation submitted December 6, 2004.

"In the Matter of the Application of PacifiCorp for an Investigation of Interjurisdictional Issues," **Utah** Public Service Commission, Docket No. 02-035-04. Direct testimony submitted July 15, 2004. Cross examined July 19, 2004.

"In the Matter of an Adjustment of the Gas and Electric Rates, Terms and Conditions of Kentucky Utilities Company," **Kentucky** Public Service Commission, Case No. 2003-00434. Direct testimony submitted March 23, 2004. Testimony withdrawn pursuant to stipulation entered May 2004.

"In the Matter of an Adjustment of the Gas and Electric Rates, Terms and Conditions of Louisville Gas and Electric Company," **Kentucky** Public Service Commission, Case No. 2003-00433. Direct testimony submitted March 23, 2004. Testimony withdrawn pursuant to stipulation entered May 2004.

"In the Matter of the Application of Idaho Power Company for Authority to Increase Its Interim and Base Rates and Charges for Electric Service," **Idaho** Public Utilities Commission, Case No. IPC-E-03-13. Direct testimony submitted February 20, 2004. Rebuttal testimony submitted March 19, 2004. Cross examined April 1, 2004.

"In the Matter of the Applications of the Ohio Edison Company, the Cleveland Electric Illuminating Company and the Toledo Edison Company for Authority to Continue and Modify Certain Regulatory Accounting Practices and Procedures, for Tariff Approvals and to Establish Rates and Other Charges, Including Regulatory Transition Charges Following the Market Development Period," Public Utilities Commission of **Ohio**, Case No. 03-2144-EL-ATA. Direct testimony submitted February 6, 2004. Cross examined February 18, 2004.

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, To Fix a Just and Reasonable Rate of Return Thereon, To Approve Rate Schedules Designed to Develop Such Return, and For Approval of Purchased Power Contract," **Arizona** Corporation Commission, Docket No. E-01345A-03-0437. Direct testimony submitted February 3, 2004. Rebuttal testimony submitted March 30, 2004. Direct testimony regarding stipulation submitted September 27, 2004. Responsive / Clarifying testimony regarding stipulation submitted October 25, 2004. Cross examined November 8-10, 2004 and November 29-December 3, 2004.

"In the Matter of Application of the Detroit Edison Company to Increase Rates, Amend Its Rate Schedules Governing the Distribution and Supply of Electric Energy, etc.," **Michigan** Public Service Commission, Case No. U-13808. Direct testimony submitted December 12, 2003 (interim request) and March 5, 2004 (general rate case).

"In the Matter of PacifiCorp's Filing of Revised Tariff Schedules," Public Utility Commission of **Oregon**, Docket No. UE-147. Joint testimony regarding stipulation submitted August 21, 2003.

"Petition of PSI Energy, Inc. for Authority to Increase Its Rates and Charges for Electric Service, etc.," **Indiana** Utility Regulatory Commission, Cause No. 42359. Direct testimony submitted August 19, 2003. Cross examined November 5, 2003.

"In the Matter of the Application of Consumers Energy Company for a Financing Order Approving the Securitization of Certain of its Qualified Cost," **Michigan** Public Service Commission, Case No. U-13715. Direct testimony submitted April 8, 2003. Cross examined April 23, 2003.

"In the Matter of the Application of Arizona Public Service Company for Approval of Adjustment Mechanisms," **Arizona** Corporation Commission, Docket No. E-01345A-02-0403. Direct testimony submitted February 13, 2003. Surrebuttal testimony submitted March 20, 2003. Cross examined April 8, 2003.

"Re: The Investigation and Suspension of Tariff Sheets Filed by Public Service Company of Colorado, Advice Letter No. 1373 – Electric, Advice Letter No. 593 – Gas, Advice Letter No. 80 – Steam," **Colorado** Public Utilities Commission, Docket No. 02S-315 EG. Direct testimony submitted November 22, 2002. Cross-answer testimony submitted January 24, 2003.

"In the Matter of the Application of The Detroit Edison Company to Implement the Commission's Stranded Cost Recovery Procedure and for Approval of Net Stranded Cost Recovery Charges," **Michigan** Public Service Commission, Case No. U-13350. Direct testimony submitted November 12, 2002.

"Application of South Carolina Electric & Gas Company: Adjustments in the Company's Electric Rate Schedules and Tariffs," Public Service Commission of **South Carolina**, Docket No. 2002-223-E. Direct testimony submitted November 8, 2002. Surrebuttal testimony submitted November 18, 2002. Cross examined November 21, 2002.

"In the Matter of the Application of Questar Gas Company for a General Increase in Rates and Charges," **Utah** Public Service Commission, Docket No. 02-057-02. Direct testimony submitted August 30, 2002. Rebuttal testimony submitted October 4, 2002.

"The Kroger Co. v. Dynegy Power Marketing, Inc.," **Federal Energy Regulatory Commission**, EL02-119-000. Confidential affidavit filed August 13, 2002.

"In the matter of the application of Consumers Energy Company for determination of net stranded costs and for approval of net stranded cost recovery charges," **Michigan** Public Service Commission, Case No. U-13380. Direct testimony submitted August 9, 2002. Rebuttal testimony submitted August 30, 2002. Cross examined September 10, 2002.

"In the Matter of the Application of Public Service Company of Colorado for an Order to Revise Its Incentive Cost Adjustment," **Colorado** Public Utilities Commission, Docket 02A-158E. Direct testimony submitted April 18, 2002.

"In the Matter of the Generic Proceedings Concerning Electric Restructuring Issues," **Arizona** Corporation Commission, Docket No. E-00000A-02-0051, "In the Matter of Arizona Public Service Company's Request for Variance of Certain Requirements of A.A.C. R14-2-1606," Docket No. E-01345A-01-0822, "In the Matter of the Generic Proceeding Concerning the Arizona Independent Scheduling Administrator," Docket No. E-00000A-01-0630, "In the Matter of Tucson Electric Power Company's Application for a Variance of Certain Electric Competition Rules Compliance Dates," Docket No. E-01933A-02-0069, "In the Matter of the Application of Tucson Electric Power Company for Approval of its Stranded Cost Recovery," Docket No. E-01933A-98-0471. Direct testimony submitted March 29, 2002 (APS variance request); May 29, 2002 (APS Track A proceeding/market power issues); and July 28, 2003 (Arizona ISA). Rebuttal testimony submitted August 29, 2003 (Arizona ISA). Cross examined June 21, 2002 (APS Track A proceeding/market power issues) and September 12, 2003 (Arizona ISA).

"In the Matter of Savannah Electric & Power Company's 2001 Rate Case," **Georgia** Public Service Commission, Docket No. 14618-U. Direct testimony submitted March 15, 2002. Cross examined March 28, 2002.

"Nevada Power Company's 2001 Deferred Energy Case," Public Utilities Commission of **Nevada**, PUCN 01-11029. Direct testimony submitted February 7, 2002. Cross examined February 21, 2002.

"2001 Puget Sound Energy Interim Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-011570 and UE-011571. Direct testimony submitted January 30, 2002. Cross examined February 20, 2002.

"In the Matter of Georgia Power Company's 2001 Rate Case," **Georgia** Public Service Commission, Docket No. 14000-U. Direct testimony submitted October 12, 2001. Cross examined October 24, 2001.

"In the Matter of the Application of PacifiCorp for Approval of Its Proposed Electric Rate Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 01-35-01. Direct testimony submitted June 15, 2001. Rebuttal testimony submitted August 31, 2001.

"In the Matter of Portland General Electric Company's Proposal to Restructure and Reprice Its Services in Accordance with the Provisions of SB 1149," Public Utility Commission of **Oregon**, Docket No. UE-115. Direct testimony submitted February 20, 2001. Rebuttal testimony submitted May 4, 2001. Joint testimony regarding stipulation submitted July 27, 2001.

"In the Matter of the Application of APS Energy Services, Inc. for Declaratory Order or Waiver of the Electric Competition Rules," **Arizona** Corporation Commission, Docket No.E-01933A-00-0486. Direct testimony submitted July 24, 2000.

"In the Matter of the Application of Questar Gas Company for an Increase in Rates and Charges," **Utah** Public Service Commission, Docket No. 99-057-20. Direct testimony submitted April 19, 2000. Rebuttal testimony submitted May 24, 2000. Surrebuttal testimony submitted May 31, 2000. Cross examined June 6 & 8, 2000.

"In the Matter of the Application of Columbus Southern Power Company for Approval of Electric Transition Plan and Application for Receipt of Transition Revenues," Public Utility Commission of **Ohio**, Case No. 99-1729-EL-ETP; "In the Matter of the Application of Ohio Power Company for Approval of Electric Transition Plan and Application for Receipt of Transition Revenues," Public Utility Commission of **Ohio**, Case No. 99-1730-EL-ETP. Direct testimony prepared, but not submitted pursuant to settlement agreement effected May 2, 2000.

"In the Matter of the Application of FirstEnergy Corp. on Behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and the Toledo Edison Company for Approval of Their Transition Plans and for Authorization to Collect Transition Revenues," Public Utility Commission of **Ohio**, Case No. 99-1212-EL-ETP. Direct testimony prepared, but not submitted pursuant to settlement agreement effected April 11, 2000.

"2000 Pricing Process," **Salt River Project** Board of Directors, oral comments provided March 6, 2000 and April 10, 2000.

"Tucson Electric Power Company vs. Cyprus Sierrita Corporation," **Arizona** Corporation Commission, Docket No. E-000001-99-0243. Direct testimony submitted October 25, 1999. Cross examined November 4, 1999.

"Application of Hildale City and Intermountain Municipal Gas Association for an Order Granting Access for Transportation of Interstate Natural Gas over the Pipelines of Questar Gas Company for Hildale, Utah," **Utah** Public Service Commission, Docket No. 98-057-01. Rebuttal testimony submitted August 30, 1999.

"In the Matter of the Application by Arizona Electric Power Cooperative, Inc. for Approval of Its Filing as to Regulatory Assets and Transition Revenues," **Arizona** Corporation Commission, Docket No. E-01773A-98-0470. Direct testimony submitted July 30, 1999. Cross examined February 28, 2000.

"In the Matter of the Application of Tucson Electric Power Company for Approval of its Plan for Stranded Cost Recovery," **Arizona** Corporation Commission, Docket No. E-01933A-98-0471; "In the Matter of the Filing of Tucson Electric Power Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01933A-97-0772; "In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," Docket No.

RE-00000C-94-0165. Direct testimony submitted June 30, 1999. Rebuttal testimony submitted August 6, 1999. Cross examined August 11-13, 1999.

"In the Matter of the Application of Arizona Public Service Company for Approval of its Plan for Stranded Cost Recovery," **Arizona** Corporation Commission, Docket No. E-01345A-98-0473; "In the Matter of the Filing of Arizona Public Service Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01345A-97-0773; "In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," Docket No. RE-00000C-94-0165. Direct testimony submitted June 4, 1999. Rebuttal testimony submitted July 12, 1999. Cross examined July 14, 1999.

"In the Matter of the Application of Tucson Electric Power Company for Approval of its Plan for Stranded Cost Recovery," **Arizona** Corporation Commission, Docket No. E-01933A-98-0471; "In the Matter of the Filing of Tucson Electric Power Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01933A-97-0772; "In the Matter of the Application of Arizona Public Service Company for Approval of its Plan for Stranded Cost Recovery," Docket No. E-01345A-98-0473; "In the Matter of the Filing of Arizona Public Service Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01345A-97-0773; "In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," Docket No. RE-00000C-94-0165. Direct testimony submitted November 30, 1998.

"Hearings on Pricing," **Salt River Project** Board of Directors, written and oral comments provided November 9, 1998.

"Hearings on Customer Choice," **Salt River Project** Board of Directors, written and oral comments provided June 22, 1998; June 29, 1998; July 9, 1998; August 7, 1998; and August 14, 1998.

"In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," **Arizona** Corporation Commission, Docket No. U-0000-94-165. Direct and rebuttal testimony filed January 21, 1998. Second rebuttal testimony filed February 4, 1998. Cross examined February 25, 1998.

"In the Matter of Consolidated Edison Company of New York, Inc.'s Plans for (1) Electric Rate/Restructuring Pursuant to Opinion No. 96-12; and (2) the Formation of a Holding Company Pursuant to PSL, Sections 70, 108, and 110, and Certain Related Transactions," **New York** Public Service Commission, Case 96-E-0897. Direct testimony filed April 9, 1997. Cross examined May 5, 1997.

"In the Matter of the Petition of Sunnyside Cogeneration Associates for Enforcement of Contract Provisions," **Utah** Public Service Commission, Docket No. 96-2018-01; "In the Matter of the Application of Rocky Mountain Power for an Order Approving an Amendment to Its Power Purchase Agreement with Sunnyside Cogeneration Associates," Docket Nos. 05-035-46, and 07-035-99. Direct testimony submitted July 8, 1996. Oral testimony provided March 18, 2008.

"In the Matter of the Application of PacifiCorp, dba Pacific Power & Light Company, for Approval of Revised Tariff Schedules and an Alternative Form of Regulation Plan," **Wyoming** Public Service Commission, Docket No. 20000-ER-95-99. Direct testimony submitted April 8, 1996.

"In the Matter of the Application of Mountain Fuel Supply Company for an Increase in Rates and Charges," **Utah** Public Service Commission, Case No. 95-057-02. Direct testimony submitted June 19, 1995. Rebuttal testimony submitted July 25, 1995. Surrebuttal testimony submitted August 7, 1995.

"In the Matter of the Investigation of the Reasonableness of the Rates and Tariffs of Mountain Fuel Supply Company," **Utah** Public Service Commission, Case No. 89-057-15. Direct testimony submitted July 1990. Surrebuttal testimony submitted August 1990.

"In the Matter of the Review of the Rates of Utah Power and Light Company pursuant to The Order in Case No. 87-035-27," **Utah** Public Service Commission, Case No. 89-035-10. Rebuttal testimony submitted November 15, 1989. Cross examined December 1, 1989 (rate schedule changes for state facilities).

"In the Matter of the Application of Utah Power & Light Company and PC/UP&L Merging Corp. (to be renamed PacifiCorp) for an Order Authorizing the Merger of Utah Power & Light Company and PacifiCorp into PC/UP&L Merging Corp. and Authorizing the Issuance of Securities, Adoption of Tariffs, and Transfer of Certificates of Public Convenience and Necessity and Authorities in Connection Therewith," **Utah** Public Service Commission, Case No. 87-035-27; Direct testimony submitted April 11, 1988. Cross examined May 12, 1988 (economic impact of UP&L merger with PacifiCorp).

"In the Matter of the Application of Mountain Fuel Supply Company for Approval of Interruptible Industrial Transportation Rates," **Utah** Public Service Commission, Case No. 86-057-07. Direct testimony submitted January 15, 1988. Cross examined March 30, 1988.

"In the Matter of the Application of Utah Power and Light Company for an Order Approving a Power Purchase Agreement," **Utah** Public Service Commission, Case No. 87-035-18. Oral testimony delivered July 8, 1987.

"Cogeneration: Small Power Production," **Federal Energy Regulatory Commission**, Docket No. RM87-12-000. Statement on behalf of State of Utah delivered March 27, 1987, in San Francisco.

"In the Matter of the Investigation of Rates for Backup, Maintenance, Supplementary, and Standby Power for Utah Power and Light Company," **Utah** Public Service Commission, Case No. 86-035-13. Direct testimony submitted January 5, 1987. Case settled by stipulation approved August 1987.

"In the Matter of the Application of Sunnyside Cogeneration Associates for Approval of the Cogeneration Power Purchase Agreement," **Utah** Public Service Commission, Case No. 86-2018-01. Rebuttal testimony submitted July 16, 1986. Cross examined July 17, 1986.

"In the Matter of the Investigation of Demand-Side Alternatives to Capacity Expansion for Electric Utilities," **Utah** Public Service Commission, Case No. 84-999-20. Direct testimony submitted June 17, 1985. Rebuttal testimony submitted July 29, 1985. Cross examined August 19, 1985.

"In the Matter of the Implementation of Rules Governing Cogeneration and Small Power Production in Utah," **Utah** Public Service Commission, Case No. 80-999-06, pp. 1293-1318. Direct testimony submitted January 13, 1984 (avoided costs), May 9, 1986 (security for levelized contracts) and November 17, 1986 (avoided costs). Cross-examined February 29, 1984 (avoided costs), April 11, 1985 (standard form contracts), May 22-23, 1986 (security for levelized contracts) and December 16-17, 1986 (avoided costs).

PUBLICATIONS

Kevin C. Higgins and Caitlin Collins, "Utility Transmission Infrastructure," Chapter 5 in *Coastal Wind: Energy for North Carolina's Future*. University of North Carolina, Chapel Hill: 2009.

Kevin C. Higgins, Neal Townsend, and Susannah Vale, "Utility-Related Statutory and Regulatory Barriers," Chapter 6 in *Coastal Wind: Energy for North Carolina's Future*. University of North Carolina, Chapel Hill: 2009.

OTHER RELATED ACTIVITY

Participant, Wyoming Load Growth Collaborative, March 2008 to January 2009.

Participant, Oregon Direct Access Task Force (UM 1081), May 2003 to November 2003.

Participant, Michigan Stranded Cost Collaborative, March 2003 to March 2004.

Member, Arizona Electric Competition Advisory Group, December 2002 to December 2005.

Board of Directors, ex-officio, Desert STAR RTO, September 1999 to February 2002.

Member, Advisory Committee, Desert STAR RTO, September 1999 to February 2002. Acting Chairman, October 2000 to February 2002.

Board of Directors, Arizona Independent Scheduling Administrator Association, October 1998 to present.

Acting Chairman, Operating Committee, Arizona Independent Scheduling Administrator Association, October 1998 to June 1999.

Member, Desert Star ISO Investigation Working Groups: Operations, Pricing, and Governance, April 1997 to December 1999. Legal & Negotiating Committee, April 1999 to December 1999.

Participant, Independent System Operator and Spot Market Working Group, Arizona Corporation Commission, April 1997 to September 1997.

Participant, Unbundled Services and Standard Offer Working Group, Arizona Corporation Commission, April 1997 to October 1997.

Participant, Customer Selection Working Group, Arizona Corporation Commission, March 1997 to September 1997.

Member, Stranded Cost Working Group, Arizona Corporation Commission, March 1997 to September 1997.

Member, Electric System Reliability & Safety Working Group, Arizona Corporation Commission, November 1996 to September 1998.

Chairman, Salt Palace Renovation and Expansion Committee, Salt Lake County/State of Utah/Salt Lake City, multi-government entity responsible for implementation of planning, design, finance, and construction of an $85 million renovation of the Salt Palace Convention Center, Salt Lake City, Utah, May 1991 to December 1994.

State of Utah Representative, Committee on Regional Electric Power Cooperation, a joint effort of the Western Interstate Energy Board and the Western Conference of Public Service Commissioners, January 1987 to December 1990.

Member, Utah Governor's Economic Coordinating Committee, January 1987 to December 1990.

Chairman, Standard Contract Task Force, established by Utah Public Service Commission to address contractual problems relating to qualifying facility sales under PURPA, March 1986 to December 1990.

Chairman, Load Management and Energy Conservation Task Force, Utah Public Service Commission, August 1985 to December 1990.

Alternate Delegate for Utah, Western Interstate Energy Board, Denver, Colorado, August 1985 to December 1990.

Articles Editor, Economic Forum, September 1980 to August 1981.

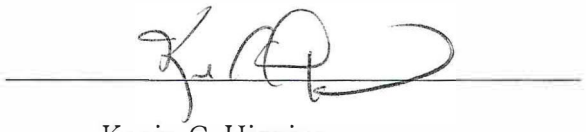
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	R-2024-3046931
Office of Consumer Advocate Office of Small Business Advocate Alan McCarthy Philadelphia Area Industrial Energy Users Group		
v.		
PECO Energy Company (Electric)	:	

VERIFICATION

I, Kevin C. Higgins, hereby state that the facts set forth in my Direct Testimony labelled OSBA Statement No. 1 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 19 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: June 16, 2024



Kevin C. Higgins

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket Nos. R-2024-3046931**
	:	**C-2024-3048467**
PECO Energy Company-Electric Division	:	
	:	

CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing have been served electronically (*unless otherwise noted below*) upon the following persons, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

The Honorable Darlene Heep
Administrative Law Judges
Pennsylvania Public Utility Commission
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The Honorable Marta Guhl
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DATE: June 17, 2024

/s/ Sharon E. Webb
Sharon E. Webb
Assistant Small Business Advocate
Attorney I.D. No. 73995

COMMONWEALTH OF PENNSYLVANIA

July 16, 2024

The Honorable Darlene Heep
Administrative Law Judge
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

The Honorable Marta Guhl
Administrative Law Judge
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

Re: Pennsylvania Public Utility Commission v. PECO Energy Company – Electric Division / Docket No. R-2024-3046931

Dear Judge Heep and Judge Guhl:

Enclosed please find the Rebuttal Testimony of Kevin C. Higgins, labelled OSBA Statement No. 1-R, on behalf of the Office of Small Business Advocate ("OSBA"), in the above-captioned proceeding.

Copies will be served on all known parties in this proceeding, as indicated on the attached Certificate of Service.

If you have any questions, please do not hesitate to contact me.

Sincerely,

/s/ Sharon E. Webb

Sharon E. Webb
Assistant Small Business Advocate
Attorney ID No. 73995

Enclosures
cc: PA PUC, Secretary, Rosemary Chiavetta (Cover Letter and Certificate of Service Only)
Kevin C. Higgins
Parties of Record

OSBA STATEMENT NO. 1-R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	**Docket No. R-2024-3046931**
v.	:	
	:	
PECO Energy Company– Electric Division	:	

Rebuttal Testimony of Kevin C. Higgins

on behalf of

Pennsylvania Office of Small Business Advocate

Topics:

Class Cost Allocation

Revenue Allocation

Date Served: July 16, 2024

Date Submitted for the Record: _____

REBUTTAL TESTIMONY OF KEVIN C. HIGGINS

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevin C. Higgins. My business address is 111 East Broadway, Suite 1200, Salt Lake City, Utah, 84111.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Principal in the firm of Energy Strategies, LLC. Energy Strategies is a private consulting firm specializing in economic and policy analysis applicable to energy production, transportation, and consumption.

Q. ARE YOU THE SAME KEVIN C. HIGGINS WHO PREFILED DIRECT TESTIMONY IN THIS DOCKET ON BEHALF OF THE PENNSYLVANIA OFFICE OF SMALL BUSINESS ADVOCATE ("OSBA")?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My rebuttal testimony responds to the direct testimony of Office of Consumer Advocate ("OCA") witness Mr. Clarence L. Johnson and Bureau of Investigation and Enforcement ("I&E") witness Mr. Esyan A. Sakaya.

RESPONSE TO MR. JOHNSON

Q. WHAT DOES MR. JOHNSON RECOMMEND REGARDING THE ALLOCATION OF SECONDARY DISTRIBUTION FACILITIES?

A. Mr. Johnson recommends that the cost of secondary poles, overhead conductors, and underground conductors and conduit be classified and allocated on a 100% demand basis, rather than PECO's approach which treats these secondary facilities as customer-related. Mr. Johnson recommends that these facilities be allocated to classes based on secondary non-coincident peak ("NCP") demands.[1] He argues that a 100% demand allocation is appropriate since secondary lines are sized to meet local maximum demand.[2]

Q. DO YOU AGREE THAT THESE SECONDARY FACILITIES SHOULD BE CLASSIFIED AND ALLOCATED ON A 100% DEMAND BASIS?

A. No. As I explained in my direct testimony, distribution poles, conductors, and conduit have a significant customer-related component. These facilities are installed to deliver service to customer premises. As such, a significant portion of the investment required to provide these facilities is directly related to the number of customers and their geographic dispersion on the utility's system. A well-designed and fair distribution cost-of-service study should take these aspects of cost causation into account. In contrast, Mr. Johnson's approach ignores the role of the number of customers and their geographic dispersion in influencing system investment requirements. As a result, his analysis under-assigns cost responsibility based on number of customers served and over-assigns cost responsibility on the basis of demand, shifting costs unreasonably to the larger customers served on the distribution system, including small business customers.

[1] Direct Testimony of Clarence L. Johnson (OCA Statement 3), p. 9.
[2] Direct Testimony of Clarence L. Johnson (OCA Statement 3), p. 10.

It is important to recognize that for the distribution system as a whole (*i.e.*, Secondary Distribution, Primary and Primary High Tension), PECO classifies only 26.1% of its poles, conductors and conduit plant[3] as customer-related, with the remaining 73.9% classified as demand-related. Thus, PECO incorporates a substantial demand-related component to the *overall* classification of these facilities, just not 100% demand-related as Mr. Johnson advocates. Since PECO's overall customer-classified proportions of these facilities are within a reasonable range, I recommend that the Company's classification and allocation approach for poles, conductors, and conduit be approved for the purpose of this case. It may be appropriate for PECO to conduct a minimum-size or zero-intercept study, as described in the NARUC Electric Utility Cost Allocation Manual, prior to its next base rate case to ensure the accurate classification of its distribution costs.

Q. IS THE CLASSIFICATION OF SECONDARY POLES, OVERHEAD CONDUITS, AND UNDERGROUND CONDUCTORS AS CUSTOMER-RELATED CONSISTENT WITH THE APPROACH USED BY PECO IN PRIOR CASES?

A. Yes. PECO has used this same approach in at least the last three base rate cases dating back to 2015.[4] And as I explained in my direct testimony, I further recommend that the classification and allocation of transformer costs should also

[3] "Poles, conductors, and conduit" refers to FERC Accounts 364-367.
[4] *See* Docket No. R-2015-2468981, PECO Statement No. 6, Direct Testimony of Alan B. Cohn, p. 13, lines 12-16; Docket No. R-2018-3000164, PECO Statement No. 6, Direct Testimony of Jiang Ding, p. 13, lines 10-14; Docket No. R-2021-3024601, PECO Statement No. 6, Direct Testimony of Tamara J. Jamison, p.14, lines 3-7

include a customer component, rather than PECO's approach which treats transformer costs as 100% demand-related.

Q. WHAT APPROACH DOES MR. JOHNSON RECOMMEND FOR CLASS REVENUE ALLOCATION?

A. Mr. Johnson recommends a cap of 150% of the system average increase and a "floor" of 50% of the system average increase. Specifically, Mr. Johnson's testimony recommends increases of 150% of the system average for the Primary, High Tension, and Electric Propulsion classes; 140% of system average for the General Service ("GS") and Residential Heating classes; 69% of system average for Residential, and 50% of system average for Lighting. However, Mr. Johnson's summary table and Exhibit CJ-2 indicate an increase of 140% of the system average for Lighting, so his recommendation for Lighting is unclear.[5]

At a lower revenue requirement, Mr. Johnson recommends proportionately scaling back the class results.[6]

Q. DO YOU AGREE WITH MR. JOHNSON'S RECOMMENDED REVENUE ALLOCATION?

A. No. Mr. Johnson's recommended revenue allocation is premised on his cost-of-service study which improperly treats distribution poles, conductors, and conduit as 100% demand-related. Based on his cost-of-service study, Mr. Johnson recommends an increase of 140% of system average for the GS class. His recommendation would significantly over-recover the costs allocated to the GS class under PECO's cost-of-service study and would do so to an even greater

[5] Direct Testimony of Clarence L. Johnson (OCA Statement 3), pp. 22-23; Exhibit CJ-2.
[6] Direct Testimony of Clarence L. Johnson (OCA Statement 3), p. 23.

extent under a cost-of-service study that properly reflects the customer-related component of transformer costs.

I believe that PECO's proposed revenue allocation among classes is generally reasonable at the Company's proposed revenue requirement.

RESPONSE TO MR. SAKAYA

Q. PLEASE DESCRIBE MR. SAKAYA'S RECOMMENDED SCALE-BACK METHOD UNDER A LOWER REVENUE REQUIREMENT INCREASE.

A. Mr. Sakaya assigns the benefits of the first $50 million reduction to the revenue requirement increase solely to the Residential class. He then spreads the benefits of an additional $45.7 million reduction among the Residential, GS, High Tension, and Lighting classes.[7]

Q. DO YOU AGREE WITH MR. SAKAYA'S RECOMMENDED SCALE-BACK APPROACH?

A. No. I believe that PECO's proposed revenue allocation among classes is a reasonable starting point for determining the appropriate revenue allocation at a lower revenue requirement increase. If the Commission approves a lower electric revenue requirement increase than requested by PECO, I recommend scaling each class's base distribution revenues in proportion to each class's share of total proposed base distribution revenues at PECO's requested revenue requirement increase. This will proportionately spread the benefits of a lower revenue

[7] Direct Esyan A. Sakaya (I&E Statement No. 3), pp. 13-16; I&E Exhibit No. 3, Schedule No. 2.

requirement increase among classes rather than assigning the first $50 million reduction solely to the Residential class.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	R-2024-3046931
v.		
PECO Energy Company (Electric)		

VERIFICATION

I, Kevin C. Higgins, hereby state that the facts set forth in my Rebuttal Testimony labelled OSBA Statement No. 1-R 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 19 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: July 15, 2024



Kevin C. Higgins

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2024-3046931**
	:	
PECO Energy Company– Electric Division	:	

CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing have been served via email (*unless otherwise noted below*) upon the following persons, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

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DATE: July 16, 2024

/s/ Sharon E. Webb
Sharon E. Webb
Assistant Small Business Advocate
Attorney I.D. No. 73995

COMMONWEALTH OF PENNSYLVANIA

August 2, 2024

The Honorable Darlene Heep
Administrative Law Judge
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

The Honorable Marta Guhl
Administrative Law Judge
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

Re: Pennsylvania Public Utility Commission v. PECO Energy Company – Electric Division / Docket No. R-2024-3046931

Dear Judge Heep and Judge Guhl:

Enclosed please find the Surrebuttal Testimony of Kevin C. Higgins, labelled OSBA Statement No. 1-S, on behalf of the Office of Small Business Advocate ("OSBA"), in the above-captioned proceeding.

Copies will be served on all known parties in this proceeding, as indicated on the attached Certificate of Service.

If you have any questions, please do not hesitate to contact me.

Sincerely,

/s/ Sharon E. Webb

Sharon E. Webb
Assistant Small Business Advocate
Attorney ID No. 73995

Enclosures
cc: PA PUC, Secretary, Rosemary Chiavetta (Cover Letter and Certificate of Service Only)
Kevin C. Higgins
Parties of Record

OSBA STATEMENT NO. 1-S

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
	:	**Docket No. R-2024-3046931**
v.	**:**	
	:	
PECO Energy Company– Electric Division	**:**	

Surrebuttal Testimony of Kevin C. Higgins

on behalf of the

Office of Small Business Advocate

August 2, 2024

Topics:

Class Cost Allocation

Revenue Allocation

Date Served: August 2, 2024

Date Submitted for the Record: _____

SURREBUTTAL TESTIMONY OF KEVIN C. HIGGINS

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevin C. Higgins. My business address is 111 East Broadway, Suite 1200, Salt Lake City, Utah, 84111.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Principal in the firm of Energy Strategies, LLC. Energy Strategies is a private consulting firm specializing in economic and policy analysis applicable to energy production, transportation, and consumption.

Q. ARE YOU THE SAME KEVIN C. HIGGINS WHO PREFILED DIRECT AND REBUTTAL TESTIMONY IN THIS DOCKET ON BEHALF OF THE PENNSYLVANIA OFFICE OF SMALL BUSINESS ADVOCATE ("OSBA")?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. My surrebuttal testimony responds to the rebuttal testimony of Office of Consumer Advocate ("OCA") witness Mr. Clarence L. Johnson and PECO Energy Company ("PECO" or the "Company") witnesses Ms. Tamara J. Jamison and Mr. Joseph A. Bisti on the topics of class cost allocation and revenue allocation.

CLASS COST ALLOCATION

Q. WHAT DOES MR. JOHNSON CONTEND REGARDING THE CLASSIFICATION AND ALLOCATION OF DISTRIBUTION FACILITIES?

A. Mr. Johnson takes issue with my support for PECO's classification and allocation of its secondary distribution poles, conductors, and conduit (i.e., FERC Accounts 364-367) on a customer basis. Mr. Johnson advocates that these facilities be treated as 100% demand-related.[1]

As I explained in my direct and rebuttal testimony, for its distribution system as a whole (i.e., Secondary Distribution, Primary and Primary High Tension), PECO classifies only 26.1% of its poles, conductors and conduit plant as customer-related, with the remaining 73.9% classified as demand-related. Thus, PECO incorporates a substantial demand-related component in the overall classification of these facilities. Mr. Johnson argues that it is not relevant to consider the overall customer-classified portion of these facilities, since PECO asserts that primary distribution costs are caused by demand and primary facilities are located upstream of secondary facilities.[2]

Q. WHAT IS YOUR RESPONSE TO MR. JOHNSON ON THIS SUBJECT?

A. Contrary to Mr. Johnson's assertions, I believe it is germane to consider the overall portion of Accounts 364-367 that PECO treats as customer-related. While I acknowledge that demand contributes to the cost causation for these facilities, I disagree that demand is the solitary cost driver. Rather, I recommend that PECO's

[1] Rebuttal Testimony of Clarence L. Johnson (OCA Statement 3R), pp. 6-7.
[2] Rebuttal Testimony of Clarence L. Johnson (OCA Statement 3R), pp. 6-7.

proposed classification and allocation of these facilities be approved for the purpose of this case.

Q. HOW DID OTHER PARTIES RESPOND TO YOUR RECOMMENDATION THAT DISTRIBUTION TRANSFORMERS SHOULD ALSO INCLUDE A CUSTOMER-RELATED COMPONENT?

A. Mr. Johnson argues that it is unreasonable to allocate transformer costs based on customer count because the number of customers per transformer varies among the rate classes. He argues that a customer allocator for transformer costs is biased against the residential class unless an adjustment is made to account for the transformers per customer.[3]

PECO witness Ms. Jamison argues that the Company's purely demand-related allocation of transformer costs is reasonable because "all customers are not created equal," since larger customers may require larger kilovolt-amps and three-phase transformers.[4]

Q. WHAT IS YOUR RESPONSE TO MR. JOHNSON AND MS. JAMISON REGARDING TRANSFORMER COST ALLOCATION?

A. I continue to recommend that transformer cost classification and allocation incorporate a customer-related component, with the remaining component treated as demand-related. The demand component is designed to account for the demand-related factors that contribute to cost causation, as discussed by Mr. Johnson and Ms. Jamison. In my analysis, I allocated the large majority of transformer costs (73.9%) based on NCP demands at secondary voltage, with the

[3] Rebuttal Testimony of Clarence L. Johnson (OCA Statement 3R), p. 8.
[4] Rebuttal Testimony of Tamara J. Jamison (PECO Statement No. 6-R), p. 6.

remaining 26.1% of transformer costs based on the number of secondary customer locations served. It is entirely appropriate to recognize that transformer costs also have a customer-related component, since these facilities have a direct nexus to the number of customers on the utility's system.

REVENUE ALLOCATION

Q. HAS PECO MODIFIED ITS PROPOSED REVENUE ALLOCATION IN REBUTTAL?

A. Yes. According to PECO witness Mr. Bisti, the Company is recommending a revised revenue allocation based on modifications to its revenue requirement and electric cost-of-service study and is also proposing to move the Lighting class to cost.[5] Based on a comparison of Mr. Bisti's Exhibit JAB-1 Revised to his original Exhibit JAB-1, it appears that PECO's revised revenue allocation incorporates fairly modest adjustments to proposed revenues for other classes relative to its original proposal.

Q. DO YOU HAVE ANY COMMENTS ON PECO'S REVENUE ALLOCATION PROPOSAL?

A. Yes. I believe that PECO's revised revenue allocation is generally reasonable at the Company's proposed revenue requirement. If the Commission approves a lower revenue requirement increase than requested by PECO, I recommend scaling each class's base distribution revenues in proportion to each class's share

[5] Rebuttal Testimony of Joseph A. Bisti (PECO Statement No 7-R, p. 3).

of total proposed base distribution revenues, as shown in PECO Exhibit JAB-1 Revised.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	R-2024-3046931

Office of Consumer Advocate
Office of Small Business Advocate
Alan McCarthy
Philadelphia Area Industrial Energy Users Group

v.

PECO Energy Company (Electric)

VERIFICATION

I, Kevin C. Higgins, hereby state that the facts set forth in my Surrebuttal Testimony labelled OSBA Statement No. 1-S 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 19 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: August 1, 2024

Kevin C. Higgins

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	**Docket No. R-2024-3046931**
	:	
PECO Energy Company– Electric Division	:	

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Docket No. R-2024-3046931

PECO Energy Company – Electric Division

Direct Testimony and Exhibits
of
Billie S. LaConte

On Behalf of

Philadelphia Area Industrial Energy Users Group

June 17, 2024

J. POLLOCK
INCORPORATED

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

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PECO Energy Company – Electric Division

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GLOSSARY OF ACRONYMS

Term	Definition
A&G	Administrative & General
CCOSS	Class Cost-of-Service Study
Commission	Pennsylvania Public Utility Commission
FPFTY	Fully Projected Future Test Year
kV	Kilovolt
NCP	Non-Coincident Peak
PAIEUG	Philadelphia Area Industrial Energy Users Group
PECO	PECO Energy Company – Electric Division
Rate HT	High-Tension Power Rate Schedule
ROR	Rate of Return
RROR	Relative Rate of Return

DIRECT TESTIMONY OF BILLIE S. LACONTE

1. INTRODUCTION, QUALIFICATIONS AND SUMMARY

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Billie S. LaConte; 14323 South Outer 40 Rd., Suite 206N, St. Louis, MO 63017.

Q WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?

A **I** am an energy advisor and Associate Consultant at J. Pollock, Incorporated.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I have a Bachelor of Arts degree in Mathematics from Boston University and a Master's degree in Business Administration from Washington University. Since graduating in 1995, I have been engaged in a variety of consulting assignments, including energy procurement and regulatory matters in both the United States and several Canadian provinces. My qualifications and a list of my appearances are documented in **Exhibit ___(BSL-1)** and **Exhibit ___(BSL-2)**, respectively.

Q ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A I am testifying on behalf of Philadelphia Area Industrial Energy Users Group (PAIEUG). PAIEUG is an ad hoc group of energy-intensive customers receiving electric service from PECO Energy Company – Electric Division (PECO), primarily under the High-Tension Power Rate Schedule (Rate HT). PAIEUG members require substantial volumes of electricity in their manufacturing and operational processes; therefore, electric costs are a significant element of their respective costs of operation and the proposed rate increase and tariff modifications may have an adverse impact upon PAIEUG members' cost of operations.

Q WHAT ISSUES ARE YOU ADDRESSING IN YOUR TESTIMONY?

A I am addressing the following issues:

- Class Cost-of-Service Study (CCOSS); and
- Class revenue allocation.

Q ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?

A Yes. I am sponsoring **Exhibit ___(BSL-1)** through **Exhibit ___(BSL-5)**. These exhibits were prepared by me or under my supervision and direction.

Q ARE YOU ENDORSING PECO'S POSITIONS ON ISSUES NOT ADDRESSED IN YOUR DIRECT TESTIMONY?

A No. Throughout my testimony I use PECO's proposed revenue requirement to illustrate various concepts. These illustrations should not be interpreted as an endorsement of PECO's proposed revenue requirement. Additionally, any issue not addressed herein should not be construed as an endorsement thereof.

Summary

Q PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.

A My findings and recommendations are as follows:

Class Cost-of-Service Study

- PECO's CCOSS appears to comport with accepted practice. However, the results of the CCOSS reveal an anomaly wherein classes that have historically been above cost are now significantly below cost, and vice versa.
- This change may be related to variations in non-coincident peak (NCP). Specifically, the NCP load factor for each class has changed substantially compared to PECO's last two rate cases. The reported data essentially flips the cost allocation results, whereupon classes that have always been above cost are now significantly below cost and, for example, the Residential class, which has typically been below cost, is now significantly above cost. These results would dramatically shift costs among customer classes.

- Due to the anomalous data presented in the CCOSS without explanation, I propounded discovery to PECO on June 10, 2024, requesting an explanation of the divergent CCOSS results compared to prior rate cases. I believe that PECO must provide a detailed explanation of the anomalous results in order to determine whether the CCOSS is a just and reasonable basis for PECO's revenue allocation or whether adjustments must be made. The discovery response is due on June 20th.

Class Revenue Allocation

- PECO's proposed class revenue allocation is based on the results of its CCOSS. However, as stated above, the CCOSS results appear to be an anomaly which raises questions as to whether the CCOSS, as filed, is appropriate for setting rates.

- PECO must explain the divergent results of this CCOSS compared to the results from prior years in order for parties to determine whether PECO's proposed revenue allocation is just and reasonable.

- If the Commission authorizes a lower delivery rate increase than PECO is proposing, the proposed cost-based revenue requirements (following any adjustments based on PECO's anticipated explanation of the discrepancy between its current and prior CCOSSs) should be scaled back proportionally.

2. CLASS COST-OF-SERVICE STUDY

Q DO YOU HAVE ANY CONCERNS WITH THE CLASS COST-OF-SERVICE STUDY FILED BY PECO IN THIS PROCEEDING?

A Yes. Although PECO's CCOSS generally comports with accepted cost allocation practices, I have concerns with the relative rate of return (RROR) calculations and the NCP allocators based on actual data for the 12 months ending September 30, 2023.

Background

Q WHAT IS A CLASS COST-OF-SERVICE STUDY?

A A CCOSS is an analysis used to determine each class's responsibility for a utility's costs. Thus, it determines whether the revenues a class generates cover the class's cost of service. A CCOSS separates the utility's total costs into portions incurred on behalf of the various customer groups. Most of a utility's costs are incurred to jointly serve many customers. For purposes of rate design and revenue allocation, customers are grouped into homogeneous classes according to their usage patterns and service characteristics. The procedures used in a CCOSS are described in more detail in **Exhibit ___(BSL-3).**

Q HOW ARE COSTS ALLOCATED IN A CLASS COST-OF-SERVICE STUDY?

A As discussed in **Exhibit ___(BSL-3)**, the allocation factors should reflect the degree in which each rate class causes the utility to incur the cost. This is consistent with the principle of cost causation.

Q HOW SHOULD COST CAUSATION BE REFLECTED IN A CLASS COST-OF-SERVICE STUDY?

A There are three dimensions to cost causation. First, a utility incurs many different types of costs. For purposes of this proceeding, the focus is on the costs incurred by PECO to provide distribution service. As discussed further herein, these costs are broadly separated into three primary functions:

- Distribution;
- Customer service and facilities; and
- Administrative and General (A&G) and related support costs.

Different types of costs are incurred within each of these functions. These differences are recognized in a CCOSS by the way costs are classified and allocated among the various service classifications.

Second, cost causation recognizes that not all customers are served at the same delivery voltage. For example, some Rate HT customers take service at transmission (*i.e.,* 69 kV and higher) delivery voltages, while other Rate HT customers own their own distribution substations. Thus, these latter customers have essentially provided their own distribution investment — they do not require PECO to invest in distribution plant to deliver electricity to their facilities. By contrast, all other customers take some form of distribution service.

Third, cost causation is defined by how electricity is used. Electrical facilities must be sized to meet the expected peak demands. This ensures that both power and energy are delivered reliably to customers. Thus, a customer class's peak demand is an important factor in determining cost causation. Similarly, the utility must attach each customer to the grid, transform power from transmission to distribution voltage, provide a meter and a service drop, and render bills to

customers. The latter costs are typically allocated to customer classes using some measure of customer count.

Q WHAT TYPES OF COSTS ARE REFLECTED IN PECO'S CLASS COST-OF-SERVICE STUDY?

A The costs incurred by PECO and reflected in its CCOSS are discussed in the testimony of Tamara Jamison. Ms. Jamison states:

> PECO, like most electric utilities, designs its electric distribution system to meet three primary objects:
>
> 1. Connect all customers to the grid;
> 2. Deliver sufficient electricity to meet the aggregate peak demand for electricity of all delivery customers whenever those peaks occur; and
> 3. Ensure that electricity is delivered to customers safely and reliably throughout the year.
>
> The allocation methods used in a COSS must take into account the objectives that the distribution system is designed to achieve so that the allocation of plant investment and operating expenses properly aligns with cost-causation factors such as the need to connect all customers to the distribution system and to meet class peak demands whenever they occur. Other factors, such as incentives to influence customer behavior (e.g., conservation or demand reduction) or to temper the impact on customers of rate changes, are more appropriately considered in the revenue allocation and rate design phase.[1]

Q WHAT IS THE DISTRIBUTION FUNCTION?

A The distribution function encompasses the delivery system that connects the customer to the transmission system. It is normally extensively subdivided in order to recognize that certain customer classes do not utilize certain portions of the distribution system. For example, customers served at primary distribution voltage do not utilize the plant necessary to transform the voltage to the secondary levels.

[1] PECO Energy Company Statement No. 6, Direct Testimony of Tamara J. Jamison at 9-10.

Thus, following the principles of cost causation requires that primary distribution customers not be allocated costs associated with the secondary distribution system.[2] Similarly, costs associated with the distribution system are not utilized by transmission-voltage customers and, therefore, distribution system costs should not be allocated to transmission-voltage customers.

Q WHAT IS THE CUSTOMER SERVICE AND FACILITIES FUNCTION?

A The Electric Utility Cost Allocation Manual of the National Association of Regulatory Utility Commissioners (NARUC) explains the Customer Service and Facilities Function as follows:

> The customer service and facilities function includes the plant and expenses that are associated with providing the service drop and meter, meter reading, billing and collection, and customer information and services. These investments and expenses are generally considered to be made and incurred on a basis related to the number of customers (by class) and are, therefore, of a fixed overhead nature.[3]

Q WHAT IS THE ADMINISTRATIVE AND GENERAL FUNCTION?

A NARUC explains the A&G function as:

> The administrative and general function includes the management costs, administrative buildings, etc., that cannot be directly assigned to the other major cost functions. These costs may be functionalized by relating them to specific groups of costs or other characteristics of the major cost functions, and then allocated on the same basis as the other costs within the function.[4]

In other words, A&G costs are directly related to the distribution and customer service and facilities and functions.

[2] National Association of Regulatory Utility Commissioners, *Electric Utility Cost Allocation Manual* at 19-20 (Jan. 1992).

[3] *Id.* at 20.

[4] *Id.*

Allocation Factors

Q DOES PECO'S CLASS COST-OF-SERVICE STUDY RECOGNIZE THE ABOVE-STATED PRINCIPLES OF COST CAUSATION?

A Yes. However, PECO relies on anomalous demand data to allocate costs to each customer class. Because PECO has not explained this anomaly, this data may result in overstating the costs to serve certain classes and understating the cost to serve other classes.

Q WHY DO YOU BELIEVE THE CLASS COST-OF-SERVICE STUDY RESULTS ARE NOT REPRESENTATIVE OF THE COST TO SERVE EACH CUSTOMER CLASS?

A As demonstrated by PECO in a data response, the RROR for most classes has drastically shifted compared to PECO's CCOSS results since 2010. Table 1 shows the RROR for each customer class going back to PECO's 2010 rate case.

Table 1
PECO's Historical Relative Rates of Return[5]

Docket No.	Res	Res Heat	GS	PD	HT	EP	Light
R-2010-2161575	0.94	0.79	0.20	4.73	2.23	3.90	0.98
R-2015-2468981	0.94	0.79	0.95	1.06	1.45	1.38	1.75
R-2018-3000164	0.98	0.78	1.15	1.12	1.05	0.63	1.24
R-2021-3024601	0.89	0.98	1.17	1.13	1.14	1.48	1.71
R-2024-3046931	1.16	0.59	0.92	0.76	0.89	0.57	1.33

[5] PECO Response to OCA-VI-33, a copy of which is provided in **Exhibit ___(BSL-5)**.

Q WHAT IS THE RELATIVE RATE OF RETURN?

A The RROR measures each classes rate of return (ROR) as compared to the system average rate of return. The ROR measures the return on rate for each customer class using their current revenues, allocated expenses, and allocated rate base. The RROR is each class's ROR relative to the system average ROR. If a customer class's ROR is above the overall system average ROR, its RROR will be above one, which indicates it is subsidizing other rate classes. Conversely, an RROR below one indicates the class is being subsidized by other rate classes.

Q WHAT IS CAUSING THE SIGNIFICANT SHIFT IN COSTS TO PRODUCE SUCH ANOMALOUS RESULTS?

A Upon review of PECO's historical allocation factors, it is clear that the data used in the current CCOSS, which is partially based on historical demand data, is not representative of historical demand. Considering the stark departures from historic norms, it is incumbent on PECO to explain the discrepancy between the historical RROR results of its prior CCOSSs and the highly divergent results of the current CCOSS.

Q HOW DO THE DISCREPANCIES OBSERVED FROM PECO'S NON-COINCIDENT PEAK LOAD FACTOR IN THIS CASE COMPARE TO PRIOR CASES' NON-COINCIDENT PEAK LOAD FACTOR METRICS?

A. Table 2 compares the historical NCP load factor data from PECO's last two rate cases as compared to the current rate case.

Table 2 Comparison of Class NCP Load Factors			
Customer Class	**NCP Load Factors**		
	R-2018-3000164	**R-2021-3024601**	**R-2024-3046931**
Res	37%	35%	40%
Res Heat	32%	38%	31%
GS	54%	57%	52%
PD	60%	59%	53%
HT	69%	74%	67%
EP	45%	61%	44%
Lighting	44%	43%	44%

As shown above in Table 2, since the 2018 rate case, the load factor for the Residential class is the highest it has been, while the load factor for the HT class is the lowest it has been.

Q SHOULD PECO RELY ON THIS ANOMALOUS DATA TO DETERMINE RATES FOR THE FULLY PROJECTED FUTURE TEST YEAR?

A That remains unclear. Because PECO's CCOSS produces RRORs in conflict with the historical results of its last five rate cases, as well as a divergence in the NCP data used in PECO's current CCOSS to project the usage in the fully projected future test year, the CCOSS is not reasonably supported as presented. PECO's results from this CCOSS must be further substantiated and explained before it can be accepted as a just and reasonable CCOSS.

Q HAVE YOU SOUGHT AN EXPLANATION FOR THE DISCREPANCIES BETWEEN THE RESULTS OF ITS CURRENT CLASS COST-OF-SERVICE STUDY AND THOSE FILED IN ITS LAST FOUR RATE CASES?

A Yes. Following our detailed review of PECO's voluminous filing, PAIEUG submitted Set III of discovery to PECO on June 10th requesting an explanation of the shift in RROR results, as well as an explanation of the NCP variation. The responses to PAIEUG's Set III of discovery are due on June 20th.

Q IF PECO CANNOT EXPLAIN THE DISCREPANCIES IN THE RESULTS BETWEEN ITS CURRENT AND PRIOR CLASS COST-OF-SERVICE STUDIES, WHAT DO YOU RECOMMEND?

A While cost of service is the guiding principle for utility ratemaking, a CCOSS must first be found to be true and correct. Accordingly, if PECO cannot provide a reasonable basis for the severe swings in its CCOSS results, the Commission should consider denying rate relief or taking a cautious approach to revenue allocation and adopting gradualism adjustments to protect customer classes from severe rate impacts based on a CCOSS that appears to be flawed.

Q HAVE YOU DEVELOPED AN ILLUSTRATIVE EXAMPLE TO SHOW HOW REVISING PECO'S CLASS COST-OF-SERVICE STUDY TO REFLECT THE AVERAGE HISTORICAL NON-COINCIDENT PEAKS FROM PECO'S LAST TWO RATE CASES WOULD IMPACT THIS RATE CASE?

A Yes. To illustrate the substantial impact of PECO's NCP results, I used the average historical load factors from PECO's previous rate cases in 2018 and 2021, as shown in Table 2, to calculate revised NCPs for each rate class. The revised NCPs are

consistent with past CCOSSs and produce results that are more in line with historical results. The results of my revised CCOSS are shown in **Exhibit___(BSL-4).** Table 3 below shows PECO's proposed RROR and my revised RROR for each customer.

Table 3
PECO and PAIEUG RROR

Customer Class	PECO[6]	PAIEUG
Residential	1.16	1.02
Residential Heating	0.59	0.78
General Service	0.92	1.04
Primary Distribution	0.76	1.02
High Tension	0.89	1.01
Electric Propulsion	0.57	0.88
Lighting	1.33	1.32

The RRORs in Table 3 are more in line with historical RRORs. While I am not proposing modifications to PECO's CCOSS at this time, using my revised CCOSS would avoid suddenly over-allocating costs to classes that have traditionally been above cost and suddenly under-allocating costs to customer classes that have traditionally been below cost.

Q WHAT DO YOU RECOMMEND?

A In the forthcoming discovery response, PECO should provide an analysis and explanation for the extraordinary results of its CCOSS in this proceeding. Based upon that additional information, I can determine whether the proposed CCOSS and revenue allocation are just and reasonable. If PECO cannot or does not provide a full explanation of the divergent CCOSS results, then I would respectfully recommend the Commission adopt my revised CCOSS.

[6] *Id.,* a copy of which is provided in **Exhibit ___(BSL-5)**.

3. CLASS REVENUE ALLOCATION

Q WHAT IS CLASS REVENUE ALLOCATION?

A Class revenue allocation is the process of determining how any base revenue change the Commission approves should be apportioned to each rate class the utility serves.

Q HOW SHOULD ANY CHANGE IN BASE REVENUES APPROVED IN THIS DOCKET BE APPORTIONED AMONG THE VARIOUS RATE CLASSES PECO SERVES?

A The Commission has a clear and consistent policy of setting rates to cost. One of the primary exceptions to this longstanding and unequivocal policy is when moving rates immediately to cost would result in rate shock. Under this exception, the Commission has applied the principle of gradualism to limit the immediate movement to cost.

Q WHAT IS THE PRINCIPLE OF GRADUALISM?

A Gradualism is a concept that is applied to avoid rate shock; that is, no class should receive an overly large or abrupt rate increase. Thus, rates should move gradually to cost rather than all at once, because moving rates immediately to cost would result in rate shock to the affected customers.

Q SHOULD THE RESULTS OF A COST-OF-SERVICE STUDY BE THE PRIMARY FACTOR IN DETERMINING HOW ANY BASE REVENUE CHANGE SHOULD BE ALLOCATED?

A Yes. Cost-based rates are: (1) fair because each class's rates reflect its cost to serve, no more and no less; (2) efficient because, when coupled with a cost-based

rate design, customers are provided with the proper incentive to minimize their costs, which will, in turn, minimize the costs to the utility; (3) steady because they enhance revenue stability, as changes in revenues due to changes in sales will translate into offsetting changes in costs; and (4) appropriate because they encourage conservation through cost-based rates that will send the proper price signals to customers, thereby allowing customers to make rational consumption decisions.

Q DOES THE CLASS COST-OF-SERVICE STUDY FILED BY PECO PROVIDE A PROPER STARTING POINT FOR DETERMINING THE REVENUE ALLOCATION IN THIS PROCEEDING?

A As previously explained, PECO's CCOSS provides distorted results compared to prior years that have not been explained. Accordingly, whether PECO's CCOSS provides a proper starting point for determining the revenue allocation remains unknown at this time.

Q HAVE YOU DEVELOPED A REVENUE ALLOCATION BASED ON YOUR REVISED CCOSS?

A Yes. The results of my revised CCOSS temper the impact of the significant shift in costs in this proceeding as compared to prior CCOSSs. The required increases based on my revised CCOSS are shown in Table 4, as compared to PECO's proposed rate increases.

Table 4 PECO and PAIEUG Cost Based Increases		
Customer Class	**PECO[7]**	**PAIEUG**
Residential	20.4%	26.4%
Residential Heating	52.9%	40.6%
General Service	36.8%	30.2%
Primary Distribution	42.9%	28.7%
High Tension	39.6%	32.5%
Electric Propulsion	65.0%	41.8%
Lighting	16.2%	16.3%
Total	29.3%	29.3%

As shown in Table 4, the increases under my revised CCOSS avoid rate shock, as no class would receive a rate increase that is more than 1.5 times the system average increase.

Q WHAT DO YOU RECOMMEND?

A As previously stated, PECO's proposed class revenue allocation is based on a CCOSS that has not been fully substantiated. Accordingly, PECO must explain the discrepancies between the prior CCOSS before the proposed revenue allocation based on the results of its current CCOSS can be approved. If the discrepancies between the prior and current CCOSSs cannot be fully substantiated, I recommend using the results of my revised CCOSS to allocate the revenue increase among the various customer classes. My proposed revenue allocation moderates the revenue increase for each class and would avoid rate shock for any customer class.

[7] PECO Energy Company Statement No. 6, Direct Testimony of Tamara J. Jamison, Exhibit TJJ-1 at 2.

4. CONCLUSION

Q WHAT FINDINGS SHOULD THE COMMISSION MAKE BASED ON YOUR RECOMMENDATIONS?

A The Commission should make the following findings:

- Determine whether PECO has supported its proposed CCOSS in light of the omitted explanations for drastically divergent RROR results and shifted class NCPs.

- In the event that PECO's impending discovery response or rebuttal testimony does not provide a reasonable explanation as to the extreme discrepancies between its prior and current CCOSS results, determine that PECO has not fully supported its proposed CCOSS.

- If the PUC determines that PECO has not fully supported its proposed CCOSS, adopt my revised CCOSS and revenue allocation to moderate the rate impacts of PECO's unsupported CCOSS by using the average historical load factors from PECO's 2018 and 2021 rate cases.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A For the reasons stated above, I reserve the right to supplement my positions set forth in this Direct Testimony upon receipt and review of PECO's forthcoming discovery responses.

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On Behalf of

Philadelphia Area Industrial Energy Users Group

June 17, 2024

J. POLLOCK
INCORPORATED

QUALIFICATIONS OF BILLIE S. LACONTE

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Billie S. LaConte. My business mailing address is 12647 Olive Blvd., Suite 585, St. Louis, Missouri 63141.

Q WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?

A I am an energy advisor and am currently employed by J. Pollock, Incorporated as Associate Consultant.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I have a Bachelor of Arts Degree in Mathematics from Boston University and a Master's degree in Business Administration from Washington University.

Upon graduation in May 1995, I joined Drazen Consulting Group, Inc. (DCGI). DCGI was incorporated in 1995 assuming the utility rate and economic consulting activities of Drazen Associates, Inc., active since 1937. I joined J.Pollock in May 2015.

During my tenure at DCGI and J.Pollock my work has focused on revenue requirement issues, cost of capital (return on equity and capital structure), cost allocation, rate design, sales and price forecasts, power cost forecasting, electric restructuring issues, integrated resource plans, formula rate plans, asset management agreements and contract interpretation.

I have been engaged in a wide range of consulting assignments including energy and regulatory matters in both the United States and several Canadian provinces. This has included advising clients on economic and strategic issues concerning the natural gas pipeline, oil pipeline, electric, wastewater and water utilities. I have testified on cost of capital issues, including return on equity, cost of debt, and capital structure, as well as revenue requirement issues. I have prepared

cost allocation and rate design studies to provide timely support to clients engaged in settlement negotiations in electric and gas utilities, provided power cost forecasting studies to assist clients in project planning and negotiated contracts with electric utilities for standby services and interruptible rates. I have also prepared studies on electric and gas utilities' performance-based rates (PBR) and benchmarking programs to evaluate their success and to provide recommendations on methods to be used. I worked on contract interpretation to resolve contract disputes for several clients. I have provided financial and cost of service analysis for natural gas pipelines certificate approval from the Federal Energy and Regulatory Commission (FERC) and the Canadian National Energy Board (NEB). Additionally, I completed the Corporate Credit Rating Analysis course presented by Moody's Analytics.

I have worked on various projects located in many states and several Canadian provinces including Alberta, British Columbia, Saskatchewan, Nova Scotia and Quebec. I have testified before the state regulatory commissions of Arkansas, Florida, Georgia, Iowa, Louisiana, Michigan, Minnesota, Missouri, New Mexico, North Carolina, Pennsylvania, Texas and South Carolina, and the provincial regulatory boards of Alberta and Nova Scotia. I similarly have appeared before the St. Louis Metropolitan Sewer District Commission and the City of Philadelphia Water, Sewer and Storm Water Rate Board.

Q PLEASE DESCRIBE J. POLLOCK, INCORPORATED.

A J. Pollock assists clients to procure and manage energy in both regulated and competitive markets. The J. Pollock team also advises clients on energy and regulatory issues. Our clients include commercial, industrial and institutional energy consumers. J. Pollock is a registered Class I aggregator in the State of Texas.

TESTIMONY FILED IN REGULATORY PROCEEDINGS
BY BILLIE S. LACONTE

UTILITY	ON BEHALF OF	DOCKET	TYPE	REGULATORY JURISDICTION	SUBJECT	DATE
DOMINION ENERGY SOUTH CAROLINA, INC.	South Carolina Utility Energy Users Committee	2024-34-E	Direct	SC	Return on Equity; Capital Structure	6/5/2024
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-21490	Direct	MI	Proposed Trackers; Return on Equity; Capital Structure; Home Products Program Sale	4/22/2024
MINNESOTA POWER	Large Power Intervenors	E-015/GR-23-155	Direct	MN	Return on Equity; Capital Structure; Adjustment Clauses; Incentive Compensation; Prepaid Pension Asset	3/18/2024
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	R-2023-3043189 R-2023-3043190	Surrebuttal	PA	Class Cost-of-Service Study; Allocation of Subsidy; Environmental Compliance Investment Charge; Revenue Decoupling and Return on Equity; Industrial Rate Design; Deferral Mechanism; Arrearage Management Plan Cost Allocation	3/4/2024
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	R-2023-3043189 R-2023-3043190	Rebuttal	PA	Cost-of-Service Study; Revenue Allocation; Rate Design; Riders DIS and DRS; Revenue Decoupling Mechanism	2/21/2024
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	R-2023-3043189 R-2023-3043190	Direct	PA	Return on Equity; Incentive Compensation; Alternative Ratemaking Mechanisms; Class Cost-of-Service Study; Wastewater Subsidy and Allocation; Rate Design; Reveue Requirement Scale-Back	2/1/2024
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Settlement Support	AR	Support of Settlement	10/31/2023
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct	AR	Projected Year FLIP Investment; Solar Plant Capital Additions; Power Through Program; Legal Fees	10/4/2023
DUKE ENERGY CAROLINAS, LLC	Carolina Utility Customers Assocation, Inc.	E-7, Sub 1276	Direct	NC	Return on Equity; Capital Structure; Performance Incentive Mechanisms	7/19/2023
PHILADELPHIA GAS WORKS	Philadelphia Industrial and Commercial Gas Users Group PICGUG	2023-3037933	Surrebuttal	PA	Class Cost-of-Service Study; Class Revenue Allocation; Universal Service Plan Costs	7/7/2023
PHILADELPHIA GAS WORKS	Philadelphia Industrial and Commercial Gas Users Group PICGUG	2023-3037933	Rebuttal	PA	Class Cost-of-Service Study; Class Revenue Allocation; Universal Service Plan Costs	6/26/2023
PHILADELPHIA GAS WORKS	Philadelphia Industrial and Commercial Gas Users Group PICGUG	2023-3037933	Direct	PA	Class Cost-of-Service Study; Class Revenue Allocation	6/2/2023
SOUTHWESTERN PUBLIC SERVICE COMPANY	Texas Industrial Energy Consumers	22-00286-UT	Settlement Support	NM	Support of Settlement	5/26/2023
PHILADELPHIA WATER DEPARTMENT	Philadelphia Large Users Group	2023 General Rate Proceeding	Rebuttal	Philadelphia Rate Board	Class Cost-of-Service Study; Stormwater Incentive Program; Late Payment Fee Allocation; TAP Enrollment; Retroactive Arrearage Forgiveness	4/27/2023
SOUTHWESTERN PUBLIC SERVICE COMPANY	Texas Industrial Energy Consumers	22-00286-UT	Direct	NM	Future Test Year; Revenue Requirement Issues	4/21/2023
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-21308	Direct	MI	Projected Test-Year Adjustments; Proposed Trackers; Return on Equity; Capital Structure	4/17/2023
PHILADELPHIA WATER DEPARTMENT	Philadelphia Large Users Group	2023 General Rate Proceeding	Direct	Philadelphia Rate Board	Class Cost-of-Service Study	4/12/2023
DUKE ENERGY PROGRESS, LLC	Nucor Steel - South Carolina	2022-254-E	Surrebuttal	SC	Regulatory Asset Amortization Periods	12/22/2022

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UTILITY	ON BEHALF OF	DOCKET	TYPE	REGULATORY JURISDICTION	SUBJECT	DATE
NORTHERN STATES POWER	Xcel Large Industrials	E002/GR-21-630	Surrebuttal	MN	Return on Equity; Prepaid Pension Asset; Incentive Compensation; Coal Plant Amortization	12/6/2022
DUKE ENERGY PROGRESS, LLC	Nucor Steel - South Carolina	2022-254-E	Direct	SC	Coal Combustion Residual Amortization; Other Regulatory Asset Amortization	12/1/2022
NORTHERN STATES POWER	Xcel Large Industrials	E002/GR-21-630	Rebuttal	MN	Incentive Compensation; Prepaid Pension Asset	11/8/2022
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Settlement Support	AR	Support of Settlement	11/2/2022
GEORGIA POWER COMPANY	Georgia Association of Manufacturers	44280	Direct	GA	Return on Equity; Capital Structure	10/20/2022
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct	AR	Projected Year Feeder Level Investment Plan; Power Through Program	10/5/2022
NORTHERN STATES POWER	Xcel Large Industrials	E002/GR-21-630	Direct	MN	Return on Equity; Incentive Compensation; Pre-Paid Pension Asset	10/3/2022
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	R-2022-3031672/73	Rejoinder	PA	Class Cost-of-Service Study	9/6/2022
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	R-2022-3031672/73	Surrebuttal	PA	Wastewater Subsidy Allocation; Revenue Stabilization Mechanism; Customer Reclassification	9/1/2022
ONCOR ELECTRIC DELIVERY COMPANY LLC	Texas Industrial Energy Consumers	53601	Direct	TX	Self-Insurance Reserve; Annual Storm Expense; Regulatory Asset Amortization	8/26/2022
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	R-2022-3031672/73	Rebuttal	PA	Revenue Requirement Allocation; Class Cost-of-Service Study	8/19/2022
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	R-2022-3031113	Surrebuttal	PA	Design Day Demand; Rate Differentials	8/4/2022
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	R-2022-3031672/73	Direct	PA	Wasterwater Subsidy and Allocation; Revenue Stabilization Mechanism; Customer Classification; Revenue Requirement Scale Back	7/29/2022
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	R-2022-3031113	Rebuttal	PA	Class Cost-of-Service Study; Scale Back of Rates; Design Day Demand; Rate Differentials; Universal Service Programs	7/21/2022
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	R-2022-3031113	Direct	PA	Class Cost-of-Service Study; Class Revenue Allocation	6/22/2022
AUSTIN ENERGY	Texas Industrial Energy Consumers	None	Direct	TX	Cash Flow Method; Financial Metrics; General Fund Transfer; Internally Generated Funds	6/22/2022
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-21148	Rebuttal	MI	Uncollectible Expense; Rate Stability Target	4/29/2022
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-21148	Direct	MI	Return on Equity, Capital Structure; Renewable Natural Gas Plant; Incentive Compensation; Transportation Demand Charge; Gas Curtailment and Requirements for Plant Protection; Unauthorized Gas Usage Charge	4/8/2022
SEMCO ENERGY GAS COMPANY	Association of Businesses Advocating Tariff Equity	U-21169	Direct	MI	Facilities Improvement Demand Surcharge	3/18/2022
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Settlement Support	AR	Support of Settlement	10/27/2021
EL PASO ELECTRIC COMPANY	Freeport-McMoRan Copper & Gold, Inc.	52195	Direct	TX	Return on Equity; Nuclear Non-Fuel Operation and Maintenance; Rate Case Expense; Retiring Generating Units	10/22/2021

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UTILITY	ON BEHALF OF	DOCKET	TYPE	REGULATORY JURISDICTION	SUBJECT	DATE
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct	AR	Projected Year Capital Additions; Projected Year O&M expense	10/5/2021
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	R-2021-3024601	Surrebuttal	PA	Return on Equity; Post-Test Year Adjustment	8/5/2021
CENTERPOINT ENERGY ARKANSAS GAS	Arkansas Gas Consumers, Inc.	21-044-U	Direct	AR	Formula Rate Plan Extension; Return on Equity; Class Cost-of-Service Study	7/19/2021
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	R-2021-3024601	Direct	PA	Return on Equity; Post-Test Year Adjustment	6/28/2021
FLORIDA LIGHT & POWER COMPANY	Florida Inudstrial Power Users Group	20210015-EI	Direct	FL	Cost of Capital; Early Plant Retirement; Rate Case Expense Amortization; Income Tax Change Mechanism	6/21/2021
DTE GAS COMPANY	Association of Businesses Advocating Tariff Equity	U-20940	Direct	MI	Return on Equity; Operation and Maintenance Expenses; Incentive Compensation	6/3/2021
SOUTHWESTERN PUBLIC SERVICE COMPANY	Occidental Permian Ltd.	20-00238-UT	Direct	NM	Rate Design, Retired Plant, Expense Amortization	5/17/2021
PHILADELPHIA WATER DEPARTMENT	Philadelphia Large Users Group	Fiscal Years 2022-2023	Rebuttal	Philadelphia Rate Board	Class Cost-of-Service Study; Stormwater Incentive Program	4/7/2021
SOUTHWESTERN ELECTRIC POWER COMPANY	Texas Industrial Energy Consumers	51415	Direct	TX	Early Plant Retirement; Excess Accumulated Deferred Federal Income Taxes; Self-Insurance Reserve; Imputed Capacity	3/31/2021
SHARYLAND UTILITIES, L.L.C.	Texas Industrial Energy Consumers	51611	Direct	TX	Rate-Case Expenses; Operation and Maintenance Expense; Transmission Cost of Service Refund Rider	3/8/2021
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	2020-3018929	Surrebuttal	PA	Revenue Allocation; Rate Design	2/9/2021
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	2020-3018929	Rebuttal	PA	Allocation of Distribution Mains; Revenue Allocation; Rate Design; Universal Service Fund Charge	1/19/2021
PECO ENERGY COMPANY	Philadelphia Area Industrial Energy Users Group	2020-3018929	Direct	PA	Class Cost-of-Service Study; Class Revenue Allocation	12/22/2020
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Surrebuttal (FRP Extension)	AR	FRP Extension; Return on Equity; Capital Structure; Class Cost-of-Service Study; Industrial Rate Design	11/17/2020
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	2020-3019369 2020-3019371	Surrebuttal	PA	Rate Design; Regionalization and Consolidation Surcharge; Return on Equity	10/20/2020
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct (FRP Extension)	AR	FRP Extension; Return on Equity; Capital Structure; Class Cost-of-Service Study; Industrial Rate Design	10/19/2020
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct (2020 Eval. Report)	AR	Historical Year Netting Adjustment; :Long-Term Debt Costs	10/5/2020
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	2020-3019369 2020-3019371	Rebuttal	PA	Rate Design	9/29/2020
PENNSYLVANIA-AMERICAN WATER COMPANY	Pennsylvania-American Large Water Users Group	2020-3019369 2020-3019371	Direct	PA	Regionalization and Consolidation Surcharges; Commercial Rate Design	9/8/2020
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20697	Rebuttal	MI	Financial Compensation Mechanism; Deferred Capital Spending Recovery Mechanism; Karn 1 & 2 Retention and Separation costs, return on equity, storm restoration deferral; PowerMIFleet Pilot Foundational Infrastructure Program; Conservation Voltage Reduction	7/14/2020
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	17-010-FR	Direct	AR	Projected Year Capital Expenditures; Capitalization Policy; Projected Year Adjustments	7/2/2020

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CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20697	Direct	MI	Return on Equity; Capital Structure; Debt Cost; Additional Surcharges and Deferred Regulatory Accounts	6/24/2020
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20650	Rebuttal	MI	Return on Equity; Statistical Analysis of Distribution Mains Allocation	5/5/2020
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20650	Direct	MI	Return on Equity; Capital Structure; Long-Term Debt Cost	4/14/2020
DTE GAS COMPANY	Association of Businesses Advocating Tariff Equity	U-20642	Rebuttal	MI	Return on Equity	4/14/2020
DTE GAS COMPANY	Association of Businesses Advocating Tariff Equity	U-20642	Direct	MI	Return on Equity; Operation and Maintenance Expenses	3/24/2020
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20618	Direct	MI	Certificate of Convenience and Necessity	1/17/2020
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Settlement Support	AR	Support of Settlement	10/30/2019
GEORGIA POWER COMPANY	Georgia Association of Manufacturers and Georgia Industrial Group	42516	Direct	GA	Alternate Rate Plan; Coal Combustion Residual Cost Recovery; Amortization of Retired Plant	10/17/2019
ENTERGY ARKANSAS, LLC	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct	AR	Tax Cuts and Jobs Act Impact; Projected Year Revenues; Projected Year BRORB; Grid Modernization; Advanced Metering Infrastructure Expense	10/4/2019
SOUTHWESTERN ELECTRIC POWER COMPANY	Western Arkansas Large Energy Consumers	19-008-U	Surrebuttal	AR	SWEPCO's Formula Rate Review; Energy Cost Recovery Rider; Distribution Reliability Rider	9/24/2019
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	17-010-FR	Settlement Support	AR	Support of Settlement	7/31/2019
SOUTHWESTERN ELECTRIC POWER COMPANY	Western Arkansas Large Energy Consumers	19-008-U	Direct	AR	SWEPCO's Formula Rate Review; Capital Structure; Distribution Reliability Rider; Arkansas Formula Rate Plans	7/16/2019
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	17-010-FR	Direct	AR	Formula Rate Plan, Capital Additions, Operation and Maintenance Expenses	7/2/2019
ENTERGY LOUISIANA, LLC	Occidential Chemical Corporation	U-35130	Cross-Answering	LA	Fuel Tracking Mechanism	7/1/2019
CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC	Texas Industrial Energy Consumers	49421	Direct	TX	Unprotected Excess Deferred Income Tax Rider; Incentive Compensation	6/6/2019
ENTERGY LOUISIANA, LLC	Occidential Chemical Corporation	U-35130	Direct	LA	Fuel Tracking Mechanism	5/10/2019
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20322	Rebuttal	MI	Return on Equity	4/29/2019
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	18-057	Supplemental Surrebuttal	AR	Gas Distribution Uprstream Services Contracting Process	4/23/2019
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	18-057	Surrebuttal	AR	Gas Distribution Uprstream Services Contracting Process	4/12/2019
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20322	Direct	MI	Return on Equity; Capital Structure; Project vs. Historical Test Year; Earnings Sharing Mechanism	4/5/2019
DUKE ENERGY PROGRESS, LLC	Nucor Steel - South Carolina	2018-318-E	Direct	SC	Excess Deferred Income Tax Rider; Post-Test Year Adjustments; Coal Ash Pond Closure Expense; End-of-Life Nuclear Costs; Regulatory Assets; Return on Equity and Equity Ratio	3/4/2019
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	18-057	Direct	AR	Gas Distribution Uprstream Services Contracting Process	2/12/2019

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ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Settlement Support	AR	Support of Settlement	10/30/2018
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct	AR	Formula Rate Plan Tariff; Long-Term Debt Cost and Preferred Equity; Projeced Year Capital Additions; Historical Year Capital Additions	10/4/2018
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20134	Rebuttal	MI	Return on Equity	10/1/2018
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-20134	Direct	MI	Return on Equity, Capital Structure and Long-Term Debt Cost, Investment Recovery Mechanism Excess Sharing Mechanism	9/10/2018
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	17-010-FR	Opposition	AR	Opposition to Settlement Agreement	8/3/2018
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	17-010-FR	Direct	AR	Impact of Tax Cuts and Jobs Act of 2017; Forecast Revenues; Uncollectible Expense; Pipeline Integrity Assessment and Remediation Expense	7/2/2018
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	17-052	Surrebuttal	AR	Utility Restructuring Costs and Tax Effects	5/31/2018
PUBLIC SERVICE COMPANY OF NEW MEXICO	City of Farmington, New Mexico; Board of County Commissioners for San Juan County	17-00174	Direct	NM	Integrated Resource Plan; Future of San Juan Generation Station	5/4/2018
ENTERGY ARKANSAS, INC. and CENTERPOINT ENERGY ARKANSAS GAS	Arkansas Electric Energy Consumers, Inc. and Arkansas Gas Consumers, Inc.	18-006	Direct	AR	Effect on Revenue Requirement due to 2017 Tax Cuts and Jobs Act	3/29/2018
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U18424	Rebuttal	MI	Rate of Return	3/21/2018
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	18-014-TF	Direct	AR	Impact of Tax Cuts and Jobs Act of 2017 and Tax Adjustment Rider	3/19/2018
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-18424	Direct	MI	Rate of Return, Capital Structure	2/28/2018
CENTERPOINT ENERGY ARKANSAS GAS	Arkansas Gas Consumers, Inc.	17-050-U	Surrebuttal	AR	Asset Management Agreement Proposal	1/12/2018
CENTERPOINT ENERGY ARKANSAS GAS	Arkansas Gas Consumers, Inc.	17-050-U	Direct	AR	Asset Management Agreement Proposal	12/8/2017
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Settlement Support	AR	Support of Settlement	10/31/2017
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct	AR	Forecast Revenues, Cost of Debt, Revenue Requirement and Capital Additions	10/4/2017
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-18322	Rebuttal	MI	Return on Equity	9/7/2017
CONSUMERS ENERGY COMPANY	Association of Businesses Advocating Tariff Equity	U-18322	Direct	MI	Return on Equity, Capital Structure	8/10/2017
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	17-010-FR	Settlement Support	AR	Support of Settlement	7/31/2017
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Gas Consumers, Inc.	17-010-FR	Direct	AR	Rate of Return, Capital Structure, Labor Expense	7/3/2017
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Settlement Support	AR	Support of Settlement	10/24/2016
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	16-036-FR	Direct	AR	Rate of Return, Forecast Revenue, Capitalization	9/30/2016

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UTILITY	ON BEHALF OF	DOCKET	TYPE	REGULATORY JURISDICTION	SUBJECT	DATE
METROPOLITAN EDISON COMPANY; PENNSYLVANIA ELECTRIC COMPANY AND WEST PENN POWER	MEIUG, PICA and WPPII	2016-2537349, 2016-2537352, 2016-2537359	Surrebuttal	PA	Return on Equity	8/31/2016
METROPOLITAN EDISON COMPANY; PENNSYLVANIA ELECTRIC COMPANY AND WEST PENN POWER	MEIUG, PICA and WPPII	2016-2537349, 2016-2537352, 2016-2537359	Direct	PA	Return on Equity	7/22/2016
NORTHERN STATES POWER	Xcel Large Industrials	15-826	Direct	MN	Return on Equity, Multi-Year Rate Plan	6/14/2016
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Electric Energy Consumers, Inc.	15-098-U	Surrebuttal	AR	Return on Equity, Formula Rate Plan, Capital Structure	6/7/2016
CENTERPOINT ENERGY RESOURCES CORP	Arkansas Electric Energy Consumers, Inc.	15-098-U	Direct	AR	Return on Equity, Captial Structure	4/14/2016
MISSOURI-AMERICAN WATER COMPANY	BJC Healthcare	WR-2011-0337	Rebuttal	MO	Return on Equity	1/19/2012
MISSOURI-AMERICAN WATER COMPANY	BJC Healthcare	WR-2011-0337	Direct	MO	Return on Equity	11/17/2011
METROPOLITAN ST. LOUIS SEWER DISTRICT	Barnes-Jewish Hospital	N/A	Supplemental	MO	Rate Model	9/16/2011
METROPOLITAN ST. LOUIS SEWER DISTRICT	Barnes-Jewish Hospital	N/A	Surrebuttal	MO	Rate Increase, CIRP, Consent Decree	8/19/2011
METROPOLITAN ST. LOUIS SEWER DISTRICT	Barnes-Jewish Hospital	N/A	Rebuttal	MO	Rate Increase, CIRP, Consent Decree	7/18/2011
AMEREN UE	Missouri Energy Group	ER-2011-0028	Surrebuttal	MO	Return on Equity, Energy Efficiency Cost Recovery	4/15/2011
AMEREN UE	Missouri Energy Group	ER-2011-0028	Rebuttal	MO	Return on Equity, Energy Efficiency Cost Recovery	3/25/2011
AMEREN UE	Missouri Energy Group	ER-2011-0028	Direct	MO	Return on Equity	2/8/2011
AMEREN UE	Missouri Energy Group	EO-2010-0255	Direct	MO	Prudence Audit of FAC Periods 1 and 2	11/22/2010
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	09-084-U	Direct - In Support	AR	Supporting the Proposed Settlement Agreement	5/11/2010
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	09-084-U	Surrebuttal	AR	Return on Equity	4/14/2010
ENTERGY ARKANSAS, INC.	Arkansas Electric Energy Consumers, Inc.	09-084-U	Direct	AR	Return on Equity	2/26/2010
AMEREN UE	Missouri Energy Group	ER-2010-0036	Direct	MO	Energy Efficiency Costs	12/18/2009
AMEREN UE	Missouri Energy Group	ER-2008-0318	Surrebuttal	MO	Return on Equity	11/5/2008
AMEREN UE	Missouri Energy Group	ER-2008-0318	Direct	MO	Return on Equity, Off-System Sales	8/28/2008
METROPOLITAN ST. LOUIS SEWER DISTRICT	Missouri Energy Group	N/A	Rebuttal	MO	Long-Term Financial Plan, Capital Financing	5/2/2007
AMEREN UE	Missouri Energy Group	ER-2007-0002	Surrebuttal	MO	Return on Equity, Interruptible Demand, Response Pilot	2/27/2007
AMEREN UE	Missouri Energy Group	ER-2007-0002	Direct	MO	Interruptible Rate	12/29/2006
AMEREN UE	Missouri Energy Group	ER-2007-0002	Direct	MO	Return on Equity, Off-System Sales, Sharing Mechanism, 10% Cap on Residentials	12/15/2006

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UTILITY	ON BEHALF OF	DOCKET	TYPE	REGULATORY JURISDICTION	SUBJECT	DATE
AMEREN UE	Missouri Energy Group	EA-2005-0180	Rebuttal	MO	Economic Analysis	1/31/2005
NOVA SCOTIA POWER INC.	Avon Valley Greenhouses	NSUARB-P-881	Direct	NS	Cost of Capital	10/12/2004
MISSOURI-AMERICAN WATER COMPANY	Missouri Energy Group	WR-2003-0500	Surrebuttal	MO	Working Capital, Return on Equity, Cost Allocation	12/5/2003
MISSOURI-AMERICAN WATER COMPANY	Missouri Energy Group	WR-2003-0500	Rebuttal	MO	Rate Design	11/10/2003
MISSOURI-AMERICAN WATER COMPANY	Missouri Energy Group	WR-2003-0500	Direct	MO	Return on Equity, Acquisition Adjustment, Cash Working Capital	10/3/2003
METROPOLITAN ST. LOUIS SEWER DISTRICT	Missouri Energy Group	N/A	Direct	MO	Revenue Requirement, Financial Planning	4/22/2003
INTERSTATE POWER AND LIGHT COMPANY	Lee County Energy Users Group- Direct	RPU-02-3	Surrebuttal	IA	Revenue Requirement, Return on Equity	9/19/2002
METROPOLITAN ST. LOUIS SEWER DISTRICT	Missouri Energy Group	N/A	Surrebuttal	MO	Revenue Requirement, Capital Financing	8/13/2002
METROPOLITAN ST. LOUIS SEWER DISTRICT	Missouri Energy Group	N/A	Surrebuttal	MO	Revenue Requirement, Captial Financiaing, Cost Allocation	7/28/2002
INTERSTATE POWER AND LIGHT COMPANY	Lee County Energy Users Group- Direct	RPU-02-3	Direct	IA	Revenue Requirement, Return on Equity	7/26/2002
METROPOLITAN ST. LOUIS SEWER DISTRICT	Missouri Energy Group	N/A	Rebuttal	MO	Revenue Requirement, Capital Financing	7/10/2002

PROCEDURE FOR CONDUCTING A CLASS COST-OF-SERVICE STUDY

Q WHAT PROCEDURES ARE USED IN A COST-OF-SERVICE STUDY?

A The basic procedure for conducting a CCOSS is fairly simple. First, we identify the different types of costs (functionalization), determine their primary causative factors (classification), and then apportion each item of cost among the various rate classes (allocation). Adding up the individual pieces gives the total cost for each class.

Identifying the utility's different levels of operation is a process referred to as functionalization. The utility's investments and expenses are separated into production, transmission, distribution, and other functions. To a large extent, this is done in accordance with the Uniform System of Accounts developed by FERC.

Once costs have been functionalized, the next step is to identify the primary causative factor (or factors). This step is referred to as classification. Costs are classified as demand-related, energy-related or customer-related. Demand (or capacity) related costs vary with peak demand, which is measured in kilowatts (kW). This includes production, transmission, and some distribution investment and related fixed Operation and Maintenance (O&M) expenses. As explained later, peak demand determines the amount of capacity needed for reliable service. Energy-related costs vary with the production of energy, which is measured in kilowatt-hours (kWh). Energy-related costs include fuel and variable O&M expense. Customer-related costs vary directly with the number of customers and include expenses such as meters, service drops, billing, and customer service.

Each functionalized and classified cost must then be allocated to the various customer classes. This is accomplished by developing allocation factors that reflect the percentage of the total cost that should be paid by each class. The allocation

factors should reflect cost-causation; that is, the degree to which each class caused the utility to incur the cost.

Q WHAT KEY PRINCIPLES ARE RECOGNIZED IN A CLASS COST-OF-SERVICE STUDY?

A A properly conducted CCOSS recognizes two key cost-causation principles. First, customers are served at different delivery voltages. This affects the amount of investment the utility must make to deliver electricity to the meter. Second, since cost-causation is also related to how electricity is used, both the timing and rate of energy consumption (*i.e*., demand) are critical. Because electricity cannot be stored for any significant time period, a utility must acquire sufficient generation resources and construct the required transmission facilities to meet the maximum projected demand, including a reserve margin as a contingency against forced and unforced outages, severe weather, and load forecast error. Customers that use electricity during the critical peak hours cause the utility to invest in generation and transmission facilities.

Q WHAT FACTORS CAUSE THE PER-UNIT COSTS TO DIFFER AMONG CUSTOMER CLASSES?

A Factors that affect the per-unit cost include whether a customer's usage is constant or fluctuating (load factor), whether the utility must invest in transformers and distribution systems to provide the electricity at lower voltage levels, the amount of electricity that a customer uses, and the quality of service (*e.g.,* firm or non-firm). In general, industrial consumers are less costly to serve on a per-unit basis because they:

- operate at higher load factors;
- take service at higher delivery voltages; and
- use more electricity per customer.

Further, non-firm service is a lower quality of service than firm service. Thus, non-firm service is less costly per unit than firm service for customers that otherwise have the same characteristics. This explains why some customers pay lower average rates than others.

For example, the difference in the losses incurred to deliver electricity at the various delivery voltages is a reason why the per-unit energy cost to serve is not the same for all customers. More losses occur to deliver electricity at distribution voltage (either primary or secondary) than at transmission voltage, which is generally the level at which industrial customers take service. This means that the cost per kWh is lower for a transmission customer than a distribution customer. The cost to deliver a kWh at primary distribution, though higher than the per-unit cost at transmission, is lower than the delivered cost at secondary distribution.

In addition to lower losses, transmission customers do not use the distribution system. Instead, transmission customers construct and own their own distribution systems. Thus, distribution system costs are not allocated to transmission level customers who do not use that system. Distribution customers, by contrast, require substantial investments in these lower voltage facilities to provide service. Secondary distribution customers require more investment than primary distribution customers. This results in a different cost to serve each type of customer.

Two other cost drivers are efficiency and size. These drivers are important because most fixed costs are allocated on either a demand or customer basis.

Efficiency can be measured in terms of load factor. Load factor is the ratio of average demand (*i.e.*, energy usage divided by the number of hours in the period) to peak demand. A customer that operates at a high load factor is more efficient than a lower load factor customer because it requires less capacity for the same amount of

energy. For example, assume that two customers purchase the same amount of energy, but one customer has an 80% load factor and the other has a 40% load factor. The 40% load factor customers would have twice the peak demand of the 80% load factor customers, and the utility would therefore require twice as much capacity to serve the 40% load factor customer as the 80% load factor. Said differently, the fixed costs to serve a high load factor customer are spread over more kWh usage than for a low load factor customer.

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025

LINE NO.	DESCRIPTION	TOTAL ELECTRIC	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(a)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	**SUMMARY AT PRESENT RATES**								
2	**DEVELOPMENT OF DISTRIBUTION RETURN**								
3	OPERATING REVENUE								
4	Sales of Electricity - Base	1,589,176	927,169	177,981	266,019	7,647	178,267	7,059	25,034
5	Decommissioning Revenues	(4,213)	(1,316)	(335)	(874)	(34)	(1,584)	(51)	(20)
6	Other Operating Revenue	52,235	31,468	6,860	8,144	177	4,740	203	642
7	TOTAL OPERATING REVENUE	1,637,198	957,322	184,507	273,289	7,791	181,422	7,210	25,657
8									
9	OPERATING EXPENSES								
10	Operation and Maintenance Expense	814,944	496,220	100,435	121,175	3,767	79,670	3,235	10,442
11	Depreciation and Amortization Expense	335,839	185,756	40,367	61,016	1,575	39,742	1,714	5,669
12	Taxes Other Than Income Taxes-General	25,668	14,252	3,081	4,214	134	3,565	151	272
13	Taxes Other Than Income Taxes-Distribution GRT	91,676	53,148	10,152	15,535	450	10,497	416	1,477
14	Income Taxes	(19,313)	(8,028)	(6,210)	(2,887)	(66)	(2,133)	(205)	217
15	TOTAL OPERATING EXPENSES	1,248,815	741,348	147,824	199,053	5,860	131,342	5,310	18,077
16	**OPERATING INCOME (RETURN)**	388,383	215,974	36,683	74,235	1,931	50,080	1,900	7,580
17									
18	**DEVELOPMENT OF RATE BASE**								
19	Electric Plant in Service	11,242,906	6,037,803	1,353,954	2,121,567	53,297	1,424,444	62,737	189,103
20	Less: Accumulated Depreciation	2,253,728	1,197,844	259,037	438,938	10,045	282,363	12,120	53,381
21	Plus: Rate Base Additions	746,057	434,270	86,243	121,520	3,813	89,109	2,908	8,195
22	Less: Rate Base Deductions	934,698	493,545	109,469	193,719	4,355	114,405	4,785	14,422
23	**TOTAL DISTRIBUTION RATE BASE**	8,800,537	4,780,684	1,071,691	1,610,430	42,710	1,116,785	48,741	129,496
24									
25	**DISTRIBUTION RATE OF RETURN (PRESENT)**	4.41%	4.52%	3.42%	4.61%	4.52%	4.48%	3.90%	5.85%
26	**DISTRIBUTION INDEX RATE OF RETURN (PRESENT)**	1.00	1.02	0.78	1.04	1.02	1.02	0.88	1.33
27									
28	**DEVELOPMENT OF PURCHASED POWER RETURN**								
29	Purchased Electric Revenues	1,071,200	689,404	180,937	147,983	1,083	50,940	0	854
30	Purchased Power O&M Expense	1,003,713	645,971	169,538	138,660	1,014	47,731	0	800
31	Purchased Power GRT Expense	63,201	40,675	10,675	8,731	64	3,005	0	50
32	Purchased Power Income Taxes	908	584	153	125	1	43	0	1
33	Purchased Power Operating Income	3,379	2,175	571	467	3	161	0	3
34	Rate Base - Purchased Pwr Cash Working Capital	45,182	29,079	7,632	6,242	46	2,149	0	36
35	**PURCHASED POWER RATE OF RETURN (PRESENT)**	7.48%	7.48%	7.48%	7.48%	7.48%	7.48%	0.00%	7.48%
36									
37	**DEVELOPMENT OF TRANSMISSON RETURN**								
38	Transmission Revenues	199,791	112,618	29,436	33,583	552	22,575	939	87
39	Transmission O&M Expense	186,907	105,356	27,538	31,418	516	21,119	879	82
40	Transmission GRT Expense	11,788	6,644	1,737	1,981	33	1,332	55	5
41	Transmission Income Taxes	242	145	41	38	0	17	1	0
42	Transmission Operating Income	854	473	121	147	3	107	4	0
43	Rate Base - Transmission Cash Working Capital	9,918	4,117	582	2,180	79	2,865	88	7
44	**TRANSMISSION RATE OF RETURN (PRESENT)**	8.61%	11.48%	20.76%	6.72%	3.36%	3.72%	4.85%	5.44%
45									
46	**TOTAL OPERATING INCOME (RETURN)**	392,616	218,621	37,374	74,849	1,937	50,347	1,904	7,583
47	**TOTAL RATE BASE**	8,855,637	4,813,880	1,079,905	1,618,852	42,835	1,121,798	48,828	129,539
48	**COMPOSITE RATE OF RETURN @ CURRENT RATES**	4.43%	4.54%	3.46%	4.62%	4.52%	4.49%	3.90%	5.85%
49	**RROR**		1.02	0.78	1.04	1.02	1.01	0.88	1.32

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025

LINE NO.	DESCRIPTION	TOTAL ELECTRIC	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(a)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
50									
51	**EQUALIZED RETURN AT PROPOSED ROR OF 7.98%**								
52	**DEVELOPMENT OF DISTRIBUTION RETURN (EQUALIZED RATE)**								
53	**RATE BASE**	8,800,537	4,780,684	1,071,691	1,610,430	42,710	1,116,785	48,741	129,496
54	**RETURN (RATE BASE * 7.98% ROR)**	702,283	381,499	85,521	128,512	3,408	89,119	3,890	10,334
55	**PLUS:**								
56	**OPERATING EXPENSES**								
57	Operation and Maintenance Expense	820,556	499,178	101,307	122,146	3,793	80,370	3,271	10,491
58	Depreciation and Amortization Expense	335,839	185,756	40,367	61,016	1,575	39,742	1,714	5,669
59	Taxes Other Than Income Taxes-General	25,668	14,252	3,081	4,214	134	3,565	151	272
60	Taxes Other Than Income Taxes-Distribution GRT	119,016	67,565	14,405	20,263	579	13,897	590	1,717
61	State and Federal Income Taxes	98,634	54,167	12,141	17,507	489	12,536	542	1,252
62	**TOTAL OPERATING EXPENSES**	1,399,713	820,918	171,300	225,146	6,571	150,111	6,267	19,400
63									
64	**EQUALS TOTAL COST OF SERVICE**	2,101,996	1,202,416	256,821	353,658	9,979	239,231	10,156	29,734
65	**LESS:**								
66	Decommissioning Revenues	(4,213)	(1,316)	(335)	(874)	(34)	(1,584)	(51)	(20)
67	Other Operating Revenue	53,641	32,209	7,079	8,387	184	4,915	212	654
68	**EQUALS:**								
69	**DISTRIBUTION BASE RATE SALES @ EQUALIZED ROR 7.**	2,052,568	1,171,523	250,077	346,145	9,829	235,900	9,996	29,099
70	Distribution Cost Increase without Forfeited Discount	463,392	244,353	72,096	80,126	2,181	57,633	2,937	4,065
71	**TOTAL COST OF SERVICE DISTRIBUTION INC/DEC**	464,798	245,094	72,314	80,369	2,188	57,809	2,946	4,077
72	**REV INC TO DIST REV W/O FORFEITED DISCOUNT(%)**	29.16%	26.35%	40.51%	30.12%	28.52%	32.33%	41.61%	16.24%
73		7.98%	7.98%	7.98%	7.98%	7.98%	7.98%	7.98%	7.98%
74	**DEVELOPMENT OF PURCH. POWER RETURN (EQUALIZED RATE)**								
75	**RATE BASE (CWC)**	45,182	29,079	7,632	6,242	46	2,149	0	36
76	**RETURN (RATE BASE * 7.98% ROR)**	3,606	2,320	609	498	4	171	0	3
77	**PLUS:**								
78	**OPERATING EXPENSES**								
79	Purchased Power O&M Expense	1,003,713	645,971	169,538	138,660	1,014	47,731	0	800
80	Purchased Power Income Taxes	993	639	168	137	1	47	0	1
81	Purchased Power GRT Expense	63,220	40,687	10,679	8,734	64	3,006	0	50
82	**EQUALS TOTAL PURCHASED POWER COS**	1,071,532	689,618	180,993	148,029	1,083	50,956	0	854
83	**TOTAL COST OF SERVICE PURCH.POWER INC/DEC**	332	213	56	46	0	16	0	0
84	**REVENUE INCREASE TO DISTRIBUTION REVENUES (%)**	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.00%	0.03%
85		7.98%	7.98%	7.98%	7.98%	7.98%	7.98%	0.00%	7.98%
86	**DEVELOPMENT OF TRANSMISSION RETURN (EQUALIZED RATE)**								
87	**RATE BASE (CWC)**	9,918	4,117	582	2,180	79	2,865	88	7
88	**RETURN (RATE BASE * 7.98% ROR)**	791	329	46	174	6	229	7	1
89	**PLUS:**								
90	**OPERATING EXPENSES**								
91	Transmission O&M Expense	186,907	105,356	27,538	31,418	516	21,119	879	82
92	Transmission Income Taxes	218	91	13	48	2	63	2	0
93	Transmission GRT Expense	11,782	6,632	1,730	1,984	33	1,342	56	5
94	**EQUALS TOTAL TRANSMISSION COST OF SERVICE**	199,699	112,407	29,328	33,623	557	22,753	943	87
95	**TOTAL COST OF SERVICE TRANSMISSION INC/DEC**	(92)	(211)	(109)	40	5	178	4	0
96	**REVENUE INC TO RETAIL DISTRIBUTION REV (%)**	-0.05%	-0.19%	-0.37%	0.12%	0.97%	0.79%	0.43%	0.30%
97		7.98%	7.98%	7.98%	7.98%	7.98%	7.98%	7.98%	7.98%
98	**TOTAL INCREASE (DECREASE) REQUIRED**	465,038	245,097	72,262	80,455	2,194	58,003	2,950	4,078

PECO Energy Company
Electric Class Cost of Service Study ($000)
For Future Test Year Ended December 31, 2025

LINE NO.	DESCRIPTION	TOTAL ELECTRIC	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
	(a)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
99									
100									
101	**EQUALIZED RETURN AT PROPOSED ROR OF 7.98%**								
102	**DEVELOPMENT OF OVERALL RETURN (EQUALIZED RATE)**								
103	**RATE BASE**	8,855,637	4,813,880	1,079,905	1,618,852	42,835	1,121,798	48,828	129,539
104	**RETURN (RATE BASE * 7.98% ROR)**	706,680	384,148	86,176	129,184	3,418	89,519	3,897	10,337
105	**PLUS:**								
106	**OPERATING EXPENSES**								
107	Operation and Maintenance Expense	2,011,176	1,250,504	298,383	292,223	5,324	149,220	4,149	11,372
108	Depreciation and Amortization Expense	335,839	185,756	40,367	61,016	1,575	39,742	1,714	5,669
109	Taxes Other Than Income Taxes-General	25,668	14,252	3,081	4,214	134	3,565	151	272
110	Taxes Other Than Income Taxes-GRT	194,019	114,885	26,814	30,980	676	18,246	645	1,772
111	State and Federal Income Taxes	99,845	54,896	12,321	17,693	492	12,646	544	1,252
112	**TOTAL OPERATING EXPENSES**	2,666,547	1,620,293	380,966	406,126	8,201	223,420	7,203	20,338
113									
114	**EQUALS TOTAL COST OF SERVICE**	3,373,227	2,004,441	467,142	535,310	11,619	312,939	11,099	30,675
115	**LESS:**								
116	Decommissioning Revenues	(4,213)	(1,316)	(335)	(874)	(34)	(1,584)	(51)	(20)
117	Other Operating Revenue	53,641	32,209	7,079	8,387	184	4,915	212	654
118	**EQUALS:**								
119	**OVERALL BASE RATES @ EQUALIZED ROR 7.98%**	3,323,799	1,973,547	460,398	527,797	11,469	309,609	10,939	30,041
120	**COST OF SERVICE OVERALL INC/DEC W/O FORFEITED D**	463,632	244,356	72,043	80,212	2,187	57,827	2,941	4,066
121	**TOTAL COST OF SERVICE OVERALL INC/DEC**	465,038	245,097	72,262	80,455	2,194	58,003	2,950	4,078
122		7.98%	7.98%	7.98%	7.98%	7.98%	7.98%	7.98%	7.98%
123									
124	**Proposed Base Rate Revenue Increase**	29.3%	26.4%	40.6%	30.2%	28.7%	32.5%	41.8%	16.3%
125	**RROR**		1.02	0.78	1.04	1.02	1.01	0.88	1.32
126									
127	**Increase Relative to System Average Increase**		0.90	1.39	1.03	0.98	1.11	1.43	0.56

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

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

Response Date: May 01, 2024

OCA-VI-33

Please provide the relative rates of return at present rates by customer class for each class cost of service study filed by PECO since 2010.

RESPONSE:

The following table provides the relative rates of return at present rates by customer class for each class cost of service study filed in 2010, 2015, 2018, 2021, and 2024.

Rate Case Filing Year	Residential	Residential Heating	General Service	Primary Distribution	High Tension	Electric Propulsion	Lighting
2010	0.94	0.79	0.20	4.73	2.23	3.90	0.98
2015	0.94	0.79	0.95	1.06	1.45	1.38	1.75
2018	0.98	0.78	1.15	1.12	1.05	0.63	1.24
2021	0.89	0.98	1.17	1.13	1.14	1.48	1.71
2024	1.16	0.59	0.92	0.76	0.89	0.57	1.33

Responsible Witness: Tamara J. Jamison

PAIEUG Statement No. 1R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Docket No. R-2024-3046931

PECO Energy Company – Electric Division

Rebuttal Testimony and Exhibits

of

Billie S. LaConte

On Behalf of

Philadelphia Area Industrial Energy Users Group

July 16, 2024

J. POLLOCK
INCORPORATED

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Docket No. R-2024-3046931

PECO Energy Company – Electric Division

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GLOSSARY OF ACRONYMS

Term	Definition
CCOSS	Class Cost-of-Service Study
Commission	Pennsylvania Public Utility Commission
DSIC	Distribution System Improvement Charge
I&E	Bureau of Investigation and Enforcement
NCP	Non Coincident Peak
OCA	Office of Consumer Advocate
PAIEUG	Philadelphia Area Industrial Energy Users Group
PECO	PECO Energy Company – Electric Division
RROR	Relative Rate of Return
Walmart	Walmart, Inc.

REBUTTAL TESTIMONY OF BILLIE S. LACONTE

Introduction

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A My name is Billie S. LaConte. My business address is 14323 South Outer 40 Rd., Suite 206N, St. Louis, MO 63017.

Q ARE YOU THE SAME BILLIE S. LACONTE WHO PREVIOUSLY SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON BEHALF OF PHILADELPHIA AREA INDUSTRIAL ENERGY USERS GROUP (PAIEUG)?

A Yes.

Q WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A I address the proposed class revenue allocation and changes to PECO Energy Company's – Electric Division (PECO) Class Cost-of-Service Study (CCOSS) made by Mr. Clarence L. Johnson on behalf of the Office of Consumer Advocate (OCA), as well as the class revenue allocation proposals of Mr. Esyan A. Sakaya on behalf of the Bureau of Investigation and Enforcement (I&E), and Ms. Lisa V. Perry on behalf of Walmart, Inc. (Walmart). Additionally, I address the discovery response that was pending at the time my Direct Testimony was submitted, which has since been received.

Q DOES THE FACT THAT YOU ARE NOT ADDRESSING EVERY ISSUE RAISED BY THESE AND OTHER PARTIES CONSTITUTE AN ENDORSEMENT OF THEIR RECOMMENDATIONS?

A. No.

Class Cost-of-Service Study

Q WHAT CHANGES ARE BEING PROPOSED BY OCA WITNESS JOHNSON TO PECO'S CLASS COST-OF-SERVICE STUDY?

A Mr. Johnson is proposing to classify all secondary distribution network costs to demand.

Q DO YOU AGREE WITH MR. JOHNSON'S PROPOSED CHANGE?

A No.

Q WHAT IS THE DISTRIBUTION NETWORK?

A The distribution network consists of PECO's investment in poles, towers, fixtures, overhead and underground lines and line transformers. These investments are booked to FERC Account Nos. 364, 365, 366, 367 and 368.

Q WHAT FACTORS CAUSE A UTILITY TO INVEST IN A DISTRIBUTION NETWORK?

A Utilities invest in a distribution network to deliver power from the transmission grid to the customer, where it is eventually consumed. Thus, the central roles of the distribution network are to:

- Provide access to a delivery-ready power grid (*i.e.*, a customer-related cost); and
- Meet customers' peak electrical power needs (*i.e.,* a demand-related cost).

These prerequisites (*i.e.,* a grid connection with facilities sized to provide voltage support) are clearly related to the existence of the customer. This is why classifying a portion of the distribution network as customer-related is consistent with cost-causation principles. Investments made solely to attach a customer to the system are clearly customer-related.

Q WHY WOULD CLASSIFYING ALL DISTRIBUTION NETWORK COSTS TO DEMAND NOT BE CONSISTENT WITH COST CAUSATION?

A Although the distribution network is sized to meet expected peak demand, it must also provide the necessary voltage support to allow power to flow to customers. Absent a distribution network and the voltage support it provides, electricity cannot flow to customers. Thus, this investment is essential and unrelated to the amount of power and energy consumed by customers, which is why classifying these costs entirely to demand is not consistent with cost causation.

If PECO were to provide only a minimum amount of electric power to each customer, it would still have to construct nearly the same miles of line because they are required to serve every customer. In other words, there are costs of the distribution network that are entirely unrelated to customer demand. PECO's poles, conductors and transformers would not need to be as large as they are now if every customer were supplied only a minimum level of service, but there is a definite limit to the size to which they could be reduced.

Q IS ALLOCATING SECONDARY DISTRIBUTION NETWORK COSTS ON A CUSTOMER BASIS CONSISTENT WITH ACCEPTED REGULATORY PRACTICE?

A Yes. The National Association of Regulatory Commissioners *Electric Utility Cost Allocation Manual* states:

> Distribution plant Accounts 364 through 370 involve demand and customer costs. The customer component of distribution facilities is that portion of costs which varies with the number of customers. Thus, the number of poles, conductors, transformers, services, and meters are directly related to the number of customers on the utility's system.[1]

[1] National Association of Regulatory Utility Commissioners, *Electric Utility Cost Allocation Manual*, at 90 (Jan. 1992).

The Manual further states:

> Two methods are used to determine the demand and customer components of distribution facilities. They are, the minimum-size-of-facilities method, and the minimum-intercept cost (zero-intercept or positive-intercept cost, as applicable) of facilities.[2]

Q DOES PECO CLASSIFY A PORTION OF THEIR DISTRIBUTION NETWORK AS CUSTOMER-RELATED?

A Yes. PECO classifies 26% of their distribution network as a customer-related expense.

Q DO UTILITIES OTHER THAN PECO ALSO CLASSIFY A PORTION OF THEIR DISTRIBUTION NETWORK AS CUSTOMER-RELATED?

A Yes. This practice has been approved by the Commission and is followed by most of the electric distribution utilities in Pennsylvania. For example, West Penn Power Company classifies 75% as customer-related distribution network costs. Additionally, numerous utilities outside of Pennsylvania classify a portion of their distribution network as customer-related, such as Central Hudson Gas and Electric Company (71% customer-related) and Niagara Mohawk Power Company (40% customer-related). Thus, PECO's proposed 26% customer-related portion of distribution cost classification is reasonable and lower than many utilities that have employed this practice.

Q WHAT DO YOU RECOMMEND?

A The Commission should reject Mr. Johnson's proposal to classify all secondary distribution network costs to demand.

[2] *Id.*

Class Revenue Allocation

Q HOW IS OCA PROPOSING TO ALLOCATE PECO'S PROPOSED REVENUE REQUIREMENT?

OCA proposes to base its revenue allocation on the results of its flawed CCOSS. Under OCA's proposal, secondary voltage classes, such as General Service and Residential Heating would receive 140% of the system average increase.[3] The remaining classes (except Residential) would receive up to 150% of the system average increase. The Lighting class should receive a decrease, however, OCA recommends applying 50% of the system average increase to Lighting.[4] The remaining class, Residential, would receive an increase that is 69% of the system average.[5]

Q HOW IS WALMART PROPOSING TO ALLOCATE PECO'S PROPOSED REVENUE INCREASE?

A Walmart supports PECO's proposed revenue allocation if the Company receives 100% of its requested increase.

However, if PECO receives a lower revenue requirement than it has requested, Walmart proposes to assign 50% of the decrease to any class that has a relative rate of return (RROR) above 1.0, but in no event should a class with a RROR above one (subsidizing) receive a decrease such that its RROR becomes below one (subsidized).[6] The remaining 50% would be allocated to all rate classes on an equal percentage basis.[7]

[3] OCA Statement 3, Direct Testimony of Clarence L. Johnson at 22.
[4] *Id.*
[5] *Id.* at 22-23.
[6] Walmart Statement No. 1, Lisa V. Perry at 5-6.
[7] *Id.*

Q HOW IS I&E PROPOSING TO ALLOCATE PECO'S PROPOSED REVENUE INCREASE?

A Like Walmart, I&E supports PECO's proposed revenue allocation if the Company receives 100% of its requested increase.

However, in the event the Commission authorizes a lower revenue requirement than proposed by PECO, I&E set forth a scale-back proposal. Under Mr. Sakaya's proposal, if PECO's revenue requirement is reduced by $95.7 million, PECO's requested increase would be reduced from $464 million to $369 million, which is a 20.5% reduction in the proposed increase.[8] I&E proposes that the first $50 million of the reduction apply only to the Residential class (First Dollar Relief). The remaining $45.7 million (Second Dollar Relief) would be spread among the Residential ($30 million), General Service ($7 million), High Tension ($8 million) and Lighting classes ($0.7 million).[9]

Q DO YOU AGREE WITH THE CLASS REVENUE ALLOCATION PROPOSALS SUBMITTED BY THESE PARTIES?

A No. The class revenue allocation proposal of Walmart is based on PECO's CCOSS results. As discussed in my Direct Testimony and noted below, I have concerns with PECO's CCOSS. As such, I recommend that if PECO is granted less than its requested increase, a proportionate scale-back of my proposed revenue allocation should apply.

[8] I&E Statement No. 3, Direct Testimony of Esyan A. Sakaya at 14.

[9] *Id.,* Schedule No. 2 at 2.

OCA's proposal is similarly based on its flawed CCOSS results and therefore results in incorrect class revenue allocations. OCA's revenue allocation should also be rejected in favor of an allocation based upon my revised CCOSS as set forth in my Direct Testimony.

I&E's proposal favors the Residential class by assigning over 83% of the revenue reduction to the Residential class under I&E's $95.7 million reduction scenario. The Residential class would receive a 16% increase, as compared to increases ranging from 31.2% to 39.3%, excluding the Lighting class, which would receive a 12.1% increase.[10] Moreover, the stated basis for Mr. Sakaya's recommendation is not met. He claims the proposal moves all classes towards cost of service, but his proposed scale-back actually moves High Tension customers above their cost of service, from a RROR of 0.97 at present rates to a scaled back RROR of 1.02.[11] Therefore, I recommend that Mr. Sakaya's scale-back proposal be rejected.

Response to PECO Regarding Its Class Cost-of-Service Study

Q IN YOUR DIRECT TESTIMONY YOU REFER TO A THEN-PENDING DISCOVERY RESPONSE FROM PECO REGARDING ITS CLASS COST-OF-SERVICE STUDY. HAVE YOU SINCE RECEIVED THE RESPONSE FROM PECO?

A Yes. PAIEUG propounded a request seeking clarification and/or explanation as to the drastic change in the RRORs for each of PECO's customer classes as compared to its CCOSS results filed in its last four rate cases. PECO has provided a response since the date my Direct Testimony was submitted.[12]

[10] *Id.*

[11] *Id.*, Schedule 1 and Schedule 2 at 2.

[12] PECO Response to PAIEUG III-1, a copy of which is provided in **Exhibit ___(BSL-1R)**.

Q DID PECO PROVIDE AN EXPLANATION FOR THE SIGNIFICANT VARIANCE IN THE RELATIVE RATES OF RETURN FROM PREVIOUS RATE CASES AS COMPARED TO THE RELATIVE RATES OF RETURN BASED ON ITS CURRENT CLASS COST-OF-SERVICE STUDY?

A Not entirely. PECO explained that the non-coincident peaks (NCP) for the customer classes had changed since the last rate class, as well as the revenues for each class. The NCPs for each class can affect allocation of costs to each customer class and, combined with the class revenues, the RROR. In PECO's last base rate case, the approved Settlement authorized an $82.5 million increase for the Residential class.[13] In PECO's response to PAIEUG's discovery request, PECO provided an attachment that listed the revenues for the Residential class in 2021, before the Settlement rates were applied, and in 2023, after the rates were increased. The Residential class's actual revenues increased by $149 million, which is an 81% increase above the projected revenue increase from the authorized 2021 rate increase.[14] These actual revenues are used to calculate the RROR. PECO reports that the vast majority of the non-distribution system improvement charge (DSIC) variance between the Residential rate class's projected revenue following the 2021 rate increase and actual 2023 revenue comes from increased Residential usage.[15] Specifically, PECO's response to PAIEUG's Set IV Interrogatory No. 2(b) shows that Residential usage accounted for a $37 million increase in annual revenues above the $82.5 million revenue increase

[13] *Pennsylvania Public Utility Commission V. PECO Energy Company-Electric Division*, Docket No. R-2021-3024601 Joint Petition for Settlement of Rate Investigation at 6 (Sep. 15, 2021), as approved by *Order* at 2 (Nov. 18, 2021).

[14] PECO Response to PAIEUG III-1, a copy of which is provided in **Exhibit ___(BSL-1R)**.

[15] PECO Response to PAIEUG IV-2(b), a copy of which is provided in **Exhibit ___(BSL-2R)**.

related to the 2021 rate case.[16] What raises questions about this revenue data is that PECO also reports that Residential usage decreased by 6.8% from 11.55 billion kWh in 2022 to 10.76 billion kWh in 2023.[17] PECO is either unable or not inclined to explain the discrepancy between the data showing that Residential class revenue increased due to higher usage and the data showing that Residential class usage declined. As a result, it is difficult to rely on PECO's CCOSS to determine rates or as a basis for revenue allocation.

Q WHAT DO YOU RECOMMEND?

A I recommend that the Commission accept my revised CCOSS and base its revenue allocation on the results of my analysis. If PECO receives a lower increase, then I recommend that the decrease be applied proportionately to each customer class.

Conclusion

Q WHAT ADDITIONAL FINDINGS SHOULD THE COMMISSION MAKE BASED ON YOUR REBUTTAL TESTIMONY?

A The Commission should make the following additional findings:

- Reject OCA's revised Class Cost-of-Service Study;
- Reject OCA's, I&E's and Walmart's recommended class revenue allocations;
- Reject PECO's CCOSS and adopt PAIEUG's CCOSS.

Q DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A Yes.

[16] *Id.* Coincidentally, PECO's response PAIEUG Set IV, No. 2(b) also shows 2023 DSIC revenues from the Residential class total exactly $37 million.

[17] PECO Response to PAIEUG -IV-3(a), a copy of which is provided in **Exhibit ___(BSL-3R)**.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Docket No. R-2024-3046931

PECO Energy Company – Electric Division

Rebuttal Exhibits

of

Billie S. LaConte

On Behalf of

Philadelphia Area Industrial Energy Users Group

July 16, 2024

J. POLLOCK
INCORPORATED

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Philadelphia Area Industrial Energy Users Group
PAIEUG Set III

Response Date: June 20, 2024

PAIEUG-III-1

Referring to PECO's response to OCA-VI-33, please explain why the relative rate of return for the Residential class has moved above one and the relative rates of return for all other classes have decreased significantly, as compared to PECO's previous four rate cases. Provide any analysis explaining the change in Excel format with all formulas and links intact.

RESPONSE:

The relative rate of return in each rate case is calculated based on the interplay between hundreds of lines of data including financial balances, internal allocation factors and external allocation factors. Over time there is natural fluctuation in each piece of data at varying rates, whether it be from growth in specific balances, changes in related internal allocation factors due to changes in those underlying balances, or changes to external allocation factors that reflect the nature of a dynamic business. As such, it is impossible to provide a view of all drivers of changes in relative rates of return over the last approximately 14 years and five cases. Attachment PAIEUG-III-1(a) provides the impact of the change in two significant drivers of the relative rate of return on all classes, especially as it relates to the impact on the relative rates of return in the current case versus what was seen in the case filed immediately prior. Those drivers are class contributions to non-coincident peak (NCP) and base rate retail distribution revenue. Attachment PAIEUG-III-1(a) shows the impact on the 2024 rates of return resulting from substituting the NCP and base distribution revenue allocators from previous cases into the 2024 cost of service study (Exhibits TJJ-1 and TJJ-2).

Responsible Witness: Tamara J. Jamison

Attachment PAIEUG-III-1(a)

Summary Table 1 - Variance Analysis

	SCH NO.	LINE NO.	DESCRIPTION	ALLOCATION BASIS	ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
2024 COS	S	26			1.00	1.16	0.59	0.92	0.76	0.89	0.57	1.33
2021 COS	S	26			1.00	0.89	0.98	1.17	1.13	1.14	1.48	1.71
Variance					-	0.28	(0.40)	(0.25)	(0.37)	(0.25)	(0.91)	(0.38)
Revenue Component					-	0.09	(0.01)	(0.14)	(0.41)	(0.06)	(0.64)	(0.26)
NCP Component					-	0.15	(0.38)	(0.06)	0.12	(0.08)	(0.11)	0.05

Summary Table 2 - PECO Exhibit TJJ-2 References

	SCH NO.	LINE NO.	DESCRIPTION	ALLOCATION BASIS	ELECTRIC DIVISION	RESIDENTIAL	RESIDENTIAL HEATING	GENERAL SERVICE	PRIMARY DISTRIBUTION	HIGH TENSION	ELECTRIC PROPULSION	LIGHTING
2024	AF	275	Sales of Electricity Revenues - Distribution		1,589,176	927,169	177,981	266,019	7,647	178,267	7,059	25,034
2021	AF	275	Sales of Electricity Revenues - Distribution		1,372,001	778,131	154,042	242,879	7,694	157,654	8,118	23,483
Variance					217,176	149,039	23,939	23,139	(47)	20,613	(1,059)	1,551
2024	AP	253	Base Rate Sales Revenue	SALESREV	1.00000	0.58343	0.11200	0.16739	0.00481	0.11218	0.00444	0.01575
2021	AP	253	Base Rate Sales Revenue	SALESREV	1.00000	0.56715	0.11228	0.17703	0.00561	0.11491	0.00592	0.01712
Variance						0.01628	(0.00028)	(0.00963)	(0.00080)	(0.00273)	(0.00147)	(0.00136)
2024	AF	21	Demand Distribution Primary High Tension	DDISPHT	9,253,340	3,601,870	1,180,290	1,818,882	67,759	2,416,494	119,063	48,981
2021	AF	21	Demand Distribution Primary High Tension	DDISPHT	9,161,816	3,955,972	916,127	1,749,730	71,520	2,304,905	111,591	51,972
Variance					91,523	(354,102)	264,163	69,152	(3,761)	111,589	7,472	(2,991)
2024	AP	21	Demand Distribution Primary High Tension	DDISPHT	1.00000	0.38925	0.12755	0.19656	0.00732	0.26115	0.01287	0.00529
2021	AP	21	Demand Distribution Primary High Tension	DDISPHT	1.00000	0.43179	0.09999	0.19098	0.00781	0.25158	0.01218	0.00567
Variance						(0.04254)	0.02756	0.00558	(0.00048)	0.00957	0.00069	(0.00038)

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Philadelphia Area Industrial Energy Users Group
PAIEUG Set IV

Response Date: July 11, 2024

PAIEUG-IV-2

Referring to PECO Electric's response to PAIEUG 3-1:

a. PECO identifies class contributions to non-coincident peak (NCP) as a driver of the relative rate of return (RROR). Please identify any drivers for the significant changes in the NCP for each customer class, such as abnormal weather, increase (or decrease) in the number of customers, changes in demand (such as manufacturing plant closures or expansions), etc.
b. Identify, to the best of PECO's ability, the primary drivers for the changes in the base rate retail revenues for each customer class from the prior rate case. For example, in PECO's last base rate case, the Settlement projected an $82.5 million increase in distribution revenues for the Residential class from the settlement rate increase. In Attachment III-1(a), tab 1 - Summary 24 21, Residential distribution revenues for sales of electricity increased by $149 million between the rate cases. Please explain the primary drivers for the significant increase in Residential distribution revenue as compared to the Settlement projections as well as the corresponding increase or decrease in distribution revenue for the other customer classes.
c. Identify, to the best of PECO's ability, the primary drivers for the changes in the base rate distribution revenues from the 2021 rate case to date for the HT class and the EP class.

RESPONSE:

a. The NCPs used in PECO's Cost of Service Study are system-generated actual values, not forecasts. PECO does not analyze the drivers of changes in NCPs, but agrees that drivers may include weather or changes in customer numbers, customer usage and/or customer demand.

b. Refer to the table below. Variances are provided by rate.

Revenue ($M)

						Drivers of Remaining Variance					
Line	Rate Description	Rate	Total '24 vs. '21 Variance	Variance Due to '21 Settlement	Remaining Variance	Customer Growth	Usage Growth	Demand Growth	CAP Discount	DSIC	Other
1	Residential	Rate R	149	82	67	1	37	0	(12)	37	4
2	Residential Heating	Rate RH	24	15	9	1	8	0	(9)	7	1
3	General Service	Rate GS	23	20	3	0	(1)	(10)	0	11	3
4	Primary Distribution	Rate PD	(0)	1	(1)	(0)	0	(1)	0	0	0
5	High Tension	Rate HT	21	14	7	0	0	(3)	0	8	2
6	Electric Propulsion	Rate EP	(1)	0	(1)	0	0	(1)	0	0	(0)
7	Lighting	Rates L	2	(0)	2	1	(1)	0	0	1	(0)

c. Refer to the table above, lines 5 and 6.

Responsible Witness: Tamara J. Jamison

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
Philadelphia Area Industrial Energy Users Group
PAIEUG Set IV

Response Date: July 11, 2024

PAIEUG-IV-3

Provide actual energy usage (in kWh) for each customer class for the last five years. Provide in Excel format with all formulas and links intact.

RESPONSE:

See Attachment PAIEUG-IV-3.

Responsible Witness: Marissa Humphrey

Attachment PAIEUG-IV-3(a)
Page 1 of 1

PECO Energy Company
Actual Energy Usage in (kWh) by Rate Schedule

	R	RH	GS	POL	PD	HT	SL	EP	Total
2019	10,923,295,404	2,726,239,650	7,972,154,360	10,651,689	373,390,616	14,584,173,854	175,003,622	550,405,274	37,315,314,469
2020	11,372,019,202	2,668,727,932	7,199,656,558	10,525,093	333,504,177	13,335,154,171	173,088,056	402,060,249	35,494,735,438
2021	11,553,503,413	2,708,957,286	7,586,987,495	10,200,974	327,952,442	13,674,738,578	168,336,660	390,784,717	36,421,461,564
2022	11,551,576,820	2,827,578,317	7,692,023,269	10,061,491	324,580,787	13,720,442,097	165,232,408	472,528,420	36,764,023,609
2023	10,762,014,267	2,499,957,795	7,357,283,970	9,950,891	312,697,939	13,325,536,553	163,118,866	442,562,409	34,873,122,690

PAIEUG Statement No. 1S

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Docket No. R-2024-3046931

PECO Energy Company – Electric Division

Surrebuttal Testimony

of

BILLIE LACONTE

On Behalf of

Philadelphia Area Industrial Energy Users Group

August 2, 2024

J. POLLOCK

INCORPORATED

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Docket No. R-2024-3046931

PECO Energy Company – Electric Division

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Surrebuttal to OCA Witness 3

Clarence L. Johnson *3*

GLOSSARY OF ACRONYMS

Term	Definition
CCOSS	Class Cost-of-Service Study
Commission	Pennsylvania Public Utility Commission
NCP	Non-Coincident Peak
OCA	Office of Consumer Advocate
PAIEUG	Philadelphia Area Industrial Energy Users Group
PECO	PECO Energy Company – Gas Division
RROR	Relative Rate of Return

SURREBUTTAL TESTIMONY OF BILLIE S. LACONTE

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A My name is Billie LaConte. My business address is 14323 South Outer 40 Rd., Suite 206N, St. Louis, Missouri 63017.

Q ARE YOU THE SAME BILLIE S. LACONTE WHO PREVIOUSLY SUBMITTED DIRECT AND REBUTTAL TESTIMONY IN THIS PROCEEDING ON BEHALF OF THE PHILADELPHIA AREA INDUSTRIAL ENERGY USERS GROUP (PAIEUG)?

A Yes.

Q TO WHICH REBUTTAL TESTIMONY WITNESSES ARE YOU RESPONDING?

A I am responding to the rebuttal testimonies of the following witnesses:

- Tamara J. Jamison on behalf of PECO Energy Company – Electric Division (PECO);
- Joseph A. Bisti on behalf of PECO; and
- Clarence Johnson on behalf of the Office of Consumer Advocate (OCA).

Q ON WHAT ISSUES DO YOU WISH TO GENERALLY RESPOND?

A I will address the rejection of my revised class cost-of-service study (CCOSS) by Ms. Jamison and Mr. Johnson. I will also address Mr. Bisti's revised revenue allocation.

Q DOES THE FACT THAT YOU ARE NOT ADDRESSING EVERY ISSUE RAISED BY THESE AND OTHER PARTIES CONSTITUTE AN ENDORSEMENT OF THEIR RECOMMENDATIONS?

A No.

Surrebuttal to PECO Witnesses

Tamara J. Jamison

Q DOES MS. JAMISON AGREE WITH YOUR PROPOSED CLASS COST-OF-SERVICE MODIFICATIONS?

A No. Ms. Jamison claims that my revised CCOSS should be rejected because the non-coincident peaks (NCPs) included in PECO's CCOSS are not anomalous and that PECO is using the same methodology in this case as in prior rate cases to determine the NCPs.

Q DO YOU AGREE WITH MS. JAMISON'S ASSESSMENT?

A No. As explained in my rebuttal testimony, the NCPs for each class, combined with the class revenues, can affect the relative rate-of-return (RROR). The Residential class's revenues increased significantly (81%) as compared to the approved increase in PECO's last base rate case, despite the fact that Residential usage decreased (6.8%).[1] PECO's continued inability to reconcile the decreased Residential usage with the increased revenue for the Residential class, combined with the allocated costs based on NCPs, makes it difficult to rely on PECO's CCOSS as sufficiently accurate to determine rates or revenue allocation.

Q WHAT DO YOU RECOMMEND?

A I recommend that the Commission accept my revised CCOSS and reject PECO's CCOSS.

[1] PAIEUG Statement No. 1R, Rebuttal Testimony and Exhibits of Billie S. LaConte, Exhibit_(BSL-3R).

Joseph A. Bisti

Q DO YOU AGREE WITH MR. BISTI'S REVISED REVENUE ALLOCATION?

A No. Mr. Bisti's revised revenue allocation proposal is still based on the results of PECO's CCOSS, and the issues I have identified regarding the CCOSS in my direct and rebuttal testimony still remain; therefore, Mr. Bisti's revised revenue allocation should be rejected.

Q WHAT DO YOU RECOMMEND?

A I recommend that the Commission reject PECO's revised revenue allocation and base the Company's revenue allocation on the results of my analysis. If PECO receives a lower increase, I recommend that the decrease be applied proportionately to each customer class.

Surrebuttal to OCA Witness

Clarence L. Johnson

Q WHAT ARE MR. JOHNSON'S COMMENTS REGARDING YOUR PROPOSED CLASS COST-OF-SERVICE MODIFICATIONS?

A Mr. Johnson disagrees with my observation regarding PECO's CCOSS and the RRORs as compared to previous base rate cases. Specifically, Mr. Johnson states that the NCPs vary from year to year and should not be modified because PECO "has not explained changes in class annual demands to PAIEUG's satisfaction."[2] Mr. Johnson also evaluated historical NCPs as compared to the current NCPs and states "[t]he 2024 class NCP demands used in the CCOSS are within the range of historical experience."[3] Finally, Mr. Johnson rejects my revised CCOSS that uses revised NCPs

[2] OCA Statement 3R, Rebuttal Testimony of Clarence L. Johnson at 2-3.

[3] *Id.* at 5.

using historical load factor data, agreeing with the Company that "[c]lass load factor are neither calculated or utilized in PECO's class cost of service study."[4]

Q DO YOU AGREE WITH MR. JOHNSON'S ASSESSMENT?

A No. While it is true that class NCPs will vary from year to year, the NCPs, combined with the class revenues, may lead to anomalous RRORs. As demonstrated in my direct testimony, the RROR for the Residential class has been below one since 2010 and only in the current case is it above one, while other classes, such as Primary Distribution, High Tension, and Electric Propulsion, have typically been above one. This reversal in cost recovery is significant and reviewing the NCPs and load factor data to determine the reasons behind the anomalous results is warranted. Comparing the RRORs from past rate cases to the current case, which are based on class NCPs and revenues, clearly shows that the results of PECO's current CCOSS are anomalous compared to its rate cases dating back to 2010.

Q ARE CLASS LOAD FACTORS USED IN THE CLASS COST OF SERVICE STUDY?

A No. However, NCP data and energy usage that are included in the CCOSS may be used to interpret patterns, such as load factor, to determine if there are anomalous data in the CCOSS.

Q IS MR. JOHNSON CORRECT THAT THE IMPACT OF THE COVID-19 PANDEMIC EXPLAINS THE ANOMALOUS RESULTS OF PECO'S CCOSS?

A No. Referencing the COVID-19 pandemic does not explain how PECO can report Residential usage for 2023 below the reported usage for 2019, 2020, 2021, and 2022, yet show increased 2023 revenues for the Residential class compared to prior years.

[4] *Id.*

Q WHAT DO YOU RECOMMEND?

A Unless PECO can reconcile the identified anomalies, I recommend that the Commission reject PECO's CCOSS as unsubstantiated for failure to adequately explain anomalous and inconsistent data, accept my revised CCOSS, and base any revenue allocation on the results of my revised CCOSS.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A Yes.

VERIFICATION

I, Billie S. LaConte, Energy Advisor and Associate Consultant at J. Pollock, Incorporated, hereby state that the facts set forth in PAIEUG Statement Nos. 1, 1R, and 1S 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).

8-6-24
Date


Signature

Hawke McKeon & Sniscak LLP
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August 5, 2024

VIA ELECTRONIC MAIL
dheep@pa.gov
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Administrative Law Judge Darlene Heep
Administrative Law Judge Marta Guhl
Pennsylvania Public Utility Commission
Office of Administrative Law Judge
801 Market Street, Suite 4063
Philadelphia, PA 19107

RE: Pennsylvania Public Utility Commission v. PECO Energy Company (Electric); Docket No. R-2024-3046931; Pennsylvania Public Utility Commission v. PECO Energy Company (Gas); Docket No. R-2024-3046932; **TESTIMONY AND EXHIBITS OF SEPTA**

Dear Judges Heep and Guhl:

Southeastern Pennsylvania Transportation Authority ("SEPTA") intends to admit the attached testimony and exhibits as evidence into the evidentiary record at the Evidentiary Hearings scheduled on August 7, 2024 and August 8, 2024, in the above-captioned proceedings:

1. SEPTA Statement No. 1, Direct Testimony and Exhibits JC-1 and JC-2 of James L. Crist; and

2. SEPTA Statement No. 1-R, Rebuttal Testimony of James L. Crist.

Very truly yours,

Todd S. Stewart
Counsel for the Southeastern Pennsylvania Transportation Authority

TSS/jld
Enclosure
cc: Athena Devillar, Legal Assistant (via electronic mail – sdevillar@pa.gov)
Per Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the parties, listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a party)

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DATED: August 5, 2024

Todd S. Stewart

BEFORE
THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company (Electric)	:	
	:	
	:	
Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046932
	:	
PECO Energy Company (Gas)	:	

DIRECT TESTIMONY OF JAMES L. CRIST, P.E.
ON BEHALF OF
SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY

SEPTA Statement No. 1
June 17, 2024

I. WITNESS QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS, AND ON WHOSE BEHALF, YOU ARE TESTIFYING.

A. I am James L. Crist, President of Lumen Group, Inc. a consulting firm focused on regulatory and market issues. My business address is 4226 Yarmouth Drive, Suite 101, Allison Park, Pennsylvania 15101. I am presenting testimony on behalf of The Southeastern Pennsylvania Transportation Authority ("SEPTA").

Q. DO YOU HAVE ANY QUALIFICATIONS OR OTHER SPECIALIZED KNOWLEDGE THAT WOULD ASSIST THE PENNSYLVANIA PUBLIC UTILITY COMMISSION ("COMMISSION") IN ITS DELIBERATIONS IN THIS CASE?

A. Yes. I have a B.S. in Chemical Engineering from Carnegie Mellon University and an M.B.A. from the University of Pittsburgh. Additionally, I am a Registered Professional Engineer in the Commonwealth of Pennsylvania. I have attached a copy of my CV and Regulatory Experience as **Exhibits JC-1** and **JC-2** respectively.

Q. BRIEFLY DESCRIBE YOUR RELEVANT BUSINESS QUALIFICATIONS.

A. I have run a consulting practice for the past 25 years focused on regulated and deregulated energy company strategy, market strategy, and regulatory issues. During 2004 and 2005, I undertook a consulting assignment as the Vice President of Consumer Markets for ACN Energy. ACN is a gas and electric marketer that is active in eight states. Prior to my consulting practice, I worked at three major energy companies for a

total of 19 years. Most recently I was Vice President of Marketing for Equitable Resources. In that function I was responsible for the development of the company's deregulated business strategy.

Prior to that I was Vice President of Marketing for Citizens Utilities, responsible for gas, electric, water and wastewater marketing activities in several service territories within the United States. The gas and electric utility operations were in Vermont, Louisiana, Arizona, Colorado, and Hawaii. Under my direction, Citizens initiated commercial and industrial transportation and supply services at its gas operation in Arizona. I also directed significant gas supply contracting activities with large industrial and commercial customers in Citizens' gas operation in Louisiana.

Before that, during 1988 through 1994, I was the Marketing Director at the Peoples Natural Gas Company where I was actively involved in many gas transportation programs as the company relaxed transportation requirements so that customers would have supply choices.

In summary, I have considerable experience in several states involving residential, commercial, and industrial customer energy procurement, regulatory issues and industry restructuring programs.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION?

A. Yes, I have appeared before the Commission in numerous gas and electric regulatory proceedings. I presented testimony in Pennsylvania in recent cases involving the Philadelphia Gas Works, Columbia Gas of Pennsylvania, Duquesne Light Company, the

Peoples Natural Gas Company, and First Energy. Additionally, I have provided testimony on a variety of issues relating to energy procurement, industry restructuring, and demand response before regulatory Commissions in Arizona, Kentucky, Tennessee, Maryland, New Mexico, Illinois, Ohio, Wyoming, and the U.S. Virgin Islands.

II. PECO SERVICE TO SEPTA

Q. WHAT SERVICES DOES SEPTA RECEIVE FROM PECO?

A. SEPTA is a customer of PECO for both electric and natural gas distribution services. More specifically, SEPTA is a major generation, transmission, and distribution service customer of PECO receiving service under Rates EP, HT, GS and TLCL. SEPTA also receives natural gas distribution service from PECO under rate GC.

III. ISSUES

Q. WHAT ARE THE ISSUES YOU WILL DISCUSS IN THIS TESTIMONY?

A. After reviewing both the electric and natural gas rate increase requests I have several concerns. The most significant one is the overall magnitude of the revenue request. Such an increase is excessive and not merited by the level of service provided. While SEPTA is a customer of PECO for both electric distribution and gas distribution services, the majority of costs to SEPTA arise from the electric distribution billings of PECO and my comments will focus on those costs. Because I have not addressed PECO's natural gas distribution rate requested increase it should not be interpreted that I condone PECO's proposed increase of those rates. This testimony focuses on the major costs to SEPTA, that are the high voltage rate categories of Rate HT and Rate EP. I have concerns about the revenue distribution to the customer classes and the major impact the request has on

Rates EP and HT. In addition to the cost and revenue issues I also have concerns about PECO's low level of customer service. The Company testimony refers to the "premier customer service" the Company provides, and I am shocked that PECO portrays its level of service as superior, for SEPTA's actual experience shows otherwise.

PECO's recent rate increase was fully effective in October 2021. The current net increase of $399 million represents a net base rate revenue increase of 29.16%[1]. Although the news media have discussed the inflation rate frequently and referred to inflation in recent years as higher than historic, the recent Bureau of Labor Statistics data show the 2023 inflation rate, as measured by the Consumer Price Index ("CPI") was 4.1%.

Last year's inflation rate was 4.1%, the recent rolling 12-month inflation rate is 3.1%, the Federal Reserve policy strives to achieve a 2% rate. Using the Bureau of Labor Statistics inflation calculator[2] shows the Consumer Price Index increased 14.0% from October 2021 to May 2024, and PECO's filing requests a 29.16% increase. PECO's large request should be rejected or substantially reduced not to exceed inflation.

Q. WHAT ARE THE DEMOGRAPHICS OF THE RIDERSHIP OF SEPTA?

A. SEPTA's ridership is representative of the mix of residential customers of PECO. SEPTA is a large public transit system that serves five counties in southeastern Pennsylvania, its ridership is a diverse mix of working individuals commuting to work, students

[1] PECO Exhibit TJJ-1, Page 2, Line 72.
[2] https://data.bls.gov/cgi-bin/cpicalc.pl.

commuting to school, senior citizens, and low-income residents that do not own a car. The median income of SEPTA's riders in 2022 was under $34,000 per year.

Q. WHAT WILL BE THE IMPACT OF THE LARGE REVENUE INCREASE ON SEPTA'S RIDERSHIP?

A. SEPTA's financial condition would be negatively impacted by this large increase. Any significant increase to SEPTA's costs will put additional pressure on an already severely constrained budget, which could ultimately trigger increases to fares and/or cuts to service in order to balance the budget. This poses a great challenge for the ridership of SEPTA, most of whom have no other alternative.

IV. REVENUE ISSUES

Q. WHAT DID THE COMPANY'S COSS RECOMMEND FOR RATES HT AND EP?

A. PECO requested an overall revenue increase of 29.2% in electric rates yet proposed that Rate HT increase by 38.0% and Rate EP increase by 39.2%. (Source PECO Exhibit JAB-1).

While PECO's requested system average increase of 29.2% is extreme enough, it is unconscionable to increase Rate HT by 38.0% and Rate EP by 39.2%. While some customers receiving service under Rate HT may be industrial manufacturers or large commercial businesses, SEPTA's electric use under Rate HT provides power to the many train, subway, and bus station facilities, along with the transit system garages and repair shops. PECO indicates Rate EP has five customers, although that really is five accounts. Two of those accounts are SEPTA, and the other accounts are Amtrak. Power through

Rate EP is used for electric propulsion, that is moving the trains, subways, and streetcars through and around Southeastern Pennsylvania.

Q. WHAT DRIVES THE COST OF AN ELECTRIC DISTRIBUTION SYSTEM?

A. Electric distribution systems are designed to meet the peak needs of its customers. Consequently, the cost drivers of electric distribution systems are the design of the physical plant items such as transformers, poles, towers, stations, conduit, and conductors.

Q. WHAT IS LOAD PROFILE?

A. A load profile is an illustration of the pattern of electricity usage over a specific period of time, typically a day, month or a year. It represents how much electricity a customer consumes at different times throughout the day or year. Load profiles can vary widely depending on factors such as the type of customer (residential, commercial, industrial, transit), the time of day, the season, and specific usage patterns. For example, residential customers might have higher electricity usage in the evenings when they're cooking dinner and using appliances, while commercial customers might have higher usage during business hours. Transit authorities such as SEPTA use power over the entire day. Although some transit services are reduced during the night hours there are maintenance, repair, cleaning, and charging activities that are undertaken during that time. Load profiles illustrate the efficiency of usage of a distribution system through the customer or class load factor.

Q. WHAT IS PEAK DEMAND AND HOW DOES IT IMPACT DISTRIBUTION SYSTEM COSTS?

A. The customer's maximum power usage during the time period, commonly a day, month, or year is the peak demand. In the cost allocation process of the COSS several of the allocation factors are based on the peak demand. Peak demand is classified as either coincident peak demand, meaning the customer's demand at the same time (coincident) that the utility experiences its peak demand, or non-coincident, which is the customer's peak demand at any point in the time period.

Q. HOW DOES PEAK DEMAND IMPACT THE COST TO RENDER SERVICE?

A. Because electric distribution systems must be designed to meet the maximum aggregate customer demand, the customer's peak demand is a cost driver of distribution system construction. Coincident customer demands are the most significant factor driving costs of the electric distribution system as they represent that maximum instantaneous demand on the electrical system.

Q. HOW DID THE COMPANY'S COSS ACCOUNT FOR CUSTOMERS' PEAK DEMANDS?

A. The main allocation factor in PECO's COSS that is used to allocate the majority of the capital costs of the primary/high tension system is the Demand Distribution Primary High Tension (Non-Coincident Peak) or "DDISPHT." Because approximately 95% of SEPTA's electric use is under Rate HT and Rate EP, the majority of the costs allocated to SEPTA are calculated using the allocation factor DDISPHT. This however creates an

overstatement of costs allocated to SEPTA. The DDISPHT is based on non-coincident peak demand. While this is important in the design of electric distribution systems, it is the coincident peak demand that determines the overall design capacity of the electric distribution system, and that cannot be ignored in the allocation of distribution system costs, yet PECO has done that. PECO's proposed cost allocation is inconsistent with standard cost causation principles, which makeup the foundation of regulated rate design.

Q. WHEN DOES SEPTA'S NON-COINCIDENT PEAK OCCUR?

A. For SEPTA's two largest EP accounts, which together represent about 70% of SEPTA's total usage, the NCP this year occurred on January 18 at 8:00 AM and was 45.7 MW. The aggregate NCP billing demand for these two accounts, one in January 2024 and the other in March 2023, was 50.6 MW. SEPTA is invariably a winter peaking operation. Such seasonal use in the winter period is beneficial to PECO, a summer-peaking utility.

Q. WHAT WAS SEPTA'S COINCIDENT PEAK?

A. PECO is a summer peaking utility and much of its cost of service is building around meeting summer demand. During the summer season when PECO last experienced its peak sendout in the afternoon of September 7, 2023, the Coincident Peak for these same two SEPTA accounts was just 29.2 MW, 36% lower than the Non-Coincident Peak and 42% lower than the annual billed peak. For this reason, the cost allocations that PECO performed in its COSS grossly over allocate costs to SEPTA through rates HT (a 38.0% increase) and EP (a 39.2% increase).

Q. WHAT ADJUSTMENTS MUST BE MADE IN THE COSS TO PROPERLY ACCOUNT FOR LOAD PROFILE?

A. Allocations to Rate HT and Rate EP should be reduced to no greater than the overall increase percentage that PECO is ultimately granted.

V. SERVICE ISSUES

Q. HOW DOES THE COMPANY DESCRIBE THE QUALITY OF SERVICE IT RENDERS?

A. In her testimony, PECO Statement No. 1, 28:6-8, Ms. Levine opines, "PECO recognizes its responsibilities to customers and seeks to invest in maintaining and improving how the Company provides premier customer service and how it interfaces with customers." As a major customer of PECO, SEPTA is hopeful that PECO will move toward providing premier customer service, however the current level of service does not meet minimal acceptable standards. In the past few years PECO has made major changes to its billing system and customer portal, and the result is that some of those changes have caused disruptions to SEPTA's access to timely and accurate billing, and availability of operational data necessary to manage SEPTA's operations. Despite repeated notifications and discussions with PECO, there are still significant limitations on access to correct bills and customer data. This should be considered in the decision on the amount of requested revenue increase that will be granted.

Q. WHAT CHANGES DID THE COMPANY IMPLEMENT IN ITS BILLING SYSTEM?

A. PECO provided a notification email in October 2023. The email explained:

> "We will be upgrading our customer billing system in January of next year. As a result of this upgrade, we wanted to make you aware of impacts this change may have on our customers.
>
> We will be changing your electric and gas account number. This change will take place in mid-January, and you will be able to see the new account number on your first bill after Monday January 16th. This change may require customer action.
>
> Notifying your bank if you are an electronic payment customer.
>
> Make certain your accounts payable team is aware of the change and they have updated their systems accordingly.
>
> Moving forward any new supplier enrollment will require your Choice ID number which can be found on your bill. The Choice ID is different from your account number and is only used If you shop for a third-party supplier of electric and gas. If you have both electric and gas service you will have two unique Choice IDs, one for electric and one for gas.
>
> To make this process as easy as possible for our customers PECO will be contacting your electric and gas suppliers and making them aware of your new account number and Choice ID number. If you are currently enrolled with an alternative supplier, that enrollment will carryover, and no action is required.
>
> PECO has created a tool on our website (www.peco.com) that will allow our customers to learn what their new account number is by converting the old account number into the new account number. This account number conversion tool will be available on or after January 16th. We will provide the link to the tool in a future communication.
>
> We will be providing additional communication as we get closer to the conversion date. I would encourage you to reach out to me, your account manager, if you have any questions."

Q. WHAT ISSUES EXIST WITH THE BILLING SYSTEM?

A. Various issues that are related to the integration of PECOs new billing system this year are causing significant problems for SEPTA. These have all been relayed to PECO but there has been no follow up on confirmation of the timing for resolution.

For example, many PECO electric and gas accounts have been removed from the PECO customer billing website with the update to the new billing system in January of this year. SEPTA is receiving paper invoices for hundreds of invoices with the bulk of them in summary invoice format, which are consolidated paper copies, but there is no digital invoice for every account. Because larger customers with many accounts often use data and billing management systems that integrate with the PECO customer portal, this has resulted in significant gaps in data provision.

Similarly, SEPTA no longer has access to interval data (hourly electric data) for many of these accounts that have disappeared from the digital record. This includes some larger accounts on Rate HT. SEPTA has 30 HT accounts and 2 EP accounts and only six of those accounts are accessible on the PECO portal to SEPTA to obtain interval data.

There have been instances involving the same account where the invoice was mailed to the wrong address twice. One of the summary paper invoices is now sent via FedEx to a different address than is listed in the PECO billing system. PECO has not corrected the issues SEPTA has reported, claiming that the correct address is in its billing system, however the bill was mailed to a different address.

Often SEPTA has to monitor and remove residential accounts that PECO has assigned to SEPTA's portfolio. There should be vetting of on-boarded residential accounts that are not related to SEPTA at all. There were two cases where the non-SEPTA account showed

up on the SEPTA login of the PECO portal, even though the customer's name was different, i.e. not "SEPTA." It is a concern when working with the number of accounts SEPTA has, that the bills received from PECO might include accounts that are wrongly attributed to SEPTA.

Q. WHAT IMPORTANT SYSTEM DATA HAS THE CUSTOMER PORTAL FAILED TO PROVIDE?

A. There has been removal of important account billing variables. Installed Capacity (ICAP) is a coincident peak account-level billing variable associated with a customer's allocation of fixed cost generation charges. Network Integration Transmission Service (NITS) is a transmission service that allows electric generation supply customers to efficiently and economically utilize their network resources as well as other non-designated generation resources to serve their load. Such data formerly was provided, but the account-level ICAP and NITS transmission tags were removed from the customer portal when PECO transitioned to a new customer portal in 2022. That change is different from the billing system change discussed previously. ICAP and NITS are account-level billing variables prominent in PECOs tariff for customers that receive generation service from PECO.

They are also important data for customers that receive electric commodities from third party suppliers. ICAP and NITS related demand charges can account for approximately half of electrical supply costs. PECO is ultimately responsible for calculating these account-level billing variables, which customers pay. PECO does in fact provide this data access to third party suppliers -- so it does record and retain it – however PECO

customers are no longer provided access to current or upcoming demand values. Removal of these critical billing variables impacts price transparency and overall usefulness of the billing portal because customers have no means to verify if they are being invoiced correctly and with the correct billing variables. It makes bill audits virtually impossible for as much as 50% of commodity cost. ICAP and NITS tags are also heavily time dependent and represent SEPTA's consumption patterns during key hours on the electricity grid. Because SEPTA also has gaps in the availability of hourly data, as previously discussed, SEPTA is not able to plan and assess its operational performance as it relates to the very billing factors that determine a large portion of its electrical operating costs. It is a bit like throwing a dart at a dartboard, while wearing a blindfold, only to find your competitor will dictate your score back to you. This is a significant disadvantage to customers.

Q. HOW DO THE BILLING SYSTEM ISSUES IMPACT SEPTA'S ABILITY TO PRUDENTLY MANAGE ITS ENERGY USAGE?

A. SEPTA relies on timely and accurate energy data, particularly billing data, to provide transparent cost accounting for a public service. Gaps in data and invoices contribute to inaccurate budgeting, missed opportunities to mitigate or manage costs, and additional administrative burden.

Q. WHAT IS YOUR RECOMMENDATION TO ADDRESS THE BILLING SYSTEM ISSUES?

A. PECO should resume providing SEPTA access to the PECO portal, including interval data, for all of SEPTA's accounts that were previously available online as well as all new accounts. PECO should also provide customers with access to the billing variables that drive their energy costs, namely ICAP and NITS tags. PECO should put measures in place to ensure invoices are being sent to the correct locations, and PECO should confirm with SEPTA when it adds or removes an account from SEPTA's billing, as it should do for any multi-account customer.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

EXHIBIT JC-1

JAMES L. CRIST

PRESIDENT, LUMEN GROUP, INC.

Suite 101, 4226 Yarmouth Drive ● Allison Park, PA 15101

Phone: 412.487.9708 ● Cell: 412.613.8886 ● E-mail: JLCrist@aol.com

DEMONSTRATED AREAS OF EXPERTISE

¨ GENERAL MANAGEMENT	Proven executive-level management expertise with excellent capabilities in developing, implementing, and supervising corporate-wide policies and procedures in areas including sales, marketing, customer service, public relations, rates, regulatory affairs, and administration. Possess a unique combination of abilities to set goals, develop winning business strategies, organize structures and work methods, and train the right people for the right positions to make it all work. Skilled in strategic short and long-term planning and budgeting with effective abilities in reducing the "fat" and increasing organizational efficiency. A creative, decisive leader who can successfully meet challenges and overcome obstacles to achieve profit objectives.
¨ REGULATORY STRATEGY	A thorough strategist with an extensive background in utility business unit operation (electric, natural gas, water/wastewater) the full range of rate and regulatory functions, from tariff development and special contract negotiation. Proven personal testifying skills with an outstanding record of developing and presenting successful written and oral testimony, along with settlement negotiations.
¨ PERSONNEL MANAGEMENT	Effective interpersonal communications skills support outstanding capabilities in recruiting, training, motivating, and directing staff at all levels. Proven ability to build productive, highly motivated teams of sales/marketing, operations, technical, and customer service personnel who contribute to top organizational performance.
¨ PERSONAL ATTRIBUTES	A determined, hardworking, challenge-driven executive with the skills and experience to bring excellence to any business organization. A high-energy mover and shaper ... experienced in successful start-ups and turn-arounds. An excellent communicator - written and verbal. A frequent speaker at professional symposiums, able to interpret and communicate complex concepts for diverse audiences. An engineering/technical specialist and a management generalist. Active in civic and community affairs.

EMPLOYMENT HISTORY

LUMEN GROUP, INC., Pittsburgh, PA — 1996 - Present

President - A consulting practice specializing in strategic planning, business planning, regulatory strategy, marketing and venture development in the electric, natural gas and energy services industries. Please see Addendum for amplification of consulting assignments.

ACN ENERGY, Farmington Hills, MI — 2004-2005

Vice President, Consumer Markets

OPTIRON, Pittsburgh, PA — 2003-2004

Vice President, Marketing

E R I SERVICES, Pittsburgh, PA — 1996

Vice President, Marketing & Product Development

CITIZENS UTILITIES, Harvey, LA & Stamford, CT — 1994 - 1995

Vice President, Marketing

CONSOLIDATED NATURAL GAS, Pittsburgh, PA — 1977 - 1994

Director, Residential & Commercial Marketing (1988 - 1994)
Manager, Technical Sales/Market Development (1985 - 1988)
Market Development Specialist (1982 - 1985)
Project Engineer (1979 - 1982) ... promoted from ... **Process Engineer** (1977 - 1979)

OCCIDENTIAL CHEMICAL CORP., Niagara Falls, NY — 1975 - 1977

Research Engineer

PENNSYLVANIA STATE UNIVERSITY, State College, PA — 1988

CLEVELAND STATE UNIVERSITY, Cleveland, OH — 1984

Instructor (Evening Division) - Economics, Engineering Economics

SELECTED ACCOMPLISHMENTS

VICE PRESIDENT, CONSUMER MARKETS - ACN ENERGY

Retained for a turnaround assignment with an independent energy marketing company. Participated on the executive management team and directed a decentralized 3-person market management staff responsible for sales to 85,000 customers. Worked directly with the parent company executives and business unit management to create market-driven strategies for the corporation. Sharpened marketing and sales efforts of an energy marketing company operating in seven states and packaged company for eventual sale to Commerce Energy.

- Primary executive responsible for sales. Directed a team of market managers that was responsible for all aspects of 11 different markets (electric and natural gas) around the country. Provided direction and support to sales channel organization of commissioned representatives. Turned around five-year annual loss to significant gain in 2004. Tightened focus on market decisions.
- Directed regulatory involvement to insure compliance with market rules. Focused on maintaining positive relationships with state utility regulators to avoid penalties.
- Led weekly operations meetings during absence of COO. This involved direction of call center, provisioning, billing, credit & collection, and marketing.
- Worked in a team setting with other executives (VP Finance, VP Supply, COO) to provide consistent, professional focus to workforce experiencing changing environment.
- Directed development of annual business plan and budget with targets resulting in both goal achievements and income improvements.
- During transition period working with merger partner Commerce Energy's executive team to train and advise incoming executives.
- Directed customer service improvements in the customer acquisition process which resulting in replacing outdated paper/fax process with phone order process.
- Organized and directed trade show presence at national sales convention for alliance sales channel to create awareness of new product and market focus.

VICE PRESIDENT, MARKETING - OPTIRON

Retained as part of executive team in venture capital startup company developing new CIS/CRM software for the energy industry. Worked closely with CEO, COO, and Director of Sales to determine business strategy and develop marketing strategy to create market awareness and brand attributes in medium and small energy companies.

- Added in-house marketing communications function and personnel and revamped all marketing materials.
- Added new website functionality and content.
- Implemented first print advertising campaign in industry publications.
- Using industry contacts, positioned Option as expert presenter at several conferences and trade shows.
- Developed business plan to identify sales prospects and created competitive database of CIS/CRM vendors.
- Participated in development of exit strategy plan resulting in the successful sale to large software company.

VICE PRESIDENT, MARKETING & PRODUCT DEVELOPMENT - ERI Services

Assumed responsibility for creating a new corporate marketing vision and strategy to facilitate entry into new deregulated energy markets nationally.

- Recruited and selected an exceptional management team and integrated marketing and sales activities into one functional operating unit.
- Established the product innovation process to identify and create new and profitable market-driven service offerings.
- Directed strategic branding to launch the new corporate identity; managed a $2 million national advertising campaign; and developed over $1 million of new sales/marketing collateral materials.
- Instituted financial controls that reduced costs 60% in the Iowa market rollout while maintaining 80% market share and high customer satisfaction.

VICE PRESIDENT, MARKETING - Citizens Utilities

Directed a decentralized 20-person sales staff and a five person marketing staff. Worked directly with the Board of Directors, Corporate President, and Sector Vice President to create market-driven sales strategies for the corporation. Revamped and redirected sales efforts of a five-state energy utility with 440,000 customers.

- Increased industrial sales revenues by reorganizing unregulated gas marketing effort.
- Revamped merchandising utilizing inbound telemarketing in Louisiana Gas.
- Revised training programs for entire sales force, identifying and correcting missing technical and equipment training, adding a greater competency in the commercial and industrial sectors.
- Developed first business plan in sales and marketing organization with monthly budget monitoring and

targets resulting in both goal achievements and cost improvements.
- ¨ Launched an aggressive direct marketing program that increased sales 500% over previous year.
- ¨ Increased share of gas transportation business in Arizona by 15% in first year of operation through marketing efforts.
- ¨ Created a telephone long distance business in Louisiana that captured a 20% share (2nd to AT & T).

DIRECTOR, RESIDENTIAL & COMMERCIAL MARKETING - Consolidated Natural Gas

Managed a marketing staff of 12 and a "dotted-line" 24-person field sales force. Directed marketing and sales efforts in consumer, business, and manufacturing markets with $154 million revenue.

- ¨ Added $6 million in revenue by developing new products in gas transportation, supply, and agency.
- \- Directed sales activities in residential, commercial, institutional and governmental accounts for both product sales and technology sales.
- ¨ Produced $600,000 annual revenue and doubled competitive project wins by revamping market approaches to residential and commercial new construction.
- ¨ Secured 50% increase in customer decisions over 5 gas companies and 4 electric companies.
- ¨ Experienced in PUC and Legislature lobbying. Increased revenues $2.3 million through regulatory strategy/testifying and received major competitive program approval.

MANAGER, TECHNICAL SALES / MARKET DEVELOPMENT - Consolidated Natural Gas

Directed new market development and competitive market support.

- ¨ Focused on commercial and industrial accounts and increased the depth of relationship beyond the typical utility provider of service to a rich full service information provider and business partner.
- \- Captured $150,000 in new business annually by competitive pricing analysis, sales tool development, and market approach.
- ¨ Developed total advertising and promotional plan launching new market programs.
- ¨ Compiled extensive technical database and developed economic model for project analysis, eliminating a $100,000 operating budget expense.
- ¨ Led statewide coalition with customers and government agencies for fair treatment of new technology.

EDUCATION - PROFESSIONAL

UNIVERSITY OF PITTSBURGH, Pittsburgh, PA 1982
M.B.A. Degree

CARNEGIE - MELLON UNIVERSITY, Pittsburgh, PA 1975
B.S. Degree in Chemical Engineering

Registered Professional Engineer AGA Hall of Fame, 4/1991

JAMES L. CRIST

Lumen Group, Inc.
Suite 101, 4226 Yarmouth Drive ● Allison Park, PA 15101
Phone: 412.487.9708 ●Cell: 412.613.8886 ●E-mail: JLCrist@AOL.com

AMPLIFICATION OF LUMEN GROUP CONSULTING ASSIGNMENTS

A consulting practice specializing in strategic planning, business planning, marketing and venture development in the telecommunications, energy, and services industries.

REGULATORY

Represented the National Energy Marketers Association and their members in Equitable-Dominion Peoples merger case. Developed strategy, presented written and oral testimony and negotiated on behalf of clients. Worked with other interveners and FTC on anti-competitive issues.

UTILITY RATE NEGOTIATION

Represented large client group seeking to obtain rate reduction from electric utility. Prepared strategy, wrote testimony, and exceeded expectations by achieving a 40% reduction in charges, producing a $2 million annual reduction.

STRATEGIC PLANNING FOR ON-SITE POWER GENERATION

Participated in proposal development for a 27-MW power plant on Kauai. Handled critical customer needs assessment in rapid turnaround fashion to meet proposal deadline. Maintained relationships with clients, vendors and proposal partners. Our proposal was selected as the preferred bidder out of five strong competitors.

NEW BUSINESS START-UP / TARIFF NEGOTIATIONS

Participated in the development of a new gas distribution utility in New York. Handled tariff development, pricing structure, transportation contracting, and operations, maintenance, and emergency manual preparation.

SALES STRATEGY/BUSINESS DEVELOPMENT

Developed sales strategy to focus on profitable accounts and markets. Developed sales training and account management plans and provided consulting to energy marketing organizations to improve overall sales.

BUSINESS STRATEGY/BUSINESS DEVELOPMENT

Developed business strategy to verticalize eCommerce/Customer Relationship Management product for the energy/utility industry. Produced sales training for global applications, product promotion presentations, developed alliance relationships with system integrators and software partners, developed business. Client is market leader in North America.

JOINT VENTURE/PRODUCT DEVELOPMENT

Assembled joint ventures resulting in sales to offer new hedge-based weather risk management retail product. Identified venture partners, and developed business arrangements and closed million-dollar deals

ENERGY PROCUREMENT

Served as energy expert on project team that obtained long-term natural gas supply for major government facilities. Prepared project specifications, negotiated with suppliers, prepared RFP, negotiated major reduction in delivery charges. This project resulted in annual cost reduction of $2.5 million.

NEW BUSINESS DEVELOPMENT - TELECOMMUNICATIONS

Analyzed use of electric utility assets for possible telecommunications business venture. Wrote the business plan that identifies regulatory and non-regulatory issues, marketing plans, financial analysis, and organizational requirements. Launched the new non-regulated business unit in 1996.

JOINT VENTURE DEVELOPMENT - TELECOMMUNICATIONS

Conducted analysis of potential joint venture partners for new unregulated telecommunications venture, bypassing the Bell operating company. Held screening discussions with potential partners and selected lead candidate for venture. Developed working agreement with partners along with business case to launch venture.

JOINT VENTURE DEVELOPMENT - TELECOMMUNICATIONS & ENERGY

Developed strategic plan for joint venture involving gas, electric, and telecommunications partners. Screened potential business partners and held discussions with lead candidates. Assembled justification for top management approval.

PRODUCT DEVELOPMENT - UNREGULATED ENERGY SERVICES

Developed energy products for start-up subsidiary of major energy utility. Identified potential products and selected most likely candidates for further development. Developed market plans and sales plans for products.

MARKET PLAN - DIRECT MARKETING

Developed the market plan for large, global direct marketing agency to enter the energy industry. Identified strategies, strengths, weaknesses, and target prospects. Initiated sales effort and developed new business.

CORPORATE IMAGE DEVELOPMENT

Developed complete business unit identity for a new operations and services company. Produced capabilities brochure for use with prospects.

MARKET RESEARCH

Conducted market research to identify new customer/new business opportunities for major energy utility. Comprehensive project with two additional similar projects were completed. Entailed determination of goals, development of research methodology, script preparation, vendor selection, data analysis, and development of action plan.

MARKET DEVELOPMENT

Organized intervener group in Illinois consisting of retail marketers and intervened in three rate proceedings (Nicor Gas base case, WPS-Peoples merger case, Peoples Gas base case) and secured significant improvements in rules and procedures enabling marketers to increase their business and profitability. Developed strategy and presented written and oral testimony.

EXHIBIT JC-2

PARTIAL LIST OF REGULATORY EXPERIENCE OF JAMES L. CRIST

1. Philadelphia Gas Works, Base Rate Case, Docket R-2023-3037933, Representing Grays Ferry Cogeneration Partnership
2. Columbia Gas of Kentucky, Tariff Filing of Columbia Gas of Kentucky to Extend Its Small Volume Gas Transportation Service, Case No. 2021-00386, Representing Interstate Gas Supply, Inc, Constellation New Energy Gas Division, LLC, Xoom Energy Kentucky, LLC
3. Chattanooga Gas Company, Petition for Approval of Tariff Amendments, Docket No. 22-00004, Representing Chattanooga Regional Manufacturers Association
4. Chattanooga Gas Company, Petition for Approval of its 2021 Annual Rate Review Filing, Docket No. 22-0032, Representing Chattanooga Regional Manufacturers Association
5. Duke Energy Ohio, Application for Tariff Approval, Case No. 20-0054-GA-ATA, Representing Retail Energy Supply Association
6. Black Hills Wyoming Gas, Application for Authority to Revise Certain Tariff Provisions, Docket 30026-GA-21, Representing Wyoming Community Gas
7. West Penn Power Company, Default Service Program, Docket P-2021-3030021, Representing the Pennsylvania State University
8. Columbia of PA General Base Rate Increase, Docket R-2021-3025775, Representing the Pennsylvania State University
9. Columbia of PA General Base Rate Increase, Docket R-2020-3018835, Representing the Pennsylvania State University
10. Dominion Energy Ohio Motion, Case No. 18-1419-GA-EXM, Representing Retail Energy Supply Association
11. Aqua America/Peoples Natural Gas Merger, Docket R-2018-3006061, Representing Natural Gas Supplier Parties and Retail Energy Supply Association
12. Peoples Natural Gas General Base Rate Increase, Docket R-2018-3006818, Representing Peoples Industrial Intervenors
13. Duquesne Light Company General Base Rate Increase, Docket R-2018-3000124, Representing the Duquesne Industrial Intervenors
14. Columbia of PA General Base Rate Increase, Docket R-2018-2647577, Representing the Pennsylvania State University
15. West Penn Power Company, Default Service Program, Docket R-2017-2637866, Representing the Pennsylvania State University
16. Vectren Energy Delivery Ohio, Alternative Rate Plan, Case No. 18-0049-GA-ALT, Representing Retail Energy Supply Association
17. Columbia of PA Gas Cost Increase, Docket R-2017-2591326, Representing the Pennsylvania State University
18. West Penn Power Company, General Base Rate Increase, Docket R-2016-2537359, Representing the Pennsylvania State University
19. Columbia of PA General Base Rate Increase, Docket R-2016-2529660, Representing the Pennsylvania State University
20. UGI Utilities General Base Rate Increase, Docket R-2015-2518438, Representing Dominion Retail, Inc., Shipley, Choice, LLC, Interstate Gas Supply, Inc., Amerigreen Energy, and Rhoads Energy
21. Columbia of PA General Base Rate Increase, Docket R-2015-2468056, Representing the Pennsylvania State University
22. West Penn Power Company, General Base Rate Increase, Docket R-2014-2428742, Representing the Pennsylvania State University
23. Herman Oil & Gas Company, General Base Rate Increase, R-2014-2414379, Representing Herman Oil & Gas Company
24. Columbia of PA General Base Rate Increase, Docket R-2014-2406274, Representing the Pennsylvania State University
25. Ameren Gas- General Base Rate Increase, Docket No. 13-0192, Representing Dominion Retail and Interstate Gas Supply of Illinois
26. Columbia of PA General Base Rate Increase, Docket R-2012-2321748, Representing the Pennsylvania State University, Dominion Retail, Interstate Gas Supply, and Shipley Energy
27. Columbia of PA Petition for Approval of a Distribution System Improvement Charge Docket R-2012-2338282, Representing the Pennsylvania State University
28. PUC PA Generic Investigation Regarding Gas-On-Gas Competition, Docket No. P-2011-2277868, Representing the Pennsylvania State University
29. Ameren Gas- General Base Rate Increase, Docket 11-0282 (Cons.), Representing Dominion Retail and Interstate Gas Supply of Illinois
30. Water and Power Authority (USVI)- Electric Base Rate Case, Docket 575, June 2009, Representing Frenchman's Reef Marriott
31. Water and Power Authority (USVI)- Water Base Rate Case, Docket 576, June 2009, Representing Frenchman's Reef Marriott

32. Public Service of New Mexico 2010 Base Rate Case, Informal rate design workshops pursuant to the stipulation in NMPRC Case No. 08-00273-UT, Representing City of Albuquerque
33. Public Service of New Mexico, Electric base case at Case No. 08-00273-UT, Representing City of Albuquerque
34. Public Service of New Mexico 2009 Renewable Energy Procurement Plan for 2010, Case No. 09-00260-UT, Representing City of Albuquerque and Santa Fe County
35. Public Service of New Mexico, Gas sale case at Case No. 08-00078-UT, Representing City of Albuquerque
36. UGI Utilities, Central Penn Gas, Penn Natural Gas, Gas Cost Increase, Docket No. R-2011-2238953, Representing Shipley Energy, Rhodes Energy, and CenterPoint Energy
37. UGI Utilities- Gas Division, Gas Cost Increase, Docket No. R-2010-2172933, Representing Shipley Energy
38. Columbia of PA General Base Rate Increase, Docket R-2010-2215623, Representing the Pennsylvania State University, Dominion Retail, Interstate Gas Supply, and Shipley Energy
39. Columbia of PA General Base Rate Increase, Docket R-2009-2149262, Representing the Pennsylvania State University, Dominion Retail, Interstate Gas Supply, and Shipley Energy
40. Columbia of PA General Base Rate Increase, Docket R-2008-2011621, Representing Hess Energy, Dominion Retail, Interstate Gas Supply, and Shipley Energy
41. Columbia of PA Gas Cost Increase, Docket R-2008-2028039, Representing Dominion Retail, Interstate Gas Supply, and Shipley Energy
42. PPL Electric Utilities Voluntary Purchase of Accounts Receivables Program and Merchant Function Charge, Docket No. P-2009-2129502
43. Nicor Gas Company, Provision of facilities and services and the transfer of assets between Nicor Gas Company and Nicor Inc., Docket No. 09-0301, Representing Dominion Retail
44. North Shore Gas and Peoples Gas Light and Coke Company, General Base Rate Increase, Dockets 09-0166 and 09-0167, Representing Dominion Retail, Interstate Gas Supply and Nicor Advanced Energy
45. Nicor Gas Company, Base Rate Increase, Docket No. 08-0363, Representing Interstate Gas Supply and Dominion Retail
46. North Shore Gas and Peoples Gas Light and Coke Company, General Base Rate Increase, Dockets 07-0241 and 07-0242, Representing Dominion Retail, Interstate Gas Supply and U.S. Energy Savings
47. WPS Resources, Peoples Energy, Peoples Gas Light and Coke Company, North Shore Gas Company, Application pursuant to Section 7-204 of the Public Utilities Act for authority to engage in a Reorganization, Docket 06-0540, Representing Dominion Retail, Interstate Gas Supply, US Energy Savings, MxEnergy, and Direct Energy Services.
48. Allegheny Energy, Approval of Retail Electric Default Service Program and Competitive Procurement Plan, Docket No. P-2008-2021608, Representing the Pennsylvania State University
49. Allegheny Energy, Generation Rate Cap, Docket No. P-2007-2001828, Representing the Pennsylvania State University
50. Equitable Gas Company, Rate Increase, Docket R-2008-2029325, Representing Independent Oil & Gas Association and Hess Corp.
51. Equitable Gas Company and Peoples Gas, Merger Case, Docket A-122250F5000, Representing National Energy Marketers, Hess Corporation, and Constellation New Energy.

BEFORE
THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company (Electric)	:	
	:	
	:	
Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046932
	:	
PECO Energy Company (Gas)	:	

REBUTTAL TESTIMONY OF JAMES L. CRIST, P.E.
ON BEHALF OF
SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY

SEPTA Statement No. 1-R
July 16, 2024

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS, AND ON WHOSE BEHALF, YOU ARE TESTIFYING.

A. I am James L. Crist, President of Lumen Group, Inc. I am presenting rebuttal testimony on behalf of The Southeastern Pennsylvania Transportation Authority ("SEPTA").

Q. WHAT ARE THE ISSUES YOU WILL DISCUSS IN THIS REBUTTAL TESTIMONY?

A. Specifically, in my rebuttal testimony I will address issues in the electric proceeding. I will review several allocated cost of service study ("CCOS" or "COSS"[1]) recommendations made by OCA witness Mr. Johnson and OSBA witness Mr. Higgins, and the revenue scaleback recommendation of I&E witness Mr. Sakaya. I will also discuss statements made by PAIEUG witness Ms. LaConte. Because some of the opinions presented by some of the witnesses are not based on cost causation, they skew the revenue responsibility, which is unacceptable.

Q. WHAT OBSERVATIONS DID MR. JOHNSON HAVE?

A. Mr. Johnson opined that the secondary distribution system for PECO Electric should be allocated based on demand, not on customers. Naturally since he represents the OCA and is primarily concerned with the Residential class, the shift from customers to demand as a basis for allocation of costs significantly improves the COSS relative rate of return at present rates for that class from 116% to 139%, which Mr. Johnson illustrates on page 17. Mr. Johnson then proposes to change the revenue requirement allocation made by PECO

[1] Both Class Cost of Service Study ("CCOSS") and Cost of Service Study ("COSS") refer to the same thing. Both terms have been used in the testimony of other witnesses, and myself, and in previous Commission recommendations and orders.

and distribute more revenue requirement to other classes. His chart CJ-2 on page 23 shows the difference between the Company's allocation and Mr. Johnson's proposal.

Q. WHY IS MR. JOHNSON'S PROPOSAL TO REALLOCATE REVIEW TO CERTAIN LARGE CUSTOMER CLASSES INAPPROPRIATE?

A. Mr. Johnson's modification to PECO's COSS dealt with the assignment of costs of the secondary distribution system. Three of the classes that Mr. Johnson wishes to allocate more revenue to are the Primary Distribution (PD), High Tension (HT), and Electric Propulsion (EP). None of those classes use the secondary distribution system that Mr. Johnson examined. His recommendation to reallocate revenue requirement of the secondary distribution system to classes that do not use the secondary distribution system will result in a cross-class subsidy, and that violated the principles of Cost Causation. His recommendation should be rejected.

Q. WHAT OBSERVATIONS DID MR. SAKAYA HAVE?

A. Mr. Sakaya first observes the Company requested an increase of $464 million. He did not dispute the amount of the request or conduct any analysis of the allocation of the requested revenue increase, but he did make a unique proposal regarding a scaleback methodology if the Commission decides not to grant the entire rate request made by the Company. His Exhibit (I&E Exhibit No. 3, Tables 2 and 3) proposes to assign the first $50,000,000 of rate reduction to a single customer class, then assign the next 45,700,000 of rate reduction across four customer classes. There is no analysis presented regarding the appropriateness of this skewed scaleback.

Q. WHY SHOULD MR. SAKAYA'S RECOMMENDATION BE DISREGUARDED?

A. Evidence of record should be the basis of any revenue scaleback; evidence on cost causation in particular, not some arbitrary assignment methodology.

Q. WHAT SCALEBACK METHOD SHOULD BE USED?

A. Considering all the details that will be weighed by the Commission in reaching a decision on the revenue increase, once that amount has been determined, then a proportional scaleback should be applied to all customer classes.

Q. WHAT OBSERVATIONS DID MR. HIGGINS HAVE?

A. Mr. Higgins agrees with the proportional scaleback recommendation I made[2] so on that point we are in agreement. He reviews several other cost allocation items which I am not addressing in this testimony. My absence of comment is not an endorsement or opposition of his view.

Q. WHAT OBSERVATIONS DID MS. LACONTE HAVE?

A. Ms. LaConte made accurate observations regarding the relative rate of return of the individual customer classes, specifically that the data for some of the classes was significantly different than the data in the 2021 base rate case. She then examined the data that cost allocators are based on and found that non coincident peak ("NCP") load factor data also to not conform to what would be expected based on history. I share her

[2] OSBA Statement No. 1, 5:11-15 "If the Commission approves a lower electric revenue requirement increase than requested by PECO, I recommend scaling each class's base distribution revenues in proportion to each class's share of total proposed base distribution revenues at PECO's requested revenue requirement increase."

concerns. The COSS she presented as Exhibit BSL-4 is a more appropriate COSS however that does not address all of the concerns that SEPTA has.

Q. HOW HAVE SEPTA'S OPERATIONS CHANGED SINCE PECO'S 2021 BASE RATE CASE?

A. SEPTA has experienced higher costs and considerably lower ridership/revenue levels since the COVID pandemic. Inflation has impacted all aspects of its operations. Materials, fuel, and labor are all considerably more expensive than in 2021. This, along with lower revenues from an evolving hybrid work environment with fewer commuters traveling to offices, has created a significant (presumably permanent) structural budget deficit of $240,000,000 annually.

Q. WHAT IS YOUR FORECAST REGARDING SEPTA'S OPERATIONS GOING FORWARD?

A. The lower ridership coupled with higher, inflation-driven operating costs will drive SEPTA to plan for potential service cuts and/or fare increases. Any further utility cost increases would only add to the deficit and hamper SEPTA's ability to provide reliable service in the Philadelphia region.

Q. BASED ON YOUR FORECAST, WHAT IS YOUR RECOMMONDATION FOR THE REVENUE REQUIREMENT ALLOCATED TO THE HT AND EP CLASSES?

A. The revenue responsibility allocated to Rate HT and Rate EP must be tempered to avoid further negative financial impact on SEPTA. It should be recognized that customers of SEPTA are residential customers, not business or industrial customers. Any increase assigned to the HT and EP rate classes should not exceed the overall increase realized by the Residential customer class.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company - Electric	Docket No. R-2024-3046931

LIST OF TURN/CAUSE-PA EXHIBITS

Hearing Exhibit 1: TURN/CAUSE-PA Pre-Served Testimony

- TURN/CAUSE-PA Statement No. 1: Direct Testimony of Elizabeth R Marx
  - TURN/CAUSE-PA Exhibit A: Languages Spoken at Home by Zip Code
  - TURN/CAUSE-PA Exhibit B: Security Deposits by Zip Code
  - TURN/CAUSE-PA Exhibit C: MEAF Awards and Disbursement by Zip Code
  - Appendix A: Resume of Elizabeth R. Marx
  - Appendix B: MEAF Flow Chart
- TURN/CAUSE-PA Statement No. 1-SR: Surrebuttal Testimony of Elizabeth R. Marx
  - Appendix A: PECO Security Deposit Letter

Hearing Exhibit 2: Selected Discovery Responses

- Attachment CAUSE-PA/TURN VI-19
- CAUSE-PA/TURN-VI-17
- CAUSE-PA/TURN- II-6

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company - Electric	Docket No. R-2024-3046931

DIRECT TESTIMONY OF ELIZABETH R. MARX

On Behalf of

Tenant Union Representative Network

and

Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania

June 17, 2024

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TURN/CAUSE-PA Exhibit A: Languages Spoken at Home by Zip Code

TURN/CAUSE-PA Exhibit B: Security Deposits by Zip Code

TURN/CAUSE-PA Exhibit C: MEAF Awards and Disbursement by Zip Code

Appendix A: Resume of Elizabeth R. Marx

Appendix B: MEAF Flow Chart

PREPARED DIRECT TESTIMONY OF ELIZABETH R. MARX

WITNESS BACKGROUND AND INTRODUCTION

Q. Please state your name, occupation, and business address.

A. Elizabeth R. Marx. I am an attorney, and currently serve as Executive Director of the Pennsylvania Utility Law Project, with offices at 118 Locust Street, Harrisburg, PA 17101.

Q. Briefly outline your education and professional background.

A. I received a BA in Political Science from Temple University, with a minor in Economics, and a JD from Widener University Commonwealth School of Law. I also hold a Certificate in the Fundamentals of Regulatory Studies from Michigan State University's Institute of Public Utilities.

Upon graduation from law school, I worked as a Staff Attorney at the Pennsylvania Coalition Against Domestic Violence (PCADV). There, I provided education, consultation, and legal support services to attorneys, advocates, and judges on legal matters impacting the health, safety, and stability of survivors of domestic violence. While at PCADV, I helped to launch PCADV's economic justice initiative, which works to address intersectional economic issues that impact the ability of survivors to establish a safe, healthy home. Through that work, I served as legal counsel for PCADV on matters before the Public Utility Commission impacting survivors' right to privacy and their ability to establish and maintain safe, affordable utility services.

In 2014, I was hired as a Staff Attorney at the Pennsylvania Utility Law Project (PULP), a statewide specialty legal services program dedicated to advancing the rights of low-income utility customers. I was promoted to PULP's Supervising Attorney in 2017. In 2020, I was appointed to serve as PULP's Executive Director. Since joining PULP in 2014, I have provided direct legal representation, education, and support services to thousands of low-income Pennsylvanians and

organizations across the state on utility and energy matters. In my current role as PULP's Executive Director, I am responsible for overseeing PULP's policy, litigation, advocacy, support services, and special projects in furtherance of its mission to ensure Pennsylvanians of limited economic means can access and maintain safe and affordable utility services.

I also currently serve on a number of advisory councils and committees to Pennsylvania state agencies on matters impacting the rights of low-income Pennsylvanians and their ability to access safe and affordable water and energy services. Since 2020, I have served as Chairperson of the LIHEAP Advisory Committee to the Department of Human Services. In 2023, I assumed the role of Chairperson of the Weatherization Assistance Program Policy Advisory Council to the Department of Community and Economic Development. I am also an appointed member of the Consumer Advisory Council to the Public Utility Commission and the Climate Change Advisory Committee to the Department of Environmental Protection.

As illustrated more thoroughly in my resume, I have well over a decade of experience providing direct legal services, education, and support services to resolve utility and energy issues affecting low-income consumers. My resume is attached as Appendix A.

Q. Please describe the focus of your work, including relevant work experience on issues of low-income families' ability to afford essential goods and services such as utilities?

A: Over the last 14 years, I have represented low-income individuals and organizations serving low-income populations in a wide variety of legal matters, including family law, public benefits, utility shut-offs, debtor/creditor, and housing related disputes. In all of these legal matters, I have worked almost exclusively on behalf of very low-income individuals and other uniquely vulnerable groups. Through this work, I have become intimately familiar with the daily lives of

Pennsylvania families who are experiencing poverty and utility insecurity, and the ways in which applicable laws, policies, and programs serve to help or hinder their ability to connect and maintain safe and affordable services to their home.

In addition to extensive experience representing individuals facing utility insecurity, I have an extensive knowledge of the array of state, federal, and utility-run programs designed to ensure low-income families can afford essential utility services. I have been involved in countless proceedings evaluating the effectiveness of required Universal Service Programs to assist low-income families, and I have spent thousands of hours identifying program issues in Universal Services and making recommendations for changes to Universal Service programming to better serve low-income consumers. As indicated in my resume, I have provided testimony before state agencies and the legislature on these matters.

Q: Have you previously served as an expert witness in proceedings before the Public Utility Commission?

A: In 2018, I provided formal testimony on behalf of PULP in an *en banc* hearing before the PUC regarding Supplier Consolidated Billing, at Docket No. M-2018-2645254. I also recently sponsored testimony in PECO Energy Company's Petition for Approval of Its Default Service Program for the Period from June 1, 2025 through May 31, 2029 at Docket No. P-2024-3046008. I have also served as legal counsel for groups and individuals in numerous other PUC proceedings.

Q. For whom are you testifying in this proceeding?

A. I am testifying on behalf of the Tenant Union Representative Network (TURN) and the Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania (CAUSE-PA).

Q: What information did you rely on in preparing your testimony for this proceeding?

A: In addition to publicly available information compiled by the PUC and other sources, I relied on information contained in PECO's rate case filing,[1] other PUC proceedings involving PECO, and discovery responses provided by PECO in response to discovery requests by TURN, CAUSE-PA, and the other parties in this proceeding.

Q: Please provide an overview of your testimony.

A: Based on my extensive review of PECO's rates and terms and conditions of programming, I conclude that PECO's current rates and services are not just and reasonable for low and moderate income households in PECO service territory. Any further increase in rates will further exacerbate deep disparities in access to service for economically vulnerable Pennsylvanians. Unless and until PECO corrects fundamental inequities engrained in its terms, conditions, and programming, its proposed rate increase should be denied.

My testimony is divided into five sections. Section I outlines my background and provides a summary of my testimony as a whole. Section II describes the impact that the requested rate increase would have on low-income households. In this section, I provide information on the low-income population that PECO serves, and outline how the proposed rate increase would uniquely harm vulnerable households across its service territory. I describe how low-income customers already struggle to afford and maintain PECO electric service, and demonstrate that existing programs are woefully inadequate to mitigate the financial impact and harm of the proposed rate increase on low-income households.

[1] For the purposes of this testimony, unless otherwise noted, all references to PECO are intended to refer specifically to PECO Electric.

Section III of my testimony describes PECO's proposed rate design, and the impact that PECO's high fixed charge proposal would have on the ability of low-income households to achieve meaningful bill savings through adoption of comprehensive efficiency and conservation.

Section IV of my testimony discusses PECO's Universal Service programs, and the critical need to address fundamental program design and accessibility issues to ensure low-income households can maintain service in the face of rising rates. In this section, I discuss PECO's Customer Assistance Program (CAP), Low Income Usage Reduction Program (LIURP), and Matching Energy Assistance Fund (MEAF). First, I discuss CAP enrollment, and recommend how PECO could increase enrollment through routinized income screening and automatic enrollment and recertification of LIHEAP recipients – helping to address acute rate unaffordability at existing rates, reduce collections costs, and, mute the severity of any approved rate increase on low-income families across PECO's service territory. I also address issues inherent with PECO's current maximum CAP credit policies, and propose changes that would encourage lower usage by CAP customers and allow CAP customers to continue to receive an affordable bill. Second, to help offset the disproportional impact of any approved rate increase on low-income high-usage customers, I propose an increase to PECO's LIURP budget and urge improved service delivery and coordination with home repair, weatherization, and electrification programs. Third, I discuss PECO's proposed changes to its MEAF program and recommend an alternative to this change, as well as additional reforms to PECO's administration and oversight of MEAF and MEAF eligibility to ensure grant assistance is reaching households in need of crisis assistance to prevent termination.

Section V of my testimony discusses residential customer service issues related to PECO's provision of service to non-English speaking (NES) customers, as well as PECO's policies and practices related to security deposits and its classification of residential service accounts. First, I

describe the failure of PECO to properly serve its NES customers, raise concerns about electric service terminations for NES households, and provide recommendations as to how PECO can improve its service to NES households. Second, I discuss PECO's security deposit practices and raise concerns about the unlawful imposition of security deposits on low-income households. I also raise concerns about racially disparate impacts of PECO's security deposit practices. I recommend reforms to PECO's security deposit policies and procedures to more closely adhere to the statutory, regulatory, and policy guidance regarding application of the low-income security deposit prohibition. Third, I discuss residential heat types, and the difference between Rate R and Rate RH. I raise concerns about customers who should be on Rate RH but are not, and therefore do not have their bills computed under the most advantageous rate as required by the Public Utility Code. I recommend a process for PECO to proactively identify customers that are being charged the wrong rate and suggest a change to the tariff language related to eligibility for Rate RH.

Finally, Section VI provides a summary of the recommendations proposed throughout my testimony.

Q: Please summarize the Company's requested rate increase as it applies to residential customers.

A: As proposed, PECO has requested to increase electric distribution rates by approximately $464 million, resulting in a net electric rate increase of $399 million in 2025 and an additional $64 million rate increase the following year.[2] If PECO's requested rate increase is approved, PECO projects that the bill of a residential customer using 700 kWh will go from $135.85 to $152.52 in 2025, a 12.3% increase.[3] In 2026, the total monthly residential bill for residential customers would

[2] PECO Testimony Statement 1 at 5.
[3] PECO Customer Notice (Initial Filing, Volume I).

increase an additional 1.8%, adding another $2.70 each month to the average residential customer bill – from $152.52 to $155.22.[4] In total, if PECO's proposed rate increase is approved, the monthly bill for an average residential customer using 700 kWh/month would increase by $19.37 per month by 2026 – or roughly $232.44 each year.

Of course, this projected impact will be much higher for households with higher usage, including those who heat with electricity. In terms of rate design, PECO is proposing to increase its fixed monthly residential customer charge from $10.52[5] to $14.30, a staggering 36% increase.[6]

Notably, given many of PECO's residential electric customers outside of Philadelphia County are also PECO gas customers, this substantial proposed increase in rates for electric service must also be viewed in the context of PECO's substantial proposed increase in rates for gas service. In tandem with this proceeding, PECO has proposed a substantial increase in its residential gas rates – estimating that an average residential consumer using 80 Ccf would experience a resulting bill increase of 16.15%, from $97.98 to $114.13 each month.[7] In total, PECO's average combined residential gas and electric customers would experience an overall energy rate impact of $35.52 per month. The compounding nature of PECO's stacked rate increases for both gas and electric service is likely to cause rate shock for many residential households and will have a severe impact on the ability of low-income consumers across PECO's service territory to access life-essential energy services to their home.

[4] Id.
[5] PECO Exhibit 1: PECO Electric Tariff No. 7 – Current (Initial Filing, Volume I).
[6] PECO Exhibit 2: PECO Electric Tariff No. 7 – Proposed (Initial Filing, Volume I).
[7] Pa P.U.C. v. PECO Energy Company – Gas Division, Docket No. R-2024-3046932, PECO Gas Customer Notice (Initial Filing, Volume I).

Q: As a preliminary matter, do you support the Company's requested rate increase?

A: No, I do not support PECO's requested rate increase. The requested increase is neither just nor reasonable and is not in the public interest. PECO's current rates are already unaffordable, making service inaccessible to tens of thousands of low-income households across PECO's service territory. Further increasing rates will only exacerbate this problem. Moreover, as noted above, given PECO's tandem request for a substantial gas rate increase, PECO's rate proposals are likely to cause rate shock for an even broader swath of residential consumers at higher income levels – though the stacked increase in rates for both electric and gas will undoubtedly fall hardest on low-income families across PECO's service territory.

Rates are not just and reasonable if they are not affordable for those seeking service. All Pennsylvanians, regardless of income, must be able to access and maintain safe and affordable electricity to their homes. That is the promise of universal service, which is deeply embedded in the regulatory compact. As I will discuss, increasing numbers of low-income families in all corners of PECO's service territory are unable to afford service to their homes at current rates, and a further rate increase will serve to exacerbate this unaffordability. It would be both unjust and unreasonable to approve any rate increase at this time, absent substantial additional measures to address existing rate unaffordability and to fully remediate additional unaffordability created by increased rates.

I. RATE IMPACT ON LOW-INCOME HOUSEHOLDS

a. PECO Serves a Substantial Low-Income Population

Q: How many customers in PECO's service territory are considered low-income?

A: PECO's service territory encompasses a significant number of low-income customers. PECO, along with all other large public utilities in Pennsylvania, tracks and assesses its low-

income customer population via two metrics: 1) estimated low-income customers and 2) confirmed low-income customers.[8] To be considered low-income in this context, a household must have income at or below 150% of the federal poverty level (FPL).[9] For context, in 2024, a family of four with an income at or below 150% FPL has a maximum gross income of $46,800 per year, or $3,900 per month.[10]

PECO's "estimated low-income customer" count is based on annually compiled census data, proportionate to PECO's overall residential customer count.[11] PECO also tracks "confirmed low-income customers," which it defines as "customers who in the last two years have provided verified financial information at or below 150% FPL, and/or enrolled in CAP, and/or received a LIHEAP grant."[12] In 2023, PECO Electric had 373,243 estimated low-income customers, 24% of its residential customers.[13] By contrast, in 2023, PECO Electric reported having 152,722 confirmed low income customers, or 10% of its residential customer class.[14]

Throughout this testimony, I will refer to PECO's confirmed low-income customer numbers and estimated low-income customer numbers, as well as publicly available census data from the U.S. Census Bureau's 2022 American Community Survey, ACS 5-Year Estimates Subject Tables and ACS 5-Year Estimates Detailed Tables. Specifically, I reference the "Poverty Status in

[8] *See* Pa. PUC, Bureau of Consumer Services, 2022 Report on Universal Service Programs & Collections Performance, at 7-9 (Sept. 2023), https://www.puc.pa.gov/media/2573/2022-universal-service-report-final.pdf (hereinafter 2022 Universal Service Report).
[9] This is consistent with the eligibility guidelines for utility Customer Assistance Programs in Pennsylvania, including PECO's. 52 Pa. Code § 69.265(4)(ii); PECO Energy Company Universal Service and Energy Conservation Plan 2019 to 2028 (Third Amended Plan, Oct. 30, 2023), https://www.puc.pa.gov/media/2690/peco_2019_usecp_10-2023.pdf (hereinafter PECO USECP).
[10] Poverty Guidelines, U.S. Dep't of Health & Human Services, https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines.
[11] 2022 Universal Service Report at 9.
[12] CAUSE-PA-I-1
[13] Attachment OCA-II-1(a).
[14] Attachment OCA-II-1(a).

the Past 12 Months", "Race", and "Non English Speaking Households" tables.[15] Each measure provides important context to understand the impact of PECO's rate increase on the households served.

To be clear, while I will refer to both estimated and confirmed low-income customer data, PECO's estimated low-income customer count provides a more realistic assessment of the number of low-income households served by PECO. Unlike the census-based estimated low-income customer number, PECO's confirmed low-income customer number counts only customers who have recently verified their income. As a result, the "confirmed low-income customers" number provides an inaccurately narrow assessment of PECO's low-income customer population.

PECO's definition is in fact narrower than the Commission's regulatory definition for confirmed low-income customers. The Commission defines "confirmed low-income residential account" as "accounts where the EDC has obtained information that would reasonably place the customer in a low-income designation."[16] To ensure accuracy and consistency in reporting of confirmed low-income customer data across the state, and to improve the ability of the Commission, PECO, and stakeholders to more accurately assess and serve the needs of low-income consumers across PECO's service territory, the Commission should require PECO to amend its definition to conform to this broader regulatory definition. Indeed, there are a number

[15] U.S. Census Bureau. (2022). Poverty Status in the Past 12 Months. American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1701. Retrieved June 3, 2024, from https://data.census.gov/table/ACSST5Y2022.S1701?t=Income%20and%20Poverty&g=040XX00US42$8600000&y=2022; U.S. Census Bureau. (2022). Race. American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B02001. Retrieved June 3, 2024, from https://data.census.gov/table/ACSDT5Y2022.B02001?t=Race%20and%20Ethnicity&g=040XX00US42$8600000&y=2022; and U.S. Census Bureau. (2022). Non English Speaking Households. American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1602. Retrieved June 3, 2024, from https://data.census.gov/table/ACSST5Y2022.S1602?t=Language%20Spoken%20at%20Home&g=040XX00US42$8600000&y=2022.

[16] 52 Pa. Code § 54.72.

of statutory and regulatory protections that apply to low-income customers, but PECO's inappropriately narrow definition for confirmed low-income customers truncates the application of those protections.

Q: How much income must a household earn each month to be considered low-income?

A: For the purposes of Commission reporting, a "low-income customer" is defined as a household at or below 150% of the Federal Poverty Level (FPL).[17] This is consistent with the eligibility requirements of PECO's CAP. Two of PECO's other Universal Service programs, the Matching Energy Assistance Fund ("MEAF") and Low Income Usage Reduction Program ("LIURP") are available for customers with household income up to 200% FPL.[18]

The FPL is a measure of poverty based exclusively on the size of the household, without accounting for variations in the composition of the household or the cost of living in a given geographic region. A family of four at 50% FPL has a gross annual income of $15,600.[19]

TABLE 1: Gross Annual Income by Percent FPL for 2024

	50%	**100%**	**150%**	**200%**
Household of 1	$7,530.00	$15,060.00	$22,590.00	$30,120.00
Household of 4	$15,600.00	$31,200.00	$46,800.00	$62,400.00

To contextualize the FPL, a full-time (40 hour/week; 52 weeks/year) worker making minimum wage ($7.25/hour) has a gross annual income of $15,080, assuming no time off. This

[17] 2022 Universal Service Report at 2.
[18] PECO USECP at 19, 54
[19] US Dep't Health & Human Services, 2024 Poverty Guidelines: 48 Contiguous States, https://aspe.hhs.gov/sites/default/files/documents/7240229f28375f54435c5b83a3764cd1/detailed-guidelines-2024.pdf

would be 58.4% FPL for a single parent with two children, or 96.67% FPL for a family of four with two adults working minimum wage jobs.

Another tool used to assess income levels is the Self Sufficiency Standard, which looks at how much income a household needs to live without assistance in Pennsylvania. This tool measures the income that a household must earn to meet their basic needs (housing, child care, food, health care, transportation, and taxes) without the help of public subsidies.[20] Unlike the FPL, the Self Sufficiency Standard takes into account family composition, ages of children, and geographic differences in costs.[21] In 2024, the average Self Sufficiency Standard for the counties in PECO's service territory for 2 adults and 2 school aged children is $98,828.95.[22] This income puts that household at 316% FPL. When I refer to moderate income households, I am referring to households that subsist below the Self-Sufficiency Standard, but above FPL.

TABLE 2: Self Sufficiency Standard by County[23]

County	**2 Adults, 2 School Aged Children**	**2 Adults, 2 Preschoolers**
Bucks	$104,761.80	$116,304.58
Chester	$104,491.14	$118,024.92
Montgomery	$103,484.40	$115,767.00
Philadelphia	$93,474.95	$101,079.54
Delaware	$98,599.87	$108,864.21
York	$88,161.54	$95,284.98
Average	**$98,828.95**	**$109,220.87**

[20] Diana Pierce, Overlooked & Undercounted: Struggling to Make Ends Meet in Pennsylvania, Univ. Washington School of Social Work (Oct. 2019), https://selfsufficiencystandard.org/wp-content/uploads/2021/10/PA2019_Demographic.pdf.
[21] Univ. of Washington School of Social Work, Self-Sufficiency Standard: Pennsylvania, https://selfsufficiencystandard.org/Pennsylvania/
[22] Univ. of Washington School of Social Work, Self-Sufficiency Standard: Pennsylvania, 2024 Dataset, *available at* https://selfsufficiencystandard.org/Pennsylvania/ (last accessed June 16, 2024).
[23] *Id.*

Furthermore, the average annual income for PECO's 152,722 confirmed low-income customers is just $14,612.[24] These customers have far less than the amount needed to be self-sufficient and live without financial assistance. Any increase in the cost of necessities, including electric rates for the necessary functions of lighting, heating, cooling, ventilation, hot water, refrigeration, and medical equipment, will – by any measure - result in increased unaffordability for well over 150,000 low and moderate income households.

b. Impact of Rate Increase on Low-Income Households

Q: How would PECO's proposed rate increase impact low-income households?

A: In my experience representing thousands of Pennsylvanians facing energy insecurity, low-income families are regularly forced to choose which life necessities they can forego in order to make ends meet. Any increase in cost for essential life-sustaining services like electricity will have a severe impact on the lowest income households in PECO's service territory, forcing them to make trade-offs among basic needs like shelter, food, and utilities. According to a recent national study, in February 2024, 51.9% of households with income under $50,000 reported at least one month where they reduced or went without food, medicine, and other basic needs in order to pay an energy bill.[25] In addition, 34% kept their home at a temperature that felt unsafe or unhealthy in order to save money on energy bills.[26] The data reviewed in the study found that, far and away, the greatest increase in energy insecurity last year was among households with children.

[24] CAUSE-PA-I-4
[25] Nat'l Energy Assistance Dir. Assoc. (NEADA), Center for Energy Poverty & Climate, Energy Hardship Report (April 2024), https://neada.org/wp-content/uploads/2024/04/neadahardshipreportAPR24.pdf.
[26] Id.

The proposed average monthly electric bill increase of $19.37,[27] or approximately $232.44 annually, is a substantial increase in basic living expenses - especially for low income households.[28] As noted, the average annual income for PECO's confirmed low-income customers is $14,612.[29] If a confirmed low-income customer uses 700 kWh of energy, as PECO's calculation of the average monthly increase assumes, the proposed increase represents an additional 1.59% of the total annual household income for an average confirmed low income customer. The new average residential bill of $1862.64 would account for 12.75% of household income for the average residential confirmed low-income customer. Many low-income customers exceed the average residential usage rates, especially those who live in poor quality, energy inefficient housing and have correspondingly higher average usage than other residential customers.

The average impact of PECO's proposed electric rate increase on the energy burden of a low-income household represents only a portion of the increased energy burden that low-income households actually face. It does not include the additional cost of natural gas, water, wastewater, and telecommunications services. As noted, in tandem with this electric rate increase, PECO is proposing to increase rates for gas by 16.15% - which, if approved, will add approximately $16.15 to the average residential monthly gas bill. At the same time that PECO is proposing increases for both its electric and gas customers, Aqua Pennsylvania, which provides water and wastewater service to a substantial number of PECO's customers, has proposed a 18.7% increase to its water rates and a 20.1% increase to wastewater rates as well.[30] PECO's request to substantially increase electric rates cannot be reviewed in a vacuum, and must be contextualized with the real-world

[27] PECO Notice of Proposed Electric Rate Changes, PECO Electric Initial Filing Volume I.
[28] The total average bill impacts cited here includes the estimated monthly increase in rates in 2025 and 2026. Id.
[29] CAUSE-PA-I-4.
[30] *See* Pa. P.U.C. v. Aqua Pennsylvania Inc, Docket No. R-2024-3047822 (proposing a 18.7% increase in water rates); Pa. P.U.C. v. Aqua Pennsylvania Wastewater Inc, Docket No. R-2024-3047824 (proposing a 20.1% increase in wastewater rates).

financial pressures on Pennsylvanians who reside in PECO's service territory. It bears repeating: Rates for basic services are not just and reasonable if they are not also affordable for a broad swath of the population served.

One way to contextualize how rising electricity costs factor into this larger picture is to look at energy burdens. A household's energy burden is the percentage of annual household income spent on annual energy bills. High energy burdens in low-income households have been linked to adverse outcomes in mental health, respiratory health, and child health, as well as higher rates of food insecurity.[31] High energy burdens can also limit a household's ability to benefit from economic development in their communities.[32] One study of household energy burdens, categorizing energy burdens as "high" (>6%) and "severe" (>10%), found that in the Philadelphia metro area, households with an FPL at or under 200% had a median energy burden of 9.5%, and 25% of low-income households had an energy burden greater than 19.1%.[33] PECO Electric's proposed rate increase will raise energy burdens and compound existing unaffordability.

Q: Is there other evidence that PECO's low-income customers already struggle to afford and maintain electric service to their homes?

A: Yes. Even at current rates, low-income customers struggle to afford to maintain PECO electric service in their homes, leading to increasingly high levels of involuntary terminations. In 2023, PECO terminated electricity to 87,430 households for nonpayment.[34] This is an involuntary termination rate of 6% for all PECO residential customers.[35] In comparison, the involuntary

[31] Diana Hernandez, *Energy Insecurity and Health: America's Hidden Hardship, Health Policy Brief:* Culture of Health (June 29, 2023), https://www.healthaffairs.org/do/10.1377/hpb20230518.472953/
[32] Ariel Drehbol, Lauren Ross, & Rozana Ayala, *How High are Household Energy Burdens*, ACEEE, at 6 (Sept. 2020), https://www.aceee.org/sites/default/files/pdfs/u2006.pdf
[33] *Id.*
[34] Attachment OCA II-1(a)
[35] Based on average number of residential customers in 2023 (1,529,691) from Attachment OCA-II-1(a).

termination rate for PECO's confirmed low-income residents was 18%.[36] This means that, in 2023, about one in every five low-income households in PECO's service territory has been forced to go without electric service necessary for families to keep warm or cool, feed their family, and keep the lights on. Involuntary terminations have a deep and lasting impact on the health, safety, and welfare of Pennsylvania families and their surrounding communities.

In addition to shutoffs themselves, the number of shutoff notices sent out by PECO also reflects deep levels of energy insecurity. In 2023, PECO sent out 562,870 shutoff notices, a ratio of more than one shutoff notice for every three residential customers.[37]

Finally, as I will address in further detail below with regard to PECO's Matching Energy Assistance Fund (MEAF), PECO's low income customers carry substantially higher levels of arrears compared to average residential consumers.[38]

Q: How does the involuntary termination of electric service impact a household?

A: Involuntary loss of electricity can and does have a deep and lasting impact on the health and well-being of an entire household – as well as the community as a whole.

The overwhelming energy burden on low income households makes it difficult to pay for other basic necessities, has substantial and long-term impacts on mental and physical health, and creates serious risks to the household and the larger community.[39] According to the Energy Information Administration (EIA) Residential Energy Consumption Survey (RECS) released in

[36] Attachment OCA II-1(a) (152,722 confirmed low income customers in 2023; 27,826 confirmed low income terminations).
[37] Exhibit A; OCA-II-16(c).
[38] See 2022 Universal Service Report at
[39] See United States Energy Information Administration, 2020 Residential Energy Consumptions Survey, Table HC11.1 Household energy insecurity, 2020 available at: https://www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%2011.1.pdf; see also NEADA, 2018 National Energy Assistance Survey, at 17, 20 (Dec. 2018), http://neada.org/wp-content/uploads/2015/03/liheapsurvey2018.pdf (hereinafter NEADA Survey).

2022, 27.2% of United States residents reported experiencing energy insecurity; 19.9% reported reducing or forgoing food or medicine to pay for energy costs; and 10% reported keeping their homes at unhealthy temperatures because they could not afford to pay for energy.[40] Importantly, energy insecurity is more pronounced for low income Black families. EIA's RECS data revealed that 52% of Black and African American households experience energy insecurity, compared to 23.2% of white households – and nearly 40.2% of Black and African American households report foregoing food or medicine to pay energy costs, compared to 16.8% of white households.[41] These disparities are driven in large part by inequities in housing quality and, in turn, home efficiency.

The loss of electric service can often mean that a household is unable to use their primary heating source in the winter, even if that heating source is non-electric. When a household is unable to use a primary or secondary heating system, they often resort to dangerous and/or high-cost heating, cooking, and lighting alternatives – such as use the of alternate fuels or portable generators – which increases the risk of carbon monoxide poisoning and home fires.

The loss of electric service can also have a significant impact on the ability of vulnerable populations to manage medical conditions, and is particularly dangerous for certain groups – including seniors, families with young children, and individuals with a disability – each of whom are more likely than other residential households to experience poverty and income insecurity.[42]

[40] United States Energy Information Administration, 2020 Residential Energy Consumptions Survey, Table HC11.1 Household energy insecurity, 2020 available at: https://www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%2011.1.pdf .
[41] Id.
[42] Charlie Harak, Olivia Wein, NCLC, Protecting Seriously Ill Consumers from Utility Disconnections: What States Can Do to Save Lives Now (Sept. 29 2022), at 5-6, available at: https://www.nclc.org/resources/report-protecting-seriously-ill-consumers-from-utility-disconnections-what-states-can-do-to-save-lives-now/.

The loss of essential utility service is also a common catalyst for eviction, housing instability, and – ultimately – homelessness.[43] As a result, communities must often expend an even greater level of resources to address housing issues which quickly escalate following involuntary termination. Indeed, a 2016 report of Pennsylvania's Joint State Government Commission on Homelessness found that utility assistance ranked in the top three types of assistance noted by survey respondents (24.1 percent) that would have prevented homelessness.[44] Utility insecurity and resulting payment trouble is increasingly recognized as a predictor of first-time homelessness,[45] confirming the need to improve timely access to rate assistance programs to prevent the more costly consequences of homelessness to individuals, families, and communities.

Ultimately, an increase in rates for electric service such as the increase proposed in the present case will compound existing unaffordability for vulnerable households and is likely to result in a corresponding increase in uncollectible expenses and involuntary payment-related terminations. These impacts can and do have deep and lasting impacts on the health, stability, and well-being of impacted households, and the welfare of communities as a whole.[46] As such, no rate increase should be permitted without first addressing the current affordability gap for PECO's low income customers.

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[43] See Joint State Gov't Comm'n, Gen. Assembly of the Commw. of Pa., Homelessness in Pennsylvania: Causes, Impacts, and Solutions: A Task Force and Advisory Committee Report (2016), http://jsg.legis.state.pa.us/resources/documents/ftp/documents/HR550%201%20page%20summary%204-6-2016.pdf.

[44] Joint State Government Commission, Homelessness in Pennsylvania: Causes, Impacts, and Solutions, at 112, 157, 160 (April 2016), available at: http://jsg.legis.state.pa.us/publications.cfm?JSPU_PUBLN_ID=447 ("When asked if there were any services that may have prevented them from becoming homeless, the women responded overwhelmingly that assistance with past-due rent and utilities, security deposit, and first and last months' rent would have been most beneficial.").

[45] Colin Middleton, Kim Boynton, David Lewis & Andrew M. Oster, The Value of Utility Payment History in Predicting Homelessness, PLOS (Oct. 9, 2023), available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0292305.

[46] Id.

Q: Are customers who enroll in PECO's Customer Assistance Program (CAP) insulated from the financial impact of the proposed rate increase?

A: While CAP provides critically important rate assistance to low income customers, the program does not fully insulate participants from the financial impact of the proposed rate increase. At the current rates, CAP customers in 2023 experienced 17,250 involuntary terminations for nonpayment.[47] In section III, below, I will discuss the impact of the proposed rate increase on CAP customers and the programmatic features driving persistent unaffordability within PECO's CAP design.

Q: Will the federal Low Income Home Energy Assistance Program (LIHEAP) help to mitigate the financial impact of the proposed rate increase on low-income households?

A: No. Funding for LIHEAP is limited. In 2023, only 34,040 PECO Electric customers received LIHEAP cash grants, and 8,879 received LIHEAP crisis grants.[48] This means that only 22.2% of PECO Electric's confirmed low-income customers were able to access assistance through LIHEAP to help pay their PECO bill.[49]

LIHEAP is not designed nor is it sufficient to mitigate the financial impact of the proposed rate increase on low-income households. Unlike food and medical assistance, which is available to all eligible households who apply, there is a finite amount of funding available for LIHEAP each year.

[47] CAUSE-PA-I-6(d)
[48] Attachment OCA-II-1(a).
[49] OCA-II-1(a) (152,721 confirmed low income customers; 34,040 LIHEAP Cash grants).

As noted, PECO's rate proposal would increase an average residential customer's bill by approximately $232.44 annually.[50] During the most recent LIHEAP season, the average cash grant amount for PECO customers was $374.[51] If this trend of the average cash grant continues into future LIHEAP seasons, the proposed rate increase alone will consume at least 62% of the average cash grant.

However, going forward, LIHEAP grants are anticipated to decrease. Pennsylvania's Department of Human Services, which administers LIHEAP, recently published its draft state plan for the 2024-2025 LIHEAP season and proposed a minimum cash grant of $200 - $100 less than the current $300 minimum grant level.[52] This proposed decrease is in response to declining levels of federal funding, following expiration of pandemic-related assistance. If LIHEAP cash grants are reduced as proposed, many households would see their LIHEAP grant go solely to the proposed increase.[53] In section IV below, I recommend that PECO automatically enroll LIHEAP recipients into CAP. If PECO does so, this would help to protect LIHEAP recipients from the impact of the rate increase by providing them with a percentage of income based bill.

[50] PECO Customer Notice (Initial Filing, Volume I).
[51] OCA-II-34.
[52] Commw. of Pa., Dep't Human Services, Low-Income Home Energy Assistance Program, Fiscal Year 2025: Proposed State Plan, https://www.pa.gov/content/dam/copapwp-pagov/en/dhs/documents/services/assistance/documents/heating-assistance_liheap/LIHEAP-Proposed-2025-State-Plan-Clean.pdf
[53] Note that many households who are electric baseload (non-heating) customers may instead send their LIHEAP cash grant to their heating source, be it gas, oil, or some other source of fuel.

II. PROPOSED RATE DESIGN

Q: Please describe PECO's residential rate design proposal.

A: PECO is proposing to increase its fixed monthly residential customer charge from $10.52[54] to $14.30[55] (a $3.78/month or approximately 36% increase). The remaining rate increase will be recovered through an increase in the volumetric charge.

Q: How would PECO's proposed rate design impact low-income households?

A: Increases to fixed charges undermine the ability for consumers to control costs through energy efficiency, conservation, and consumption reduction. Low-income customers already struggle to pay for electricity. When fixed costs increase, it erodes their ability to mitigate this increase through conservation and usage reduction.

Q: Would PECO's proposed increase to the fixed charge affect the Company's LIURP program?

A: Yes. As I explain below in discussing PECO's LIURP, PECO's proposal to increase the fixed charge undermines LIURP's ability to reduce costs for low-income customers. LIURP is intended to "decrease the incidence and risk of customer payment delinquencies and the attendant utility costs associated with uncollectible accounts expense, collection costs and arrearage carrying costs."[56] If the fixed portion of the bill is increased, raising the cost of electric bills in a way that cannot be mitigated with LIURP measures, these goals become more difficult to achieve.

[54] PECO Exhibit 1.
[55] PECO Exhibit 2.
[56] 52 Pa. Code § 58.1.

Q: Do you have recommendations to help mitigate the effect of the proposed rate design on low-income households?

A: Yes. PECO's proposal to increase the fixed monthly customer charge should be rejected. To the extent any increase in the Company's residential distribution rate is approved, it should be applied to the volumetric charge. This would promote conservation and energy efficiency, protect the ability of low-income households to lower their utility costs by reducing consumption, and would preserve the effectiveness of LIURP at reducing customer bills and improving payment behavior.

III. UNIVERSAL SERVICE PROGRAMS

a. Customer Assistance Program (CAP)

Q: How is PECO's current Customer Assistance Program designed to provide bill assistance to low-income customers?

A: PECO's current CAP is known as a Percentage of Income Payment Program (PIPP). Under PECO's CAP PIPP design, CAP customers receive a monthly bill based on the lesser of their actual bill or their applicable CAP PIPP rate (below), which would vary based on income level and service type (heating vs. non-heating).

TABLE 3: PECO Energy Burdens, CAP PIPP[57]

	Electric Non-Heat (Rate R)	Electric Heat (Rate RH)
0-50% FPL	2%	6%
51-100% FPL	4%	10%
101-150% FPL	4%	10%

[57] PECO USECP at 4.

Assistance to electric CAP PIPP customers is capped at a tiered maximum CAP credit threshold, which varies based on income and service type.

TABLE 4: CAP PIPP Maximum Annual Credit Limit[58]

	Electric Non-Heat (Rate R)	Electric Heat (Rate RH)
0-50% FPL	$2,693	$3,835
51-100% FPL	$1,897	$2,547
101-150% FPL	$1,719	$2,275

Q: Does PECO's CAP PIPP design insulate CAP customers from the proposed rate increase?

A: In part, yes. PECO's PIPP design would limit the financial impact of any approved rate increase to the maximum applicable percentage of income – to the extent low-income households are able to access and enroll in the program. But even for enrolled CAP customers, the PIPP design does not *eliminate* the financial impact on CAP customers. First, the ability of PECO's CAP PIPP to offset the impact of any approved rate increase will be limited by PECO's maximum CAP credit. As discussed further below, any customer who exceeds their maximum CAP credit will be charged at full tariff rates. Second, the impact of any approved rate increase will only be mitigated to the extent that a CAP PIPP customer was already paying a percentage of income based rate. Otherwise, any CAP customer receiving an *actual* bill rate – as opposed to a PIPP rate – will experience the full impact of any approved rate increase in that month. As rates increase, and more CAP participants shift from the actual to the PIPP rate, the cost of CAP will also increase.

[58] PECO Energy Company 2019-2028 Universal Service and Energy Conservation Plan, Docket No. M-2018-3005795, November 13, 2023 Letter re: Maximum Credit Amounts; https://www.puc.pa.gov/pcdocs/1805368.pdf.

Q: Please describe the current landscape of PECO's CAP enrollment.

A: As of the end of December 2023, there were 123,043 PECO electric customers enrolled in CAP – just 32.9% of PECO's estimated eligible low income customer base.[59]

Q: Please explain why some customers who may be eligible for CAP would not be enrolled in the program.

A: In my experience, there are a few reasons why potentially CAP eligible customers may not be enrolled in CAP. Some households are not be aware of the program, do not know how to apply, or face certain barriers to completing the application process. There is also a subset of potentially CAP-eligible customers who are aware of and have applied for or previously participated in CAP but are not currently enrolled.

First, PECO requires all CAP participants to periodically submit income statements and household information to recertify eligibility for the program. If a participant fails to submit income documentation within their recertification period, they are removed from the program. PECO paused removals from CAP for failure to recertify from May 2020 to August 2023, due to the COVID-19 pandemic.[60] For the months of September through December 2023, 10,795 customers were removed from CAP for failure to recertify their income.[61] While some of these customers may not have recertified because they are no longer eligible for CAP, it is likely many others had no change in income but did not notice their recertification letter or were unable to overcome the logistical hurdle of re-sending income documentation. On November 8, 2023, PECO held a collaborative to address concerns with CAP recertification. In that collaborative, PECO

[59] OCA-II-1(a).
[60] CAUSE-PA I-20(a).
[61] CAUSE-PA-1-20(a). This is a yearly rate of 32,385 customers dropping off of CAP.

noted that 72% of failures to recertify were due to income verification documents not being returned.[62] This is consistent with my experience. I have served hundreds of low-income clients over the years who missed their CAP recertification window and are subsequently removed from CAP despite their ongoing eligibility for the program, causing a cascade of avoidable consequences to the household. In my experience working directly with low-income clients, some of the most vulnerable low-income households – including seniors, parents with young children, and individuals with a disability or medical condition – are more likely to miss their recertification window as a result of the burdens associated with the recertification process.

1. CAP Enrollment and Recertification

Q: Describe how PECO plans to increase CAP enrollment.

A: In her testimony, Jacqueline F. Golden, Director of Customer Financial Operations, states that "the Company plans to expand its communications and marketing approach to increase customer awareness of universal service offerings."[63] One of the drivers of PECO's proposal for additional outreach funding is "ramping up virtual enrollment activities for universal service programs."[64] Ms. Golden further explains that additional outreach funding is requested to connect eligible customers with LIHEAP funds, and to accommodate an increase in customer referrals tied to outreach efforts.[65]

Q: Do you believe this is sufficient to improve CAP enrollment?

[62] Attachment CAUSE-PA-I-38(a) at 3.
[63] PECO St. 10 at 11:6-8.
[64] PECO St. 10 at 12:9-10.
[65] PECO St. 10 at 13:20-23. I believe that any additional increase in outreach funding must be tied to commitments by PECO to not only increase CAP enrollment, but to address some of the serious issues related to MEAF and LIURP. Specifically, PECO should direct the outreach/engagement money to advertising and ensuring MEAF grants are available, coordination of LIURP with home repair and weatherization and outreach about Rate R/RH.

A: No. While I support increasing awareness of CAP among PECO's customers, I don't believe awareness and outreach, alone, is sufficient to increase enrollment, especially given the barriers to CAP enrollment and recertification discussed above. Increasing CAP enrollment is critical to protecting income eligible customers from the full brunt of this proposed rate increase.

Q: Do you have any recommendations regarding how PECO can increase CAP enrollment?

A: Yes. I recommend PECO make two critical changes to its policies and procedures to improve enrollment in CAP, ensuring low-income households are better matched with the right rate – before they accrue unmanageable arrears.

First, PECO should initiate routine universal service screening for new and moving customers, and during non-emergency calls or contacts. Routine income screening would not only improve referrals to CAP, it would also help to improve application of other critical income-based protections – including adherence to the statutory prohibition on security deposits for low-income customers and protection from involuntary termination in the winter months.

PECO should also increase CAP participation by automatically enrolling and/or recertifying customers for CAP following receipt of a LIHEAP grant. Customers who receive a LIHEAP grant have already had their income vetted through the Department of Human Services income screening process, and should not be required to complete a duplicative and administratively burdensome enrollment process to participate in CAP. I note that utilizing LIHEAP data in this manner to automate enrollment will also help to address the concerns Ms. Golden noted that increased outreach is driving an increase in referrals.

Q: With regard to your recommendation to initiate routine screening process to facilitate universal service program enrollment, could you please explain how that would work?

A: If an applicant or customer contacts PECO, the customer service representative should ask whether the household would like to share their income information to determine if they are eligible for a reduced rate or other assistance. If the applicant or customer opts to share their income, the customer service representative should ask whether the household's estimated gross household income is within the eligibility range for its universal service programs. If the customer or applicant indicates verbally that their income is within the eligibility range, they should be provided with information about CAP and other available universal service programs and should be transferred to someone who can assist with enrollment. If necessary, PECO should establish a warm transfer process that allows potentially eligible households to be transferred directly to the appropriate universal service program administrator.

Note that, consistent with my recommendations below regarding PECO's security deposit policies and practices, this routinized screening process will help to identify households for which PECO is statutorily prohibited from assessing and collecting a security deposit.[66] If a household indicates that they have income at or below 150% FPL, the customer service representative should not assess a security deposit and/or should release any currently held deposits on their account.

[66] 66 Pa. C.S. § 1404(a.1); 56 Pa. Code § 56.32(e).

Q: With regard to your recommendation to institute auto-enrollment and recertification of LIHEAP recipients into CAP, can you explain recent developments that will allow PECO to institute such a process?

A: Yes. After an extended stakeholder process with its LIHEAP Advisory Committee, which I chair, the Department of Human Services will begin sharing LIHEAP recipient income and household composition data with utilities at the start of the 2024-2025 LIHEAP program. Notably, the stakeholder process to develop this policy included several representatives from PECO, as well as the Public Utility Commission. If PECO uses DHS' pre-verified income information to enroll customer accounts in CAP and recertify accounts that are already enrolled in CAP, fewer customers will be removed from CAP for failure to recertify, and CAP participation will increase. Reliance on verified income data from DHS will, in turn, simplify burdensome paperwork requirements for both the applicant and PECO's CAP administrator, helping to reduce duplicative administrative costs. PECO already acknowledges that LIHEAP eligibility is an effective proxy for CAP eligibility in their practice of requiring recertification only every 4 years, rather than every 2 years, for customers who receive LIHEAP.[67]

Q: How many households would benefit from auto enrollment?

A: In 2023, 34,040 PECO electric customers received cash grants, and 8,879 received Crisis grants.[68] While there is some overlap between LIHEAP recipients and CAP customers, it is still likely that thousands of households could benefit from either auto-enrollment or auto-recertification. In addition, one of PECO's expressed outreach goals is to connect eligible

[67] PECO USECP at 13.
[68] Attachment OCA-II-1(a)

customers with LIHEAP funds.[69] Auto-enrollment and auto-recertification would maximize the impact of any increased LIHEAP enrollment as a result of PECO's outreach efforts. At the same time, automated enrollment would help reduce administrative costs to process increased program referrals.

Q: Has PECO considered auto-enrollment of LIHEAP recipients into CAP?

A: Yes. However, when asked if PECO plans to implement automatic enrollment, PECO stated:

> "As stated previously, the Company [PECO] supports exploring opportunities to streamline universal service processes for eligible customers. However, any changes to the enrollment process should preserve the ability of customers to affirmatively choose whether or not to enroll in CAP or another universal service program. While enrollment may offer benefits to a customer in the form of bill discounts, it may also restrict other types of customer activities. For example, if a PECO customer is enrolled in CAP they cannot shop for an electric supplier or utilize budget billing. Customers should have the opportunity to understand the specific program benefits and requirements before they are enrolled in a universal service program."[70]

Q: Can you address PECO's concerns about the ability of a customer to "affirmatively choose" whether to enroll in CAP?

A: Yes. First, pursuant to its new data sharing policy, DHS may only share data if a LIHEAP recipient affirmatively indicates on the LIHEAP application that they would like their information to be shared with their utility for the purpose of facilitating their participation in a utility-run universal service program. Second, as an added confirmation, PECO could implement a simple notice procedure that informs customers of the auto-enrollment procedure and allows customers to opt-out if they so choose. In my experience, it is exceedingly rare for a low-income customer to

[69] PECO St. 10 at 12.
[70] CAUSE-PA I-45

turn down comprehensive rate assistance through CAP once they are fully informed about the benefits of the program. I believe these two processes address PECO's concerns.

Q: Has PECO addressed the possibility of auto-recertification?

A: No. PECO only addresses auto-enrollment. However, auto-recertification is also critical. 10,795 customers were removed from CAP for failure to recertify in the last four months of 2023.[71] If that trend continues, more than 30,000 households could be removed from CAP for failure to recertify in following years.

Q: What do you recommend regarding the use of LIHEAP data for auto-enrollment into PECO's CAP?

A: Because auto-enrollment includes complications that would warrant further examination by PECO, the Commission, and stakeholders, such as the treatment of pre-program arrears for customers that previously participated in CAP, I recommend that PECO be required to file a Petition to amend its USECP to permit auto-enrollment.[72] In doing so, PECO should work with its Universal Services Advisory Council (USAC) to develop the details of the program, including customer communications. Within 90 days of the final order in this case, PECO should file a petition seeking approval to implement an auto-enrollment process for CAP that includes amended budget projections and, in turn, proposes any amendments to its USECP which are necessary to facilitate auto-enrollment.

All households automatically enrolled in CAP through this process should be marked as confirmed low-income customers and eligible for reconnection waiver, security deposit

[71] CAUSE-PA I-20(a).

[72] These complications include whether to provide preprogram arrearage forgiveness to auto-enrolled customers and how to manage arrears for customers returning to CAP through auto-enrollment.

exemption, and winter shutoff protections. Taking this approach will help implement LIHEAP auto-enrollment in a useful and meaningful way to improve rate affordability.

Q: What do you recommend regarding the use of LIHEAP data for auto-recertification into PECO's CAP?

A: Auto-recertification for customers already on CAP is much simpler than auto-enrollment. I note that on June 13, 2024, the Commission issued an Order encouraging all utilities to participate in DHS' LIHEAP data sharing, and setting up a process by which utilities could file a letter with the Commission outlining how the utility will use the shared data to streamline program outreach and enrollment and/or to implement auto-recertification.[73] While the Commission did not require utilities to automatically enroll customers into CAP as I suggest above, it was explicit in noting that its Order encouraging adoption of streamlined outreach and enrollment and auto-recertification did not foreclose consideration of other beneficial uses for the data to improve access to a utility's universal service programs – such as auto-enrollment.[74] As a condition to granting any approved increase in rates through this proceeding, and to the extent PECO has not already done so by the conclusion of this proceeding, I recommend the Commission require PECO to participate in the DHS data-sharing program and implement CAP auto-recertification. PECO should, in turn, file a letter with the Commission that includes the necessary information, as outlined in the June 13, 2024 Order on LIHEAP Data Sharing.

[73] 2023 Review of All Jurisdictional Fixed Utilities' Universal Service Programs, Docket No. M-2023-3038944, Order (June 13, 2024); https://www.puc.pa.gov/pcdocs/1833698.pdf

74 Id. at 3 n.1.

2. Maximum CAP Credits

Q: What is a Maximum CAP Credit and how does PECO apply it?

A: The maximum CAP credit is a yearly amount that is applied to the difference between a customer's PIPP amount and the customer's actual bill based on usage – both the distribution (base rate) charges and the default service charges. Once a customer exhausts those credits, PECO charges the customer based on full tariff rates for the remainder of the 12 months. At the 12-month mark, maximum CAP credits are refreshed. As discussed above, the maximum CAP credit varies based on income and on whether the customer is a non-heating customer (Rate R) or a heating customer (Rate RH).

Q: How many customers reach their maximum CAP credit?

A: According to PECO, in calendar year 2023, 6,335 Rate R customers and 389 Rate RH customers exceeded their maximum CAP credits.[75]

Q: How does PECO provide notice to customers approaching their maximum credit?

A: PECO only provides notices that customers are approaching their maximums at 75% and 90% of maximum CAP credit usage.[76] I am concerned that for many customers, that is not early enough to meaningfully address and remediate high usage. In response to discovery, PECO also provided a sample Maximum Credit Notification Letter.[77] The letter explains what a maximum credit is, and states:

> Please be aware you have already received approximately (xx%) of your annual maximum credit, to date. You have received $_____ of your eligible annual

[75] CAUSE-PA I-23(b); CAUSE-PA I-24(b)
[76] CAUSE-PA TURN-IV-1.
[77] *See* Attachment CAUSE-PA-TURN-IV-1(a).

maximum credit amount of $_____. Once you reach your CAP annual maximum credit limit you will be charged the full amount of the service you use.

You must continue to pay your bills on time. If you do not pay your bill, your service may be shut off. To pay your balance by credit/debit card or e-check, please call 1-877-432-9384 or visit online at peco.com. You may be charged a convenience fee by the payment vendor for each payment you make.[78]

Q: Do you have any concerns about this letter?

A: Yes. First, as noted above, PECO should send an earlier letter – when a customer has reached 50% of their maximum CAP credit. I also am concerned that the letter makes no reference to when a customer's maximum CAP credits will reset, and provides no information about the Low Income Usage Reduction Program, PECO's health usage rider, or the availability of different electric rates – and a different corresponding maximum CAP credit limit – for electric heating customers.

I recommend that PECO update its letter to: 1) state explicitly when the maximum CAP credit will expire; 2) explain its LIURP program and provide information about how to access the program; and 3) explain that for Rate R customers, they may be reaching their maximum CAP credit because they are electric heating, and explaining how customers can switch to that service. This letter should also explain what exemptions are available for maximum CAP credits and provide information about how to access those credits.

Q: Does PECO apply any exemptions to the maximum CAP credit?

A: The Commission's CAP Policy Statement allows utilities to apply maximum credit exemptions as follows:

(vi) *Exemptions*. A utility may exempt a household from maximum CAP credit or consumption limits if one or more of the following conditions exist:

[78] *Id.*

(A) The household experienced the addition of a household member.

(B) A member of the household experienced a serious illness.

(C) Energy consumption was beyond the household's ability to control.

(D) The household is located in housing that is or has been condemned or has housing code violations that negatively affect energy consumption.

(E) Energy consumption estimates have been based on consumption of a previous occupant.[79]

PECO does not apply any of the exemptions listed in the CAP Policy Statement.[80] In response to discovery PECO explained that the only exemption it applies is for customers using in home medical equipment, which it calls a "health usage rider."[81] For the months of December 2022 through January 2024, an average of 462 households were verified as requiring the use of in-home medical equipment.[82]

We do not know how many customers requested but did not obtain the health usage exemption, as PECO does not track the number of customers who request and do not qualify for a Health Usage Rider. In responses to discovery, PECO explained that the policy for approval requires a LIURP audit, and that a customers' medical device must use more than 100 kWh per month of electric consumption for life sustaining equipment.[83] These additional requirements to qualify for the health usage exemption do not appear in PECO's approved USECP.

Q: Do you have any concerns about PECO's "health usage rider"?

A: Yes. I fully support the use of maximum CAP credit exemptions for households with medical usage or experiencing a serious illness. Medically vulnerable households have less control over how much energy they use, because such usage is life-sustaining. Keeping bills affordable

[79] 52 Pa. Code 69.265 (3)(vi).
[80] CAUSE-PA I-25(a).
[81] CAUSE-PA I-25(a).
[82] Attachment to CAUSE-PA I-25(a).
[83] PEA I-4(f).

for low-income, medically vulnerable households is critical to ensuring those households don't suffer adverse health consequences. However, I have concerns about the restrictive manner PECO implements this "health usage rider".

PECO states that the "health usage rider" requires that customers need "more than 100 kWh per month of electric consumption for life sustaining equipment."[84] PECO provided the following table which it provides to its LIURP vendor as guidelines for the most common types of life-sustaining equipment.[85]

MEDICAL EQUIPMENT	HRS	WATTS	KWH
NEBULIZER	1	25	1
OXYGEN CONCENTRATOR	24	460	331
CPAP	8	65	16
HOSPITAL BED	1	1150	35
DIALYSIS MACHINE	2	725	44
CHAIR LIFT	1	500	15
FEEDING MACHINE	24	30	22
BI-PAP	8	220	53
SUCTION MACHINE	1	600	18
HEART MONITOR	8	30	7
ELECTRIC WHEELCHAIR	10	60	18
LIFE ALERT	24	5	4
COMPRESSION MACHINE	4	60	7

PECO's "health usage rider" is inappropriately narrow and allows PECO to make judgment calls about what is health usage, and what health usage is necessary. For example, the rider does not contemplate the need for refrigeration for insulin or other medication, or air conditioning to control asthma, reduce risk of SIDS in a young infants, or prevent heat stroke in an elderly household member or individuals with a heart condition. Whether or not a household relies on electricity to treat or manage an illness or condition should be a matter left solely to the discretion of a health provider.

[84] PEA I-4(f).
[85] PEA I-4(f)

Q: What changes do you propose regarding exemptions to PECO's maximum CAP credit?

A: PECO should recognize all exemptions listed in the Commission's CAP Policy Statement. Allowing additional exemptions to the maximum CAP credit limits will ensure that customers who are facing serious illness, medical usage, or do not have control over their usage will be able to receive an affordable bill. Specifically, PECO should allow customers to request exemptions to their maximum CAP credit for any of the reasons listed in the CAP Policy Statement, including:

- The household experienced the addition of a household member;
- A member of the household experienced a serious illness;
- Energy consumption was beyond the household's ability to control; or
- The household is located in housing that is or has been condemned or has housing code violations that negatively affect energy consumption.

Implementation of the exemptions in the CAP Policy Statement would allow PECO's uniquely vulnerable CAP customers to continue to receive an affordable bill. I recommend that rather than continuing with the "health usage rider", which is inappropriately narrow and burdensome to access, PECO should fold that exemption into the more general exemptions of serious illness and/or usage beyond ability to control. Further, no household should have to provide documentation to verify the need for health usage or why they need such an exemption.

Q: Do you have any other proposed recommendations regarding PECO's maximum CAP credit?

A: Yes. In tandem with my recommendation to expand the recognized exemptions to the maximum CAP credit, PECO should evaluate and audit all CAP households for LIURP services that reach the maximum CAP credit limit on or before the 11th month of the program year. While

those evaluations are pending, PECO should place a temporary exemption on the maximum CAP credit for those customers. That exemption should become permanent if the customer complies with LIURP and all possible LIURP measures have been installed. That exemption should also become permanent if appropriate LIURP measures can't be installed for reasons beyond the customer's ability to control – including, but not limited to, landlord refusal and repair needs that prevent installation of measures.[86] If a household refuses LIURP services for reasons within their control, and does not otherwise qualify for one of the exemptions identified above, then and only then should PECO apply the maximum CAP credit.

Q: Does PECO automatically refer customers approaching or exceeding their maximum CAP credit to LIURP for usage reduction services?

A: No. Asked about automatic referrals in discovery, PECO responded:

> CAP customers who are deemed high users and meet the monthly average usage eligibility criteria and who also have at least 12 months of usage history at the premises and have not been treated by LIURP within the past 24 months, are referred to LIURP. A customer who exceeds their CAP credit maximum is referred to LIURP when they meet the above-referenced criteria.[87]

Q: Of the customers who reached their maximum CAP credit in 2023, how many were referred to and received any LIURP services to address high usage?

A: PECO data suggests that all of the customers who reached their maximum CAP credit in 2023 were referred to LIURP.[88] According to discovery, a referral in this context consists of PECO providing a list of all CAP customers to PECO's third-party LIURP vendor, who then reviews each

[86] As discussed below, PECO should set up processes for coordination of LIURP with weatherization and home repair programs – especially for these high usage CAP customers who are at risk of exceeding their CAP credits.
[87] CAUSE-PA-I-22.
[88] CAUSE-PA-I-23

account for eligibility.[89] However, as described in the table below, less than 25% of customers who reached their maximum CAP credits actually received any LIURP services.

TABLE 5: Customers Exceeding Maximum CAP Credit and Receiving LIURP Services

	Exceeded Maximum CAP Credit[90]	**Received LIURP services[91]**	**Percent who received LIURP services**
Rate R	6368	1432	22.5%
Rate RH	389	83	21.3%
Total	6757	1515	22.4%

In my experience, many low-income households who exceed their maximum CAP credits do so because they have usage beyond their ability to control due to broken appliances, inefficient housing, or medical needs. It is unacceptable that less than a quarter of customers exceeding their maximum CAP credits would have received any LIURP treatment at all. This reflects a failure by PECO to appropriately target high usage CAP customers with LIURP services. As discussed above, PECO should ensure that CAP customers who exceed their maximum CAP credits are evaluated for and receive the full extent of LIURP services and measures that are available to them. Not only will this benefit the customer, reducing usage has the potential to benefit all residential customers by lowering the costs of the CAP program overall.

Q: Does PECO ever adjust its Maximum CAP Credit amounts?

A: Yes. PECO's Universal Services Plan requires PECO to increase its maximum CAP credit following a base rate increase, by a percentage equal to the distribution rate increase.[92] If the

[89] CAUSE-PA/TURN III-13.
[90] CAUSE-PA I-23(b); CAUSE-PA I-24(b)
[91] CAUSE-PA I-23(d); CAUSE-PA I-24(d)
[92] PECO USECP at 5 n.4 & n.5.

commission approves a base rate increase in this case, PECO's maximum CAP credits for Rate R and Rate RH will adjust.[93]

Q: Do you think PECO should adjust its maximum CAP credit amounts in other circumstances?

A: Yes, PECO should also adjust its maximum CAP credit amounts with adjustments in the Price to Compare. Over the last few years, there has been a significant increase in PECO's default service price, as reflected in its Price to Compare. On March 1, 2021, the Price to Compare was 6.267 cents per kilowatt hour. On March 1, 2024, the Price to Compare had increased by 50% to 9.425 cents per kilowatt hour.

TABLE 6: PECO Price to Compare 2021-2023[94]

3/1/2021	6.267
6/1/2021	6.402
9/1/2021	6.597
12/1/2021	7.021
1/1/2022	7.023
3/1/2022	7.066
6/1/2022	7.637
9/1/2022	8.508
12/1/2022	9.855
3/1/2023	9.726
6/1/2023	10.312
9/1/2023	9.672
12/1/2023	8.917
3/1/2024	9.425

[93] CAUSE-PA-TURN-IV-4 (projecting the increase in maximum CAP credits if PECO is granted the full rate increase requested).
[94] See Pa. PUC, Rate Comparison Reports, https://www.puc.pa.gov/filing-resources/reports/rate-comparison-reports/.

Adjusting the maximum CAP credit based on an approved increase in distribution rates does not account for fluctuations in the default service price. As a result, when the default service price increases, CAP customers are more likely to exceed their maximum credits, for reasons completely outside of their control. Going forward, PECO should set up a mechanism that adjusts the maximum CAP credit by a percentage equal to the change in price to compare each time PECO announces a change to the PTC.

b. Low Income Usage Reduction Program

Q: What is LIURP?

A: LIURP is a critical universal service program intended to improve bill affordability, reduce arrearages and termination rates over the long term, and work in tandem with CAP to help reduce uncontrollably high usage attributed to home energy inefficiencies that low-income households cannot afford to address on their own.[95] Throughout Pennsylvania, electric heating customers who received LIURP services in the 2018 through 2020 program years achieved annual bill savings that averaged approximately $167 per year, roughly 6.7%, and electric baseload (non heating) customers who received LIURP services achieved annual bill savings that average approximately $71 per year - or roughly 4.3%.[96] As these savings show, bill reduction through comprehensive energy efficiency and conservation efforts improve affordability and help to ensure that low-income customers remain connected to service in the face of rising rates.

Despite the value of LIURP at reducing usage and resulting energy burden, PECO's LIURP program is not operating at a level sufficient to fulfill the identified need in its service territory for comprehensive usage reduction services. According to PECO's most recent third-party universal

[95] 52 Pa. Code § 58.1.

[96] 2022 Universal Service Report at 57. As rates increase, these bill reduction dollar amounts would also go up, provided the rate increase is allocated to volumetric charges.

service needs assessment, conducted in 2021, PECO Electric had an estimated 193,240 LIURP eligible households in its service territory.[97] Comparatively, PECO completed very few LIURP jobs. In 2023, PECO served about 1.6% of eligible households.

TABLE 7: LIURP Jobs Completed by Year[98]

Year	2018	2019	2020	2021	2022	2023
Completed LIURP (Electric) Jobs	5,818	6,689	3,101	2,187	2,425	3,143

In 2020 and 2021, there was a precipitous drop in LIURP production rates, which was not unexpected due to COVID-era restrictions. However, PECO's LIURP job completion rate has not recovered: There were less than half the number of LIURP jobs completed in 2023 compared to 2019.

Not only has PECO's production rates declined, its per-job spending is also significantly lower than other EDCs across the state. As Tables 8 and 9 show, PECO consistently spends the fewest dollars for baseload and heating participants compared to other EDCs. While PECO's per-job spending for heating jobs improved in 2022, this was an anomaly compared to all other years and it is unclear whether the increased per job investment rate will continue. PECO's low per job investment rates indicate to me that PECO is not providing adequately comprehensive efficiency and conservation measures to reduce home energy costs for baseload customers. This is especially true given the geographic region of PECO's service territory, where costs for consumer goods – including energy efficient measures, equipment, and labor – tend to be higher than in other regions of the state.

[97] PECO USECP at 60 (Addendum E).
[98] CAUSE-PA I-26.

TABLE 8: LIURP Average Electric Baseload Job Costs[99]

Utility	2018	2019	2020	2021	2022
Duquesne	$459	$561	$869	$861	$825
Met-Ed	$1,730	$2,199	$2,523	$2,988	$4,015
PECO Elec.	**$615**	**$545**	**$750**	**$1,955**	**$818**
Penelec	$1,504	$1,563	$1,990	$1,894	$2,241
Penn Power	$1,436	$1,442	$1,823	$2,358	$2,797
PPL	$1,052	$1,143	$1,036	$1,120	$1,078
West Penn Power	$2,217	$2,337	$3,207	$3,776	$3,948

TABLE 9: LIURP Average Electric Heating Job Costs[100]

Utility	2018	2019	2020	2021	2022
Duquesne	$6,275	$4,090	$1,400	$867	$4,885
Met-Ed	$2,968	$4,206	$4,224	$4,301	$6,771
PECO Elec.	**$1,970**	**$2,121**	**$3,739**	**$3,974**	**$9,659**
Penelec	$3,392	$3,528	$4,021	$3,523	$4,619
Penn Power	$3,349	$4,137	$6,716	$6,059	$7,672
PPL	$3,860	$4,342	$4,461	$4,072	$5,101
West Penn Power	$3,543	$4,779	$5,095	$6,058	$9,329

To help improve overall achieved savings, PECO must improve the comprehensiveness of its installed measures in each home. There are well documented disparities in energy burden for low-income customers driven by inefficiencies in the home.[101] In addition, Black and Hispanic households are disproportionately exposed to physically inadequate housing, often resulting in

[99] 2022 Universal Service Report at 56; 2020 Universal Service Report at 54.
[100] 2022 Universal Service Report at 56; 2020 Universal Service Report at 54.
[101] Diana Hernández, Energy Insecurity And Health: America's Hidden Hardship, Health Affairs Health Policy Brief, (June 2023) ("The physical manifestations of energy insecurity include dated, malfunctioning, or nonexistent heating and cooling equipment; poor insulation; drafts; and reliance on older, less efficient lighting systems and domestic appliances such as refrigerators, stoves, and hot water heaters.").

higher energy burdens.[102] To meaningfully remediate the unaffordability of rates at both current and proposed levels, and address these race and income based disparities, PECO must expand usage reduction services to more households by adopting critical changes to its LIURP policies, procedures, and budget.

Q: Are there any other significant barriers to accessing PECO's LIURP?

A: Yes. Tenants are underserved by LIURP, with just 6,637 LIURP jobs being performed for tenants since 2018 – compared to 20,947 for homeowners.[103]

Q: Is PECO's Low Income Usage Reduction Program adequately funded to remediate the impact of the proposed rate increase on low-income households?

A: No. PECO's LIURP program could play an important role in mitigating unaffordability for low-income consumers, and I am a strong supporter of robust energy efficiency and weatherization to reduce low-income bills over the long term. PECO is required to operate universal service programs, which must be appropriately funded and available.[104] But PECO's LIURP is not adequately funded nor appropriately available to help reduce unnecessarily high usage and correspondingly unaffordable energy burdens, which will be further exacerbated by any approved rate increase. To help reduce increasing costs associated with universal service programs as a result of higher rates, it is critical for PECO to improve investments in comprehensive, long-term energy reduction programs for its low-income customers.

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[102] Sophia Wedeen, Greater Assistance Needed to Combat the Persistence of Substandard Housing (Aug. 1, 2023) at Fig. 3; available at https://www.jchs.harvard.edu/blog/greater-assistance-needed-combat-persistence-substandard-housing (last accessed June 16, 2024). This disparity is present both among homeowners and renters. *Id.*

[103] CAUSE-PA I-30.

[104] 66 Pa. C.S. 2804(9). That statute specifically defines universal service to include Low Income Usage Reduction Programs. 66 Pa. C.S. 2803.

Currently, LIURP only serves a small portion of those in need of comprehensive energy efficiency and usage reduction services. As discussed above, PECO completed 3,143 LIURP jobs in 2023, just 1.6% of the estimated 193,240 LIURP eligible households.[105]

Q: How does PECO Electric's LIURP budget compare to other Electric Distribution Companies?

A: As it stands, PECO has a disproportionately low LIURP budget compared to all other electric distribution companies (EDCs).

TABLE 10: EDC 2023 Projected LIURP Budget[106]

EDC	LIURP Budget (2023)	Residential Customers (2019)
Duquesne	$4,276,129	545,897
Met-Ed	$6,749,970	515,226
PECO-Electric	**$6,596,412**	**1,521,223**
Penelec	$9,239,377	501,008
Penn Power	$4,590,891	148,927
PPL	$13,088,930	1,256,135
West Penn	$7,096,660	631,990

If PECO continues to serve the same number of customers at current spending levels, it would take PECO more than 60 years to serve all LIURP eligible households. PECO's current investment is woefully inadequate to meet the need for comprehensive usage reduction services in PECO's service territory.

Q: Would PECO's proposed rate design in this case affect the Company's LIURP program?

[105] PECO USECP at 60; CAUSE-PA-I-26.
[106] 2022 Universal Service Report at 7, 53.

A: Yes. PECO's proposal to substantially increase the fixed portion of the residential customer bill will undermine the explicit goals of the Low-income Usage Reduction Program ("LIURP"), which is intended to help low-income customers to reduce their *bills* and to "decrease the incidence and risk of customer payment delinquencies and the attendant utility costs associated with uncollectible accounts expense, collection costs and arrearage carrying costs."[107] By reducing the amount of bill savings that can be obtained through LIURP participation, the proposed increase to the fixed charge threatens the continued effectiveness of ratepayer investments intended to reduce energy consumption, delinquencies, collections, and uncollectible costs. The explicit goals of the LIURP program will be more difficult to achieve if the fixed portion of the bill is increased.

This is even more critical for households with income above 150% FPL but less than 200% FPL who are ineligible for CAP or LIHEAP but are eligible for energy efficiency and conservation services through LIURP or the federal Weatherization Assistance Program ("WAP") – both of which have income guidelines of up to 200% FPL. It is critical that all low-income households retain the ability to reduce their monthly energy costs through adoption of comprehensive energy efficiency and conservation programming.

Given low-income households are disproportionately payment troubled, and often lack the ability to reasonably control usage due to poor housing stock and older, less efficient appliances,[108] it is critical that they continue to have access to effective conservation tools capable of producing meaningful and lasting bill reductions. Of course, in addition to undermining the effectiveness of

[107] 52 Pa. Code § 58.1 ("The programs are intended to assist low-income customers conserve energy and reduce residential energy bills. The reduction in energy bills should decrease the incidence and risk of customer payment delinquencies and the attendant utility costs associated with uncollectible accounts expense, collection costs and arrearage carrying costs.").

[108] See ACEEE, Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low-income and Underserved Communities (April 2016), https://www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf.

LIURP investments, PECO's high fixed charge proposal will also undermine the Company's statutorily required investments in energy efficiency through its Act 129 Energy Efficiency and Conservation Program Plan.

Q: Do you have recommendations that would help PECO's LIURP program reach a greater number of homes in need of service?

A: Yes. I recommend that PECO increase its LIURP budget by $4,400,000, bringing its annual LIURP budget for electric customers to about $10,000,000. This will bring greater parity to PECO's LIURP budget (consistent with similarly sized EDCs), will help reduce the financial impact of any rate increase approved in this case on low-income high usage customers, will help to reduce the cost of providing rate assistance through CAP, and will better meet the identified need for LIURP services within a more reasonable period of time. At this spending level, PECO's total per customer LIURP spend would still be well below LIURP spending levels for similarly sized EDCs in Pennsylvania.

In addition to increasing the budget and, in turn, the availability of comprehensive usage reduction services, PECO must also ensure that high usage CAP customers are actively recruited for participation in LIURP, as doing so would help reduce the cost of the CAP program for all residential customers. PECO should improve its direct solicitation and recruitment of high usage CAP participants to participate in LIURP and, as discussed above, should perform a LIURP audit for all CAP participants that reach their maximum CAP credit limit on or before the 11th month of their CAP program year.

Finally, I recommend that PECO take steps to improve services and accessibility under its LIURP for tenants, increase efforts to leverage and coordinate LIURP services with other local, state, and federal home repair, efficiency, and weatherization programs.

Q: How can PECO improve delivery of LIURP services to tenants?

A: As discussed above, tenants are not served at rates consistent with LIURP services to homeowners. PECO should be required to ensure that tenants can receive LIURP services. I recommend PECO host a stakeholder collaborative with landlords, tenant advocates, and stakeholders. Prior to that collaborative, PECO should investigate the barriers to tenant participation in LIURP, whether its landlord approval process is effective, and evaluate its outreach to tenants and what measures the company could feasibly provide to tenants without landlord approval. PECO should provide this report to its stakeholder collaborative, and solicit feedback on proposed changes to improve tenant participation in LIURP.

Q: How can PECO better coordinate with complementary home repair, efficiency and weatherization programs administered at the local, state, and federal level?

PECO's service area has a significant amount of old housing stock that requires large amounts of energy to heat and cool. Recent state and federal legislation has increased the resources available for home repairs, efficiency, and weatherization.[109] Since the passage of the Whole Home Repair Act, there has been an increase in the home repair programs offered by local agencies that could reduce the number of home deferrals and/or facilitate coordinated installation of efficiency and usage reduction improvements.[110]

Moreover, since passage of the Infrastructure Inflation and Jobs Act in 2021, there has been increased funding available through the Weatherization Assistance Program (WAP) for both home

[109] Notably, the Whole Home Repairs Act passed at the state level, and the Inflation Reduction Act at the federal level.

[110] These programs include: Montgomery County's Owner-Occupied Housing Rehabilitation Program, Montgomery County's Whole Home Repair Program, Bucks County Home Repair Program, Delaware County's Whole Home Repair Program, the Philadelphia Housing Development Corporation's Basic Systems Repair Program, and the Philadelphia Energy Authority's (PEA) Built-to-Last Program.

repair and weatherization projects, which can be leveraged with LIURP to help improve the comprehensiveness of services delivered to low-income customers. By making critical repairs to residents' homes, and leveraging other weatherization dollars, these programs can help lower overall energy burdens and mitigate issues that would otherwise prevent LIURP measures from being installed. PECO has stated that it does not coordinate with external weatherization or home repair programs, and in fact appears to have very little contact with any of the home repair or weatherization agencies in its service territory.[111] Coordinating with these programs would allow PECO to extend by the reach and effectiveness of their LIURP program. In response to discovery regarding the Philadelphia Energy Authority's Built to Last program, PECO identified that were "specific program guideline requirements" that did not align – specifically a misalignment of the "timing of measurement implementation under Built to Last" and LIURP requirements for a pre-measure audit.[112]

However, it seems like PECO has done very little to attempt to adjust its processes and procedures to effectively leverage and coordinate with any external entity – deferring these activities to the discretion of its program vendors.[113] In response to discovery, PECO indicated that it has not had a single discussion with any of the local WAP providers across its service territory regarding possible coordination of LIURP with WAP or LIHEAP Crisis Interface (emergency furnace repair).[114] On just one occasion, in December 2022, PECO met with Montgomery County Housing & Community Development "to discuss Act 129 and the New Homes for All program" – though it does not appear as though there was any follow-up or follow-through to advance

[111] *See* CAUSE-PA-I-29; CAUSE-PA-TURN-III-5 (stating that PECO has not had any discussions with any of the following Weatherization Agencies regarding coordination of weatherization: Energy Coordinating Agency, Bucks County Opportunity Council, Inc., Community Action Agency of Delaware County; York County Planning Commission).
[112] CAUSE-PA-TURN-III-1.
[113] CAUSE-PA-TURN-III-3.
[114] CAUSE-PA-TURN III-5, 9.

coordination efforts as a result of that meeting.[115] Even the minimal coordination PECO has done has been through Act 129, not LIURP.[116]

I recommend that PECO actively coordinate delivery of services with other local, state, and federal efficiency, weatherization, and home repair programs that can help remediate health, safety, and other home repair issues that prevent the installation of comprehensive efficiency measures and cannot be resolved through PECO's health and safety budget alone. More specifically, o achieve these outcomes, PECO should host a series of collaborative meetings with members of its Universal Service Advisory Committee (USAC), as well as local weatherization and home repair program administrators across its service territory, to identify concrete ways to leverage and coordinate LIURP with home repair and weatherization programs across its service territory. Within six months of a final order in this rate case, PECO should provide to the Commission and its USAC with a report that addresses:

1) How PECO intends to coordinate its delivery of LIURP services with home repair and weatherization providers
2) Identified barriers to coordination, and the efforts it has made or intends to make to address those barriers
3) Next steps PECO will be taking to eliminate identified barriers, including but not limited to hosting additional collaboratives, amendments to PECO's USECP, amendments to the enrollment and/or service delivery process, improved training and/or communication channels across contractor networks and/or program administrators, and/or requests to waive regulations.

As PECO boasts about its community engagement efforts and requests additional funds to support outreach, PECO must focus specifically on coordination. Coordination is critical – PECO must

[115] CAUSE-PA-TURN III-7(e).
[116] CAUSE-PA-TURN-III-3, III-7(h).

leverage its LIURP investments with other programs to bring costs down both for low-income customers and all customers through reduced CAP costs, uncollectible expenses, and other collections-related costs.

c. Matching Energy Assistance Fund

Q: Can you describe PECO's Hardship Funds?

A: Yes. As part of its Commission-approved Universal Service and Energy Conservation Program portfolio, PECO is required to operate a hardship fund program, which is subject to the oversight of the Public Utility Commission. PECO's hardship fund program is known as the Matching Energy Assistance Fund (MEAF). Currently, customers can apply for MEAF grants of up to $500 per commodity, subject to the following eligibility criteria:

- Household income is at or below 200% FPL;
- Service is in threat of termination or has been terminated for non-payment;[117]
- The customer has not received a MEAF grant in the past 12 months; and
- The grant amount must bring the account balance to zero, either on its own or in combination with other third-party funding, like a LIHEAP grant or a customer payment.[118]

Q: Why is MEAF important?

A: As a hardship fund, MEAF is an emergency fund to help resolve an acute financial hardship. It is intended to help customers maintain service, in turn reducing uncollectible expenses for the company. Because LIHEAP assistance in Pennsylvania is seasonal, and is typically

[117] PECO St. 10 at 9:11-21; *see also* PECO USECP at 19-20. Note that customers remain eligible for MEAF assistance if they use a medical certificate or enter into a payment arrangement after applying for MEAF. *Id.* at 20.
[118] PECO USECP at 19.

available from November through April, MEAF grants are often the only source of assistance for PECO customers facing involuntary termination in the hot summer months.

Q: How is MEAF funded?

A: MEAF is funded by a combination of customer and employee contributions and a golf fundraiser. These donations are then matched by shareholder funds as grants are awarded.[119]

Since 2020, PECO has raised the following amounts of voluntary contributions for its Matching Energy Assistance Fund (exclusive of PECO's matching funds):

TABLE 11: MEAF Contributions Collected by PECO[120]

County	**2020**	**2021**	**2022**	**2023**
Employee/Customer Donation	$106,721	$104,021	$96,757	$90,608
Shareholder Donation (not including matching funds)	$0	$0	$0	$100,000
Golf Fundraiser	$26,100	$33,300	$47,345	$56,345
Total	**$132,821**	**$137,321**	**$144,102**	**$246,953**

These funds were then distributed to the counties as follows:

TABLE 12: Contributions Distributed to MEAF Agencies[121]

County	**2020**	**2021**	**2022**	**2023**
BUCKS	$22,224	$23,124	$24,480	$45,051
CHESTER	$22,224	$23,124	$24,480	$45,051
DELAWARE	$22,224	$23,124	$24,480	$45,051
MONTGOMERY	$22,224	$23,124	$24,480	$45,051
PHILADELPHIA	$42,224	$43,124	$44,480	$65,051
YORK	$1,700	$1,700	$1,700	$1,700
Total	**$132,821**	**$137,321**	**$144,102**	**$246,953**

[119] Attachment CAUSE-PA-TURN-III-33(a).
[120] Attachment CAUSE-PA-TURN III-33(a).
[121] Attachment CAUSE-PA-TURN III-31(a).

It is my understanding that the agencies use these disbursements to issue partial grants to eligible customers, and that agency-issued grants are then matched by PECO with shareholder funds, dollar for dollar, to make up the full awarded grant amount.[122] For example, if a customer is eligible for a $500 MEAF grant, the MEAF agency would issue a check to PECO for $250 from the pot of funds identified in Table 12, above. Once that check is received, PECO would apply a matching award (in this example, $250) to the customer's account once the agency's grant is received. In response to discovery, PECO produced a MEAF flow chart, attached as Appendix B to my testimony, which helps to illustrate the manual, multi-step process PECO currently uses to issue matching funds to individual accounts following receipt of funds from a MEAF agency. I will discuss this process further below.

In addition to the funds identified above, and in accordance with the Settlement in PECO's 2022 gas base rate case, PECO guaranteed to provide shareholder funding for MEAF grants of up to $300,000 annually, regardless of the amount of customer donations in a given year.[123] Based on PECO's testimony, my understanding is that for 2023 (the first year this settlement obligation took effect, PECO matched approximately $90,000 in grants –leaving a remaining shareholder match balance of $210,000. As I understand it, this $210,000 was distributed among the MEAF agencies in early 2024 and, presumably, is now available for those agencies to make grants.[124]

[122] *See* REVISED Attachment CAUSE-PA-TURN-III-30(a) at 4 ("[t]he funding is collected and disbursed monthly to an agency providing service in the six counties making up PECO's service territory. All contributions made to MEAF are provided to the agencies as no contribution dollars are used for administration of the program. Additionally, PECO matches each contribution dollar for dollar.").
[123] PECO St. 10 at 10:4-6.
[124] PECO St. 10 at 10:6-9.

Q: How does PECO's MEAF spending – in terms of actual grant dollars awarded – compare to other energy utilities across Pennsylvania?

A: PECO distributes substantially fewer hardship fund dollars compared to its peer utilities, as reflected in the below table. PECO is the largest electric utility in Pennsylvania. Yet, excluding 2022, when the Commission approved PECO to automatically apply $3.7 million of unspent LIURP funds to customer accounts in the form of hardship fund grants,[125] the amount of hardship grant dollars distributed to PECO customers has consistently lagged far behind the second largest electric company, PPL, and was either behind or on par with hardship fund spending of electric utilities a third of its size.

TABLE 13: Hardship Fund Grant Benefits Distributed[126]

Utility	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	Total Residential Customers (2022)
Duquesne	$762,512	$752,054	$1,387,694	$657,661	$2,285,617	545,897
Met-Ed	$234,000	$233,950	$337,447	$275,781	$382,014	515,226
PECO-Electric	$254,814	$316,174	$12,621	$90,044	$3,293,783*	1,521,223
Penelec	$146,000	$146,000	$291,783	$112,351	$146,000	501,008
Penn Power	$72,000	$72,000	$88,186	$82,090	$131,602	148,927
PPL	$896,452	$813,540	$1,275,164	$1,587,421	$1,457,918	1,256,135
West Penn	$218,500	$217,548	$399,749	$241,728	$221,314	631,990

In 2023, PECO distributed just $165,885 in grants to electric customers.[127]

PECO distributes substantially fewer hardship fund dollars compared to its peer utilities, as reflected in the below table. PECO Gas' half a million residential customers makes it similar in

[125] PECO Energy Company Petition for Expedited Approval to Establish an Emergency Grant Program for Low-Income Customers, Order, Docket No. P-2022-3032265 (order entered June 16, 2022).
[126] 2022 Universal Service Report at 7, 79; 2020 Universal Service Report at 80; 2018 Universal Service Report at 71. *In 2022, PECO issued approximately $3.7 million in additional one-time grants to eligible electric and natural gas customers in debt using unspent LIURP funds from 2020. See Docket No. P-2022-3032265.
[127] Attachment OCA-II-1(a).

size to most of the other natural gas utilities in Pennsylvania. Yet, excluding 2022, when the Commission approved PECO to automatically apply $3.7 million of unspent LIURP funds to customer accounts in the form of hardship fund grants,[128] the amount of grant benefits provided to PECO customers was the lowest in Pennsylvania and far below all of its peer NGDCs.

TABLE 14: Hardship Fund Grant Benefits Distributed[129]

Utility	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	Total Residential Customers (2022)
Columbia	$487,716	$426,042	$487,716	$1,239,146	$489,884	409,611
NFG	$144,638	$62,060	$15,001	$16,402	$68,553	196,741
PECO-Gas	$44,967	$55,795	$2,055	$14,658	$581,255*	500,154
Peoples	$1,100,000	$1,099,720	$1,113,090	$1,317,840	$1,221,974	594,250
PGW	$1,058,407	$1,701,062	$253,992	$413,586	$972,777	487,336
UGI - Gas			$474,951	$1,802,592	$1,003,837	618,589

In 2023, PECO-Gas distributed just $27,005 in hardship fund dollars.

I am deeply concerned about PECO's poor performance in distributing hardship fund assistance to families in need across its service territory. Year after year, it appears as though PECO is dramatically underspending available funds, despite clear and well-documented need, and it is not clear what is happening to funds that remain at the end of each program year.

[128] PECO Energy Company Petition for Expedited Approval to Establish an Emergency Grant Program for Low-Income Customers, Order, Docket No. P-2022-3032265 (order entered June 16, 2022).
[129] 2022 Universal Service Report at 80. *In 2022, PECO issued approximately $3.7 million in additional one-time grants to eligible electric and natural gas customers in debt using unspent LIURP funds from 2020. See Docket No. P-2022-3032265. 2020 Universal Service Report at 80; 2018 Universal Service Report at 71.

Q: Can you further elaborate on your concerns about PECO's consistent underspending of available MEAF funds?

A: Yes. As shown in the table below, the data provided by PECO shows significant underspending of PECO's MEAF funding in several of the counties in PECO's service territory.[130] In discovery, PECO provided information about the dollar amounts received by PECO customers as well as the amount of grant assistance dollars distributed to each county. Table 15, below, compares the total grant dollars awarded to PECO customers (disaggregated by the agency dollars and shareholder match) and the total funding PECO distributed to the agencies to support agency awards, from 2020-2023. The final column shows the difference between the agency dollars used to support grant awards and the total funding allocated to the agency.

TABLE 15: MEAF Grants Awarded vs. MEAF Funding Available by County - 2020-2023[131]

County	Total Grant Dollars Awarded to PECO Customers[132]	Agency Dollars Applied to Grant Awards	Shareholder Match Applied to Grant Awards	Funds Allocated to MEAF Agencies[133]	Difference, Agency Funds Available vs. Funds Awarded
Bucks	$80,971	$40,486	$40,486	$114,879	$74,394
Chester	$28,920	$14,460	$14,460	$114,879	$100,419
Delaware	$223,966	$111,983	$111,983	$114,879	$2,896
Montgomery	$147,864	$73,932	$73,932	$114,879	$40,947
Philadelphia	$55,716	$27,858	$27,858	$194,879	$167,021
York	$5,822	$2,911	$2,911	$6,800	$3,889
Total	**$543,260**	**$271,630**	**$271,630**	**$661,197**	**$389,567**

[130] See Exhibit C.

[131] See TURN/CAUSE-PA Exhibit C. This table assumes that only half of the total grant dollars awarded were provided by the agency, and the other half came from shareholder matching. This is based on my understanding, as described above, that PECO applies its shareholder match as grants are awarded. See Appendix B for a MEAF flow chart, which provide a more detailed illustration of PECO's process for issuing MEAF grants.

[132] Attachment CAUSE-PA I-9 (a). This is the total MEAF grants received by PECO customers, disaggregated by county. As with the number of grants, these are total dollar amounts for both gas and electric, as PECO was unable to provide information by commodity type.

[133] Attachment CAUSE-PA III-31(a).

Across PECO's service territory, PECO's MEAF agencies underspent their MEAF allocations by $389,567 from 2020 through 2023. Only one county, Delaware, got close to spending the dollars it was allocated for grant assistance. Philadelphia County's MEAF agency only spent 15% of the dollars allocated to it by PECO.

It is wholly unacceptable that nearly $400,000 in agency-administered MEAF contributions have gone unspent since 2020 – leaving behind hundreds of thousands of dollars in lost opportunities for leveraging PECO's dollar-for-dollar shareholder match. In all, between agency underspending and the loss of shareholder match, it appears as though PECO's MEAF has underspent by well over $750,000 since 2020. Note that time in this proceeding has not allowed for an inquiry into MEAF spending levels before 2020, though I am concerned this may be a deeper, longer-term issue.

PECO's consistent and pervasive underspending is not for lack of need for emergency grant assistance to prevent a termination. In the same time frame (2020 through 2023), PECO terminated service to 239,339 electric customers, including 75,901 confirmed low income electric customers.[134] In addition, PECO terminated service to 47,958 gas customers, including 15,350 confirmed low income gas customers.[135]

It is unclear at this time whether the unspent funds identified above are still available for grants, or whether PECO has any accounting controls or reporting in place to ensure agencies are tracking all remaining unspent funds year over year. Indeed, the opacity of PECO's reporting and the complexity of its matching process has made it incredibly challenging to investigate in the context of this proceeding. Suffice to say, I am alarmed at PECO's consistent underspending of

[134] 2022 Universal Service Report at 15-16; OCA-II-1(a) (electric).
[135] 2022 Universal Service Report at 16; OCA-II-1(a) (gas).

MEAF dollars, resulting in loss of hundreds of thousands of dollars in lost grant assistance, and I am deeply concerned that dollars intended for emergency grant assistance are not reaching PECO's low income customers. MEAF donations are solicited from PECO's customers, employees, and the communities it serves for the explicit purpose of directly supporting grant assistance to PECO's low income gas and electric customers, and with the promise of a shareholder match. It is imperative that the Commission ensure that every single dollar donated to MEAF is properly matched, as promised, and used for the exclusive purpose of providing direct assistance to PECO customers.

Q: In addition to persistent underspending, is there other evidence that MEAF is not reaching eligible households across PECO's service territory?

A: Yes. As shown in the table below, PECO's total grant numbers have fallen considerably since 2019, especially in certain counties, and its distribution of funds across its service territory are not proportional to the relative poverty rates or populations served.

TABLE 16: MEAF Grant Numbers by County[136]

	2018	2019	2020	2021	2022	2023	2024
Bucks	132	78	1	33	57	59	2
Chester	103	96	3	11	4	30	5
Delaware	95	135	0	20	198	81	0
Montgomery	93	100	2	61	93	53	3
Philadelphia	95	237	7	50	7	51	0
York	7	7	0	2	5	6	0
Total	525	653	13	177	364	280	10

[136] CAUSE-PA I-8. Note that according to PECO, these are the total grant amounts for both gas and electric, and PECO is unable to provide information by commodity type.

In 2023, 280 MEAF grants were awarded – less than half of the 653 grants awarded in 2019. Particularly striking is that across Philadelphia, only seven PECO customers received MEAF grants in 2022 – and just 51 grants were awarded in 2023. Even excluding 2020 and 2021 as outlying years due to the COVID pandemic, PECO's MEAF grant numbers are alarmingly low, and point to more systemic issues with PECO's hardship fund program administration.

Q: Does PECO track MEAF applications and denials?

A: PECO reports that, as of 2023, it is now tracking the number of applications submitted to MEAF agencies, including applications received and applications denied.

TABLE 17: MEAF Applications Received and Approved by County[137]

	2023 Received	2023 Approved	2024 Received	2024 Approved
BUCKS	60	59	3	2
CHESTER	171	30	15	5
DELAWARE	82	81	2	0
MONTGOMERY	62	53	3	3
PHILADELPHIA	242	51	215	0
YORK	6	6	0	0
Total	623	280	238	10

This table shows significant disparities among the agencies in the percentage of applications approved in 2023. The low MEAF approval rates in Chester (17.5%) and Philadelphia (21%) Counties in 2023 are particularly troubling – with fewer than 1 in 5 applications approved.

As I discuss further below, in addition to critical reforms to PECO's administration and oversight of the program, I believe critical changes must be made to improve MEAF awareness,

[137] Applications received, Attachment CAUSE-PA-TURN-III 24(a).

eligibility, and grant amounts. These needed reforms go much further than PECO's proposed change in grant amounts.

Q: Before turning to your recommended program reforms, do you have any further concerns about the distribution of MEAF grant dollars?

A: Yes, in addition to more general concerns that MEAF is not reaching those in need, I am also concerned that the distribution of MEAF grant dollars does not reflect the relative poverty levels in PECO's service territory. In the table below, I compare the percentage of MEAF grant dollars by county to the weighted distribution of the households who would be income-eligible for a MEAF grant.

TABLE 18: MEAF Grant Dollars Awarded by County, Compared to Percent of Confirmed Low-income Customers[138]

	2022 MEAF Grant Awards	2022 Distribution of Grant Awards	2023 MEAF Grant Awards	2023 Distribution of Grant Awards	Weighted Distribution of 200% FPL Households
Bucks	$32,015	13%	$31,798	18%	19.75%
Chester	$2,000	1%	$18,938	11%	12.82%
Delaware	$145,874	58%	$65,948	37%	21.61%
Montgomery	$67,705	27%	$35,992	20%	22.67%
Philadelphia	$2,344	1%	$20,404	12%	49.56%
York	$2,096	1%	$2,891	2%	-
Total	**$252,035**		**$175,972**		

[138] MEAF dollar amounts come from CAUSE-PA-I-9; Weighted distribution of 200% FPL Households weights the number of 200% FPL households by County based on the accounts eligible for MEAF funding. PECO USECP at Addendum E, 54. This is consistent with PECO's MEAF grant data, as it is my understanding that customers outside of Philadelphia may be eligible for two MEAF grants, $500 per commodity.

Q: Do you have a recommendation regarding the distribution of MEAF grants across PECO's service territory?

A: In addition to recommendations discussed below regarding critical changes to program benefits, eligibility, and operations, I believe PECO should distribute all of its MEAF contributions proportional to the low-income populations in its service territory.[139]

Q: Are there other reasons to be concerned about PECO's MEAF operations?

A: Yes. A review of discovery responses, along with publicly available information, shows that at least one of PECO's MEAF agencies, the Utility Emergency Services Fund (UESF) in Philadelphia, has encountered operational challenges that have impacted its ability to administer MEAF grants.

In addition, Philadelphia Gas Works (PGW), which until recently also used UESF as its hardship fund administrator, recently filed an emergency petition with the Commission seeking approval to replace UESF as the administrator of its hardship fund.[140]

Q: Can you describe the nature of PGW's Emergency Petition at P-2024-3048856?

A: PGW filed its Emergency Petition on May 3, 2024. In its Petition, PGW explained its concerns with UESF:

> PGW has become aware that UESF has not awarded Hardship Funds in the amount of ~$142,000 to 344 customers that it determined were eligible for grants in 2023, meaning that likewise, PGW has not distributed matching bill credits (i.e. write-offs) to these customers. Further, PGW has discovered that UESF is no longer accepting Hardship Grant applications from PGW customers. Because UESF is not distributing grants that were promised to certain customers and is no longer

[139] *See* Attachment CAUSE-PA III-31(a).

[140] Petition of Philadelphia Gas Works for Emergency or Expedited Order Approving Temporary Modifications to Hardship Funds Program in Universal Service and Energy Conservation Plan for 2023-2027 – P-2024-3048856, https://www.puc.pa.gov/pcdocs/1827052.pdf

> accepting applications, qualifying customers currently do not have access to Hardship Grant funds that are available under PGW's USECP to assist them in avoiding termination or having service restored.[141]

As a result of its hardship funds no longer being available via UESF, PGW proposed to amend its Universal Services and Energy Conservation Plan on an interim basis to:

> (i) allow a non-UESF administrator of PGW's Hardship' Funds Program; (ii) replace UESF as the entity paying Hardship Grants to customers whose service is terminated or in danger of being terminated; (iii) designate PGW (or its assignee) as the interim administrator and payor of the Hardship Funds Program, effective immediately; (iv) redeploy unpaid matching grants to customers whose Hardship Grants were already approved by USEF in 2023, such that both the amounts promised by USEF and PGW's matching bill credits are provided to these customers; and (vi) modify the total program budget to remove UESF grant amounts.[142]

On May 9, 2024, the Commission entered an order tentatively approving PGW's request, stating:

> We recognize there is an urgent need to address this situation, as the statutory moratorium on winter terminations for electric and natural gas service expired on April 1, 20244 and Pennsylvania's LIHEAP closed on April 6, 2024. Especially for customers who are not income eligible for CAP and LIHEAP, Hardship Fund programs may be the only payment assistance program available to help them address outstanding arrearages and maintain or restore utility service. Therefore, we find it reasonable and in the public interest to tentatively approve PGW's temporary modifications to the Hardship Fund provisions in its 2023 USECP for the duration of the 2024 calendar year.[143]

Q: Has PECO acknowledged any challenges with UESF's administration of its Hardship Fund?

A: Yes. In response to discovery, PECO stated that it was made aware of UESF processing delays in September 2023.[144] PECO stated further that it reached out to UESF staff and the Executive Director and worked to understand the issues and identify solutions. To PECO's

[141] Id. at 1-2.
[142] Id. at 2.
[143] Order, P-2024-3048856, https://www.puc.pa.gov/pcdocs/1828747.pdf
[144] Response to OCA-11-8.

knowledge, UESF was accepting MEAF grants as of September 22, 2023.[145] PECO also stated that "PECO continues to monitor UESF's MEAF grant processing and performance via weekly status calls with UESF leadership."[146]

While PECO states that it is unaware of any further MEAF grant processing delays after September 22, I note that since September 2023, UESF has processed just two MEAF grants.[147] Indeed, the grant awards by county identified in Table 18, above, paint a much different picture – indicating serious issues with administration of PECO's hardship fund in Philadelphia.

The substantial and persistent underspending of MEAF funds across PECO's service territory, along with the documented struggles of at least one of PECO's MEAF agencies, show that MEAF has not been available to PECO's low income customers.[148] Before the Commission approves any increase in rates, thereby increasing the corresponding need for grant assistance, it is imperative that the Commission address PECO's poor performance in oversight and administration of its MEAF program to improve the availability of critical emergency grant assistance to customers in need.

Q: Can you explain the impact that the unavailability of MEAF funds has on PECO's low-income customers?

A: As I referenced at the outset of my testimony, PECO's low-income customers – those who would be eligible for MEAF – face extremely high rates of termination and carry substantial levels

[145] Response to OCA-11-8.
[146] Response to OCA-11-9.
[147] Attachment OCA-11-1(a-b)
[148] 66 Pa. C.S. 2203(8)(requiring the commission to "ensure that universal service and energy conservation policies, activities and services are appropriately funded and available in each natural gas distribution service territory.")(gas); 66 Pa. C.S. 2804(9) (requiring the commission to "ensure that universal service and energy conservation policies, activities and services are appropriately funded and available in each electric distribution territory.") (electric).

of arrears, far surpassing debt and termination rates of general residential consumers. Confirmed low-income customers in debt carry as much as three times the amount of debt compared to the overall average for residential customers.

TABLE 19: Average Arrears for Customers in Debt – Electric

	2020[149]	2021[150]	2022[151]
Residential	$487.06	$687.94	$532.99
Confirmed Low Income	$1,145.54	$1,679.33	$1,479.30

TABLE 20: Average Arrears for Customers in Debt – Gas

	2020[152]	2021[153]	2022[154]
Residential	$680.41	$962.02	$759.34
Confirmed Low Income	$1,417.52	$2,099.11	$2,158.61

As discussed in Section II, above, high energy burdens are linked to adverse health outcomes, and higher rates of food insecurity. Higher energy bills will drive households to forego basic necessities or keep their home at unsafe or unhealthy temperatures to save money on energy bills. The limited availability of MEAF funds to address acute financial distress only compounds these outcomes.

Q: What do you suggest?

A: PECO must improve its oversight and administration of MEAF, top to bottom. Even following extensive analysis above, highlighting deep concerns about the allocation and

[149] 2020 Universal Service Report at 34-35.
[150] 2021 Universal Service Report at 29-30.
[151] 2022 Universal Service Report at 29-30.
[152] 2020 Universal Service Report at 34-35.
[153] 2021 Universal Service Report at 29-30.
[154] 2022 Universal Service Report at 29-30.

distribution of MEAF dollars across its service territory, I have barely scratched the surface in addressing a host of other serious concerns about PECO's delivery of MEAF assistance, including the tracking and treatment of unspent funds year over year, the potential loss of matched or leveraged funds, how applications are accepted and processed, how customers are made aware of available grant assistance, and whether a MEAF agency is abiding by MEAF guidelines. PECO cannot wait until a MEAF agency is struggling to monitor that agency's programs.

At the end of the day, MEAF is a PECO program, one it is required to operate by state law. The Commission, in turn, is obligated to ensure that a utility's universal service programs are appropriately funded and available to those in need.[155] While PECO can contract with third parties, and is encouraged to do so, it cannot pass the buck to the administrator, which is not subject to PUC jurisdiction. The Commission must ensure that PECO provide strong, consistent and ongoing oversight to its MEAF agencies and implement processes to monitor performance on a consistent and ongoing basis.

As an initial matter, given the substantial issues with PECO's MEAF identified above, I recommend that the Commission refer the matter to the Bureau of Audits and the Bureau of Investigation and Enforcement to closely examine PECO's MEAF operations. Specifically, I recommend that the Commission's Bureaus examine whether and how PECO accounts for unspent MEAF funds at the end of each year, whether those dollars are appropriately matched, and the adequacy of controls it has in place to ensure that donations to the hardship fund and shareholder matching are appropriately spent to support hardship fund grants.

[155] 66 Pa. C.S. §§ 2802(9)-(10); 2803 (definition, Universal Service and Energy Conservation); 2804(9)("The commission shall ensure that universal service and energy conservation policies, activities and services are appropriately funded and available in each electric distribution service territory.").

In addition, and separate from these recommended investigations, the Commission should require PECO to take a more active role in the administration and oversight of MEAF to ensure that its hardship funds are available to PECO customers. Specifically, the Commission should require PECO to monitor performance of each of its MEAF agencies, and create backup plans to step in if an agency is unable to make grants available to households in its service area. I fully support the use of community based organizations to distribute grant assistance, and I do not recommend at this time that PECO cease its reliance on any of its MEAF agencies to administer the program. However, as noted, PECO has an obligation to ensure that its its hardship fund program is appropriately funded and available – and the Commission has a corresponding obligation to oversee PECO's operations.

Going forward, I recommend that PECO require agencies to report the following on a monthly basis, and remitted to the Commission to allow for appropriate oversight:

1. Number of requests and/or inquiries for grant assistance;
2. Number of new applicants;
3. Number of new approvals;
4. Number of denied applications, disaggregated by reason for denial;
5. Total number of accounts flagged for a hold pending payment (newly approved and previously approved, but not yet paid by the agency);
6. Number of grants paid by the agency in that month; and
7. Number of accounts receiving funds from the agency in that month.

PECO should include information about its application of matching funds in these reports.

Discovery responses show that PECO has recently – and belatedly – started asking for some of this information from MEAF agencies. A PowerPoint presentation provided to MEAF agencies on March 15, 2024, sets forth the following expectations of MEAF agencies:

- Retain proof of income to verify income eligibility for 4 years and furnish to PECO at request;

- Report monthly tracking status of MEAF applications and funding by the 5th of the month for the previous month;
- Report monthly tracking on all applications to and denials (as well as reasons for denials);
- Report annually on the USP reporting process (MEAF Hardship Report);
- Remit invoice for successful/approved applications in a timely fashion to PECO by the 5th of the month for the previous month;
- Provide assistance or public access to the agency and MEAF grants throughout the entire county;
- Access outreach opportunities within your county to promote both MEAF as well as other PECO low-income assistance programs; and
- Keep PECO informed of changes to the organization (staff changes, mission re-direction, et al.).[156]

While clear communication regarding these program "expectations" are a good start, I don't believe these changes are sufficient to address the significant concerns with MEAF operations raised above. The Commission should require PECO to file monthly status reports on the status and availability of its MEAF, which should be filed at this docket and PECO's most recent Universal Service and Energy Conservation Plan Docket and served on parties to both proceedings. In addition, PECO should amend its policies such that if a MEAF agency has stopped accepting or approving applications, or isn't on track to spend its full grant allocation, PECO would step in to ensure the availability of grant assistance to customers in that area of its service territory. It is PECO's responsibility to administer its hardship funds. If an agency is unable to process or approve applications, PECO should temporarily take over administration internally, and, if necessary, find a different agency to administer its hardship funds.

Q: Has PECO made any proposals regarding MEAF in this proceeding?

A: Yes. PECO proposes to increase the maximum allowable MEAF grant from $500 per commodity to $1000 per account.[157]

[156] Attachment CAUSE-PA-TURN-III-30(a) at 6.
[157] PECO St. 10 at 10:12-17.

Q: What are your thoughts on this proposal?

A: I believe this proposal is well intended. While it addresses some concerns with the MEAF program, it raises other concerns. Specifically, it does not account for commodity or rate type. Electric heating customers and combined electric and gas customers use PECO for two purposes – electric and heating, while non-heating customers only use PECO for electric, and may have access to grant assistance for other kinds of heating.

Q: What changes do you suggest to PECO's proposal?

A: With regard to grant amounts, PECO should set grant amounts separately for each rate type. I support PECO increasing the grant amount, and to that end, I would suggest the following:

Rate R: $1000
Rate RH: $2000
Gas: $1000

In this scenario, customers would be eligible for $1000 grants for both baseload electric and heating. So, combined gas and electric customers would be able to receive grant assistance of up to $2000 – maximum $1,000 for electric, and $1,000 for gas.

Q: Do you have any additional suggestions regarding MEAF to improve the availability of grant assistance?

A: Yes. MEAF's requirement that grants must bring past due balances to zero acts as an insurmountable barrier to MEAF access for many low income customers, which consistently carry significantly higher average arrearage levels than can be resolved with PECO's MEAF assistance. This design issue is undoubtedly contributing to PECO's low relative MEAF spending levels. As discussed above, the average arrearage of a confirmed low-income PECO electric customer was

$1,479.30 in 2022. The average arrearage of a confirmed low-income PECO gas customer was $2,158.61 in 2022. Even increasing the grant amount as PECO suggests would limit the availability of MEAF to many low income customers, whose arrears surpass the proposed grant amount. To improve the availability of MEAF assistance to those in need, PECO should eliminate the requirement that a MEAF grant bring the balance to zero. Instead, consistent with the rules of every other utility operating a hardship fund in Pennsylvania, PECO should allow customers to receive assistance through MEAF if the grant amount is sufficient to resolve the crisis (in other words, prevent an imminent termination or allow the household to be reconnected). This would mean that a MEAF grant could be used to pay a catch-up amount on a payment arrangement, a CAP cure amount, or cover a reduced amount to prevent termination or allow for restoration with any remaining balance placed in a payment arrangement.

Q: Can you summarize your recommendations and suggestions regarding MEAF?

A: Yes. I am deeply concerned about the availability of MEAF in PECO's service territory. Grants have not been accessible or available to PECO customers, and PECO has not been properly monitoring the distribution of its hardship fund assistance, leading to unnecessarily high balances, termination notices, and termination of service. My recommendations are as follows:

1) The Commission should refer the issues identified above to the Bureau of Audits and the Bureau of Investigation and Enforcement to closely examine PECO's MEAF operations, including whether and how PECO accounts for unspent MEAF funds at the end of each year, and the controls it has in place to ensure that donations to the hardship fund, and whether shareholder matching is appropriately spent to support hardship fund grants.

2) The Commission should require PECO to take a more active role in the administration and oversight of MEAF to ensure that its hardship funds are available to PECO customers. Specifically, the Commission should require PECO to monitor performance of each of its MEAF agencies, and create backup plans to step in if an agency is unable to make grants available to households in its service area.

3) PECO should require agencies to report the following on a monthly basis:

   a. Number of requests and/or inquiries for grant assistance;
   b. Number of new applicants;
   c. Number of new approvals;
   d. Number of denied applications, disaggregated by reason for denial;
   e. Total number of accounts flagged for a hold pending payment (newly approved and previously approved, but not yet paid by the agency);
   f. Number of grants paid by the agency in that month; and
   g. Number of accounts receiving funds from the agency in that month.

4) The Commission should require PECO to file monthly reports on the status and availability of its MEAF, which should be filed at this docket and PECO's most recent Universal Service and Energy Conservation Plan Docket and served on parties to both proceedings.

5) The Commission should approve increased grant amounts for MEAF of $1000 for baseload electric, and an additional $1000 for heating customers (whether electric or gas).

6) The Commission should require PECO to eliminate its requirement that a MEAF grant pay a customer's grant to zero, and replace it with a requirement that the MEAF grant be sufficient to resolve the crisis, with any remaining balance placed on a payment arrangement.

IV. RESIDENTIAL CUSTOMER SERVICE ISSUES

Q: Please describe this section of your testimony.

A: In this section of my testimony, I examine the quality of customer service that PECO provides to residential customers.

As discussed further in this section, I am specifically concerned about the level of customer service PECO is providing to non-English speaking (NES) households. It is also imperative that PECO improve its security deposit practices to fully comply with statutory and regulatory requirements. I am likewise concerned that PECO is not adequately identifying electric heating customers, which is causing low-income heating customers to pay substantially higher rates through CAP.

a. Language Access for NES Customers

Q: Why is language access relevant as an issue in the proceeding?

A: How PECO serves its non-English speaking (NES)[158] customers is a core customer service issue. In her testimony describing recent customer service changes, Nicole L. LeVine, Senior Vice President and Chief Operating Officer at PECO, touts that "Customers now also have the option to view webpages in English, Spanish, or Simplified Chinese."[159] In evaluating PECO's rate increase request, including management performance, it is important to consider the quality of customer service PECO provides quality to all of its customers, including customers who do not speak English.

[158] Note that I am using the term "non-English speaking" as opposed to "limited English proficiency" so as not to create confusion with the "limited English speaking" definition from the U.S. Census Bureau's American Community Survey.
[159] PECO St. 1 at 26:2.

Q: What information is available related to the number of NES households in PECO's Service Territory?

A: Census data shows that in the five major counties in PECO's service territory, 19.5% of households do not speak English as their primary language at home. While Spanish is the most common language for NES households, a significant number of NES households also speak languages other than Spanish. As shown in the table below, there is a substantial NES population in each of the five major counties served by PECO.[160]

TABLE 21: Non-English Speaking (NES) Households by County[161]

	Bucks	Chester	Delaware	Montgomery	Philadelphia
% NES	15.4%	14.0%	15.3%	15.9%	25.7%
Spanish	4.26%	4.70%	3.60%	3.92%	11.54%
Other Indo-European Languages	7.84%	5.15%	5.96%	6.09%	6.56%
Asian and Pacific Island Languages	2.51%	3.75%	3.61%	4.77%	5.41%
Other Languages	0.77%	0.41%	2.17%	1.14%	2.22%

Q: What information is available to PECO customers in languages other than English?

A: In response to discovery, PECO provided all customer-facing documents that have been translated into languages other than English, including a CAP application in Spanish.[162] However, all of these documents are general materials, not vital notices directed toward individual customers. For example, shutoff notices, CAP enrollment letters, and CAP maximum credit letters have not been translated into Spanish – or any other language commonly spoken in areas across PECO's service territory. These vital notices directed toward individual customers are critical because they impact whether a specific household is able to stay connected to utility service.

Information is also available to PECO customers in other languages by calling PECO customer service. PECO tracks the number of customer service calls that use Language Line,

[160] TURN/CAUSE-PA Exhibit A.
[161] TURN/CAUSE-PA Exhibit A.
[162] Attachment CAUSE-PA-I-35(a).

PECO's third party language interpretation services. PECO reports that in 2023, 70,487 customer service calls used language line interpretation.[163] In 2023, PECO used 63 different languages via language line.[164] These figures suggest that a large proportion of PECO's customers are reliant on the accessibility of both interpretation and translation services.

Q: Is any translation or interpretation mandated by law?

A: Yes. The PUC's regulations require that "termination notice must include, in conspicuous print: Information in Spanish directing Spanish-speaking customers to the numbers to call for information and translation assistance."[165] The regulations also require that a "public utility which serves a substantial number of Spanish-speaking customers shall provide billing information in English and in Spanish."[166]

I note that Counsel for TURN and CAUSE-PA intend to address PECO's legal obligations with regard to language access more thoroughly in briefing, including application of the above noted regulations as well as PECO's obligations as a federal funding recipient pursuant to Title VI of the federal Civil Rights Act of 1964.

Q: Do you have any concerns about PECO's approach to serving its NES customers?

A: Yes. I am concerned that NES customers are not able to equitably access PECO's programs and services as a result of language barriers, and, more specifically, may not understand critical communications from PECO regarding their bill, collections efforts, service termination, and/or details and requirements related to CAP enrollment.

[163] Attachment CAUSE-PA-TURN-III-20(a)
[164] Attachment CAUSE-PA-TURN-III-20(a)
[165] 52 Pa. Code § 56.91(b)(17).
[166] 52 Pa. Code § 56.201(b)

First, there are a substantial and disproportionate number of NES households whose service is terminated without getting notice of the impending shutoff in a language they can understand. It appears from the data that NES households who receive shutoff notices may, in fact, be more likely to experience a shut off (and therefore less likely to resolve the issue prior to termination) - in part because they are not receiving notice in a language that they understand. Of the top 10 zip codes in terms of shutoffs per customer in PECO Electric's service area, 6 of those zip codes are also in the top 20 zip codes in terms of the highest percentage of NES households.[167] This correlation between shutoffs and NES households is troubling and underscores the need to provide greater language access, especially for billing, collections, and termination processes.

TABLE 22: Involuntary Terminations, Non-English Speaking (NES) Households[168]

Zip	% NES Households	Customers	2023 Terminations	2023 Termination Rate
19013	7.4	12571	2559	20.4%
19023	22.5	8174	1417	17.3%
19132	10.6	14321	2313	16.2%
19142	**30.3**	**10386**	**1580**	**15.2%**
19082	**40.1**	**15471**	**2089**	**13.5%**
19140	**38.5**	**19615**	**2559**	**13.0%**
19124	**45.5**	**23778**	**3062**	**12.9%**
19135	**32.6**	**12976**	**1636**	**12.6%**
19121	13.8	17505	2180	12.5%
19133	**58.9**	**9310**	**1137**	**12.2%**

[167] Exhibit A.
[168] *Id.*

Q: Does PECO track the primary language of its NES customers?

A: No, PECO does not track the primary language of its customers.[169] I recommend that PECO track the primary language of its customers as part of its CIS. Tracking a customer's language preferences would allow PECO to communicate orally and in written form with the customer about specific customer issues in a language they can understand. Although a customer calling PECO can request a Language Line interpreter, tracking the customer's preferred language would mean that a customer service representative would immediately know to connect and interpreter, and would allow PECO to conduct more successful outreach to NES customers – improving call times and service quality, and helping to more expediently resolve issues that arise. Tracking customer language would also allow PECO to communicate in written form in a customer's preferred language, either by providing translated documents or by including a notice in the written document explaining how a customer can access the written information in their own language.

Q: What other recommendations do you have as to how PECO can improve its service to NES households?

A: Given the prominence of LEP households whose primary language is Spanish, I recommend that key portions of PECO's residential customer bills (including, at minimum, itemized charges and details related to customer shopping and CAP enrollment) and the entirety of residential termination notices should be sent to all households in both English and Spanish. Even if PECO does not begin tracking customer language, sending billing information and

[169] PECO stated in response to discovery that it has not performed an assessment of the cost of using PECO's CIS to track PECO Electric customers' preferred language. CAUSE-PA-I-35.

termination notices in both English and Spanish to all households would ensure that at least some NES households receive termination notices in a language that they can understand.

Given the variety of languages spoken in NES households in PECO's service territory, I recommend that PECO also include a tagline on its residential customer bills that notifies customers of the availability of interpretation services to address questions related to their bill. This tagline should be provided in the top 5 languages spoken in PECO's service territory, determined in consultation with stakeholders and PECO's most recent language needs assessment.

Finally, PECO's shutoff notices should be similarly revised to include language which identifies the document as a termination notice, and includes a tagline in the top 5 languages spoken in PECO's service territory that explains how the customer can contact PECO and the availability of interpretation services. Specifically, the tagline should state: "This is a notice that your electricity may be shut if you do not make arrangements to pay your bill. Please contact PECO at [phone number] to discuss your options. When you call, you can request an interpreter." I recommend this tagline be provided in 5 languages, to be determined in consultation with stakeholders and PECO's most recent needs assessment.

b. Low-income Security Deposit Issues

Q: Could you summarize the statutory and regulatory rules that pertain to assessing security deposits for low-income customers, and PECO's policies and procedures implementing those rules?

A: Section 1404(a.1) of the Public Utility Code and section 56.32(e) of the Commission's regulations prohibit utilities from collecting security deposits from customers who are confirmed to be income eligible for its customer assistance programs.

In its Ch. 56 Rulemaking Order, the Commission clarified that the prohibition on collecting security deposits from low-income customers is "referring to eligibility based upon the customer's household income – not on other miscellaneous eligibility criteria that can vary by utility."[170] Thus, the regulation provides:

> [A] public utility may not require a cash deposit from an applicant who is, based upon household income, confirmed to be eligible for a customer assistance program. An applicant is confirmed to be eligible for a customer assistance program by the public utility if the applicant provides income documents or other information attesting to his or her eligibility for state benefits based on household income eligibility requirements that are consistent with those of the public utility's customer assistance programs.

The Commission also requires both verbal notice of the exemption to be provided to applicants and customers at the time the security deposit is assessed, as well as instructions for how the applicant or customer can verify income.[171]

If a low-income customer is initially assessed and pays a security deposit, and a utility later learns that the household is protected from the imposition of a security deposit, the regulations provide that the utility "shall refund a deposit, along with applicable interest, within 60 days of determining the customer or applicant from whom a deposit was collected is not subject to a deposit under § 56.32(e) (relating to security and cash deposits) or § 56.41(4) (relating to general rule)."[172]

As a general matter, PECO's policies state that a "deposit will be equal to one-sixth of the applicant's or customer's estimated annual bill" and that a customer will not have their deposit released until that customer "has made on time and in full payments for service provided by the

[170] Rulemaking to Amend the Provisions of 52 Pa. Code, Chapter 56 to Comply with the Amended Provisions of 66 Pa. C.S. Ch. 14, L-2015-2508421, Final Rulemaking Order, Attach. One at 48 (Feb. 28, 2019).
[171] *Id.*; *see also* 52 Pa. Code §§ 56.36, 56.286.
[172] 52 Pa. Code § 56.32(f).

Company for 12 consecutive months.[173] That is about 2 months' worth of bills that a customer will not have access to for a year – assuming they are able to pay in full and on time for 12 consecutive months. With respect to its specific policies governing the assessment, collection, and release of security deposits from low-income customers, pursuant to the Joint Petition for Partial Settlement in PECO's 2018 distribution rate case, PECO committed to performing a monthly review of accounts to determine whether it is holding deposits that were paid by confirmed low-income customers. However, it appears that PECO does not provide refunds to those customers, they only return those deposits in the form of a "deposit credited back to the customer's account."[174]

Q: How does PECO's security deposit policy impact its low-income customers?

A: The imposition of a security deposit can pose a huge barrier to safe, stable service for low-income customers who already struggle to connect to and maintain service. This is why the legislature prohibited utilities from imposing security deposits on low-income households.

As explained at the outset of my testimony, in 2023, PECO Electric had 373,243 estimated low-income customers, amounting to roughly 24% of its residential customers, but only 152,722 confirmed low-income customers – meaning PECO had recently verified their income directly with PECO or through enrollment in LIHEAP.[175] This means that less than half of the customers who may be statutorily exempt from utility security deposit requirements – or other income-based protections – are actually afforded those protections.

Furthermore, PECO's security deposit practices appear to have a strong racially disparate impact in that PECO collects significantly different amounts of security deposits in similarly sized

[173] PECO Exhibit 2: PECO Electric Tariff No. 8 – Proposed at 13-14.
[174] PECO USECP at 27, 36.
[175] Attachment OCA-II-1(a).

majority White and majority Minority ZIP codes.[176] As demonstrated in the table below, and Exhibit B, attached, for ZIP codes that are 75% White or greater, the total amount of security deposits collected divided by the total number of customers in those ZIP codes is $6.76.[177] However, in ZIP codes that are 75% Minority or greater, the total amount of security deposits collected divided by the total number of customers in those ZIP codes is $11.71, nearly double the amount collected per customer.[178]

A few zip codes that exemplify the larger trend follow. For example, 19067 and 19380 both have a similar racial composition, 84% and 86% White. In 2023, PECO collected security deposits of about $167,000 from 21,398 customers and $110,000 from 21,246 customers respectively.[179] However, in 19134, which has about the same number of customers but is 66% Minority, PECO collected about $295,000 in security deposits from 21,380 customers.[180] Even in 19140, which has fewer customers than 19067 and 19380 but is 89% Minority, PECO collected about $261,000 in security deposits from 19,615 customers[181] With such a strong racially disparate impact, PECO's policies related to security deposits need to change.

TABLE 23: Deposits Collected by Zip Code, Demographics[182]

Zip Code	% White	% Minority	Customers	2023 Deposits Collected	Deposit/Customer
19067	84%	16%	21,398	$167,000	$7.83
19380	86%	14%	21,246	$110,000	$5.20
19134	34%	66%	21,380	$295,000	$13.54
19140	11%	89%	19,615	$261,000	$13.32

[176] Here, I use the term "Minority" as an aggregation of non-White racial categories from the US Census Bureau's American Community Survey.
[177] Exhibit B.
[178] *Id.*
[179] *Id.*
[180] *Id.*
[181] *Id.*
[182] *Id.*

Q: Do you have specific recommendations for how PECO can reduce this disparate impact in the application of security deposits?

A: Yes. Consistent with my above recommendation regarding improvements to universal service program enrollment, I recommend that the Commission order PECO implement routine screening to determine whether an applicant or customer qualifies for the statutory security deposit prohibition before a deposit is assessed. If they are not already doing so, PECO should be ordered to inform all consumers of the prohibition at the time a security deposit is assessed, provide information about how PECO gathers income information to prevent imposition of a deposit, and explain what customers can do to access the exemption if it is not automatically applied. PECO should be required to explain the low-income security deposit prohibition and request income information through the course of any communication (written or verbal) regarding a security deposit. This proactive approach would help ensure that PECO is not assessing and collecting security deposits from economically vulnerable households that should be exempt by law.

In addition to improved screening and information about the security deposit prohibition, PECO should be required to review its current records within 30 days of a final order in this proceeding, and should immediately refund any security deposits held on accounts classified as "confirmed low-income." Going forward, PECO should conduct a similar review on a monthly basis – consistent with its 2018 settlement obligation – to ensure it is timely *refunding* deposits that were collected from customers later determined to be low-income. Notably, pursuant to the Commission's regulations, PECO should provide consumers with a direct refund of any previously collected deposits, and should only apply the deposit to a customer's account if they provide explicit and informed consent to do so. I note that in reviewing PECO's responses to discovery, it

is unclear whether PECO is currently providing consumers with the option for a refund of erroneously collected deposits.

c. Residential Heating Type

Q: Can you describe the two different Residential rates that PECO offers to its residential customers?

A: Yes. PECO has two different residential rates – Rate R, which is electric baseload (non-heating) service, and Rate RH, which is electric heating service. The proposed tariff keeps the same language that is in the current tariff, describing Rate R as

> Single phase service in the entire territory of the Company to the dwelling and appurtenances of a single private family (or to a multiple dwelling unit building consisting of two to five dwelling units, whether occupied or not), for the domestic requirements of its members when such service is supplied through one meter.[183]

Similarly, the proposed tariff describes rate RH as

> Single phase service to the dwelling and appurtenances of a single private family (or to a multiple dwelling unit building consisting of two to five dwelling units, whether occupied or not), for domestic requirements when such service is provided through one meter and where the dwelling is heated by specified types of electric space heating systems. The systems eligible for this rate are (a) permanently connected electric resistance heaters where such heaters supply all of the heating requirements of the dwelling, (b) heat pump installations where the heat pump serves as the heating system for the dwelling and all of the supplementary heating required is supplied by electric resistance heaters, and (c) heat pump installations where the heat pump serves as the heating system for the dwelling and all of the supplementary heating required is supplied by non electric energy sources.[184]

[183] PECO Exhibit 2 at original page 52.
[184] PECO Exhibit 2 at original page 53.

The proposed charges for Rate R and Rate RH differ in that the variable charge for RH in the winter (October through May) is lower, at $0.08386 per kWh.[185] The fixed distribution service charge and the variable charge from June through September are identical.

Q: What is the importance of the distinction between Rate R and Rate RH?

A: In short, the distinction is essential to determine whether a residential customer is receiving the right rate, as well as access to various protections and/or program assistance.

Section 1303 of Public Utility Code requires that "Any public utility, having more than one rate applicable to service rendered to a patron, shall, after notice of service conditions, compute bills under the rate most advantageous to the patron."[186] Therefore customers who have electric heat should be on Rate RH so that their bill can be computed under the most advantageous rate.

This distinction is also important for each of PECO's universal service programs. CAP customers have higher maximum credit amounts if they are on RH than if they are on R, designed to account for higher usage associated with winter heating.[187] A CAP customer who uses electric heat but is on rate R instead of Rate RH may exceed their maximum CAP credits and therefore be charged more than they would have been charged had they been on Rate RH and not exceeded their maximum CAP credits.[188] With regard to MEAF, grants are currently determined based on the customer's commodity type and may, in the future, be determined based on rate classification.

[185] PECO Exhibit 2 at original page 52, 53
[186] 66 Pa. C.S. § 1303.
[187] PECO USECP at 5.
[188] Because the allowable energy burden for CAP customers with electric heating is higher than it is for CAP customers with electric non-heating, a CAP customer who switches to Rate RH may have a monthly bill that is higher than it would be on Rate R. For customers who exceed their maximum CAP credits because of high usage from electric heat while on Rate R, the cost to the customer of exceeding the CAP credit maximum would likely be higher than the cost to the customer of the higher monthly charge after switching to Rate RH. PECO USECP at 4.

Finally, with regard to LIURP, electric heating customers are able to receive substantially greater levels of efficiency and usage reduction measures and services.

Q: How does PECO determine whether and when to put a customer on Rate RH, as opposed to Rate R?

A: PECO states that it makes a determination of whether an account is Rate R or Rate RH when the premises is connected to the PECO system for the first time.[189] At this time, the applicant fills out an application which PECO reviews and "will verify with the customer's construction team."[190] PECO notes that a customer can request a change from Rate R to Rate RH by calling PECO to initiate a High Bill Dispute.[191] However, it does not appear that PECO conducts any inquiry into the heating source after the home is initially constructed. In fact, PECO states that when a new customer applies for PECO electric service, PECO does not ask what fuel source the customer uses for heat, because such a determination was made when the premises is connected to the PECO system for the first time.[192] In other words, if a home was built in 1950s for baseload electric services, when oil and coal were the most prevalent method of home heating, that home may still be categorized as a baseload account – even if the home later installed baseboard electric heat or an electric heat pump in part or all of their home. The onus is solely on the customer to know about and request a change in rate classification based on heating source.

Q: Do you have any concerns about this approach?

A: Yes. As noted above, PECO is required to charge customers the most advantageous rate. However, there seems to be significant barriers when a customer attempts to switch to rate RH.

[189] CAUSE-PA-I-16.
[190] CAUSE-PA-II-1
[191] CAUSE-PA-I-16.
[192] CAUSE-PA-I-17.

First, the process requires that a customer affirmatively call PECO and request a rate change or initiate a high billing dispute. Customers who are not the first customer when the premise is connected to the PECO system for the first time are therefore at a disadvantage in that they may not even know that rate RH is available to them. This is particularly true for tenant customers, who are never responsible for connecting the premises to PECO for the first time and, therefore, are never afforded the opportunity to select the appropriate, most advantageous rate.

Implementation of a clear, standardized process for adjusting residential rate classification more important than ever as home electrification and fuel switching becomes more accessible to a greater number of low and moderate income households. Over the next few years, the federal Inflation Reduction Act will provide historic investment into household electrification, with approximately $129 million earmarked exclusively for home electrification rebates in the state – and billions of additional dollars anticipated to support funding for distributed energy and electrification projects for individual homeowners, renters, and affordable multifamily housing providers.[193] As low and moderate income households are converted to electric heating through these various programs, they should be seamlessly switched over from Rate R to Rate RH. The availability of a discounted rate for electric heating could also incentivize households to make the switch to electric heating.

Q: Are there situations where you believe PECO should be acting proactively in identifying customers who are likely to be on the wrong rate?

A: Yes. First, when a customer opens their account, PECO should ask the customer questions to determine whether they are on the appropriate rate. This will help correct situations where, in a

[193] For an overview of the Home Energy Rebate Programs and other critical pending IRA programs, see Pa. DEP, Inflation Reduction Act, https://www.dep.pa.gov/Citizens/Energy/Pages/Inflation-Reduction-Act.aspx.

rental property for example, the primary heat source is electric but the property owner has not previously indicated that fact to PECO.

Additionally, PECO should proactively identify whether customers are on the incorrect rate when conducting a LIURP or Act 129 energy efficiency audit or other in-home services. During an efficiency audit or in-home service, the auditor should confirm that the customer is on the correct rate based on their home heating needs and equipment. If the customer is not on the correct rate, the auditor should flag the need for the appropriate PECO personnel to place the customer on the correct rate, without requiring additional inspections or proof other than the LIURP auditor's report.

In addition, because of the potential ramifications for customers who exceed their maximum CAP credits, as discussed in detail earlier, PECO should also proactively reach out to customers who are on rate R and nearing their CAP credit maximums to determine whether the customer is on the correct rate.

Finally, because PECO is required to compute bills under the rate most advantageous to the patron, PECO should also conduct regular analyses of PECO electric accounts and conduct proactive outreach to all Rate R customers who have high winter usage that appears it may be consistent with use of electric as the primary heat source.

Q: Do you have any other concerns about PECO's two residential rates?

A: Yes. PECO's current and proposed tariff allows customers to be on Rate RH if they have "heat pump installations where the heat pump serves as the heating system for the dwelling and all of the supplementary heating required is supplied by non electric energy sources."[194] In contrast,

[194] PECO Exhibit 2 at original page 53.

where the heat system is not a heat pump but is instead "permanently connected electric resistance heaters," based on the tariff language, the account can be on Rate RH only if "such heaters supply *all* of the heating requirements of the dwelling."[195] In other words, a customer can be on Rate RH if they have a heat pump and supplementary non-electric heat, but cannot be on Rate RH if they have electric resistance heaters and supplementary non-electric heat. This is an unjust and inequitable disparity.

I am concerned about the implications of this inequitable tariff language for customers who have partially electrified homes, as well as those who rely on de facto electricity as their primary heating source. For example, based on PECO's tariff, a customer who uses electric baseboard heat in multiple rooms in their home but still has a non-electric heat source for an older part of the home would not be eligible for the lower Rate RH, despite the fact that they are in fact reliant on electricity to heat their home. If the same home installed a heat pump in part of their home, but continued to rely on gas heat for another area of their home, they would be eligible for PECO's lower Rate RH. Indeed, the tariff language as currently written treats customers differently based on the manner in which electricity is used to heat the home, not the extent of such electric heat.

Finally, I am concerned that PECO does not extend heating status to those who rely solely on electricity to heat their homes when their primary heating source is inoperable. These households are know as "de facto" heating customers, and are often most in need of energy assistance. Reliance on de facto heating sources can result in substantially higher direct and indirect costs to households, depletion of CAP credits, acute and chronic rate unaffordability,

[195] *Id.*

accrual of exorbitant arrears, and involuntary termination. PECO should ensure that families reliant on de facto heating are receiving reduced RH rates, as well as adequate CAP credits based on their status as a heating customer. In turn, PECO should work to assist de facto heating customers to resolve issues with their primary heating system to reduce reliance on unsafe alternative heating sources.

Q: What recommendations do you have in relation to PECO's tariff language about Rate R and Rate RH?

A: I recommend that the tariff language be revised to allow customers to enroll in Rate RH if they rely on electric heating equipment as a primary or supplementary heating source. I recommend revising the tariff language around the availability of Rate RH Residential Heating Service to read as follows:

> The systems eligible for this rate are (a) electric resistance systems or electric heat pumps which supply heating to the dwelling, regardless of any supplementary heating supplied by non-electric energy sources, or (b) electric space heating equipment where the primary home heating source is inoperable.

V. SUMMARY OF RECOMMENDATIONS

Q: Please provide a summary of your recommendations.

A: I am making the following recommendations:

1. Require PECO to amend its definition of "confirmed low-income customers" to fully comply with the Commission's regulatory definition of the term, including receipt of an income-based payment arrangement, verbal disclosure by the customer, or other factors which make it reasonably likely the household is low-income.

2. Reject PECO's proposal to increase the fixed monthly customer charge. To the extent any increase in the Company's residential distribution rate is approved, it should be applied to the volumetric charge.

3. CAP

    a. Require PECO to implement a screening process to identify households that are potentially eligible for CAP or other universal service programs, and assist with enrollment or provide a warm transfer to PECO's universal service program administrator.

    b. Require PECO to file a Petition to amend its USECP to permit auto-enrollment of CAP customers, and to work with its Universal Services Advisory Council (USAC) to develop the details of the program, including customer communications.

    c. Require PECO to participate in the DHS data sharing program, and to use LIHEAP data to perform auto-recertification of CAP customers

4. LIURP

    a. Require PECO to increase its LIURP budget by $4,400,000, bringing its annual LIURP budget for electric customers to about $10,000,000.

    b. Require PECO to revise its high usage eligibility threshold to account for usage on a per-square foot basis – as opposed to a flat high usage threshold.

    c. Require PECO to provide a report to its USAC within 180 days of effective date of rates in this proceeding about the barriers to tenant participation and what measures the company can feasibly provide to tenants without landlord approval.

d. Require PECO to advance efforts to coordinate LIURP services with local, state, and federal home repair, efficiency, and weatherization programs, consistent with the more detailed recommendations outlined above.

5. MEAF

a. Refer MEAF issues to the Bureau of Audits and the Bureau of Investigation and Enforcement to examine issues with PECO's MEAF program identified throughout my testimony.

b. With regards to grant amounts, require PECO to set grant amounts separately for each rate type, as follows:

i. Rate R: $1000

ii. Rate RH: $2000

iii. Gas: $1000

c. Require PECO to distribute its MEAF dollars proportional to the number of low-income customers in each county.

d. Require PECO to amend its policies such that if a MEAF agency is not performing or doesn't spend its full grant allocation, PECO would step in. PECO has an obligation to ensure that its universal service programs, including its hardship funds, are appropriately funded and available.

e. Require PECO to eliminate its requirement for MEAF grants (alone or in combination with other resources) pay down the total balance to zero and allow grants to issue if the grant will resolve a pending crisis.

6. Language Access

a. Require PECO to track the primary language of its customers as part of its CIS.

b. Require PECO to send residential customer bills and termination notices to all households in both English and Spanish.

c. Require PECO to include a tagline in its residential customer bills and termination notices, consistent with the more detailed recommendations outlined above.

7. Security Deposits

a. Require PECO to implement an income screening process prior to assessing a security deposit to determine if they qualify for the statutory security deposit prohibition.

b. Require PECO to inform all consumers of the prohibition on low-income security deposits at the time a security deposit is assessed and provide information about how PECO gathers income information to prevent imposition of a deposit and what customers can do to access the exemption if it is not automatically applied.

c. Within 30 days of a final order issued in this proceeding, require PECO to review all accounts where a security deposit was previously collected from a low-income customer, and issue immediate refunds for any deposits held for confirmed low-income customers. Going forward, require PECO to conduct this review on a monthly basis.

d. Require PECO to refund all improperly held deposits directly to the low-income customer, and instruct PECO to only apply a deposit to the customer's account with their explicit and informed consent.

8. Rate R and Rate RH

a. When a customer opens their account, require PECO to ask the customer questions to determine whether they are on the appropriate rate.

b. Require PECO to proactively identify customers who are on the incorrect rate when performing a LIURP audit and/or other in-home services.

c. Require PECO to proactively reach out to customers who are on rate R and nearing their CAP credit maximums to determine whether the customer is on the correct rate.

d. Require PECO to conduct regular analyses of PECO electric accounts and conduct proactive outreach to all Rate R customers who have high winter usage that appears it may be consistent with use of electric as the primary heat source.

e. Require PECO to revise tariff language to ensure equitable availability of Rate RH to all those reliant on electricity to heat their home.

Q: Does this conclude your direct testimony?

A: Yes.

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company - Electric	Docket No. R-2024-3046931

EXHIBITS

TO THE
DIRECT TESTIMONY OF ELIZABETH R. MARX

On Behalf of

Tenant Union Representative Network

and

Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania

June 17, 2024

Exhibit A

U.S. Census Bureau. (2022). Limited English Speaking Households. American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1602. Retrieved June 3, 2024, from https://data.census.gov/table/ACSST5Y2022.S1602?t=Language%20Spoken%20at%20Home&g=040XX00US42$8600000&y=2022.

													Source: OCA-II-4	Source: OCA-II-16(a)		Source: OCA-II-16(c)	
Zip	**County**	**Total**	**Non English Households**	**Households speaking Spanish**	**Households speaking Other Indo-European languages**	**Households speaking Asian and Pacific Island languages**	**Households speaking Other languages**	**% Non English Households**	**% Households speaking Spanish**	**% Households speaking Other Indo-European languages**	**% Households speaking Asian and Pacific Island languages**	**% Households speaking Other languages**	**Customers**	**2023 Shutoffs**	**2023 Shutoffs / Customer**	**2023 Notices**	**2023 Notices/Customers**
19102	Philadelphia	3847	578	134	324	101	19	15.0	3.5	8.4	2.6	0.5	996	22	0.022088353	221	0.22188755
19103	Philadelphia	16759	4010	697	1389	1504	420	23.9	4.2	8.3	9	2.5	6961	69	0.009912369	1017	0.146099698
19104	Philadelphia	18894	5394	894	1553	2496	451	28.5	4.7	8.2	13.2	2.4	19443	1520	0.078177236	7996	0.411253407
19106	Philadelphia	8495	1117	291	302	479	45	13.1	3.4	3.6	5.6	0.5	5427	47	0.008660402	1123	0.206928321
19107	Philadelphia	8612	2830	464	922	1342	102	32.9	5.4	10.7	15.6	1.2	6182	83	0.013426076	1174	0.189906179
19111	Philadelphia	25938	9760	3315	3666	1643	1136	37.6	12.8	14.1	6.3	4.4	23693	1908	0.080530114	9734	0.410838644
19114	Philadelphia	13912	2459	833	887	498	241	17.7	6	6.4	3.6	1.7	13471	724	0.053745082	4199	0.311706629
19115	Philadelphia	14652	6067	748	3519	1394	406	41.4	5.1	24	9.5	2.8	13330	520	0.039009752	2578	0.19339835
19116	Philadelphia	13650	6860	386	4394	1592	488	50.3	2.8	32.2	11.7	3.6	12942	458	0.035388657	2762	0.213413692
19118	Philadelphia	4797	473	74	249	148	2	9.9	1.5	5.2	3.1	0	3564	87	0.024410774	503	0.141133558
19119	Philadelphia	12889	1345	630	274	202	239	10.4	4.9	2.1	1.6	1.9	11812	757	0.064087369	4613	0.390535049
19120	Philadelphia	24593	12090	7318	1117	3148	507	49.2	29.8	4.5	12.8	2.1	22555	2407	0.106716914	13692	0.607049435
19121	Philadelphia	15653	2155	1048	259	650	198	13.8	6.7	1.7	4.2	1.3	17505	2180	0.124535847	10197	0.58251928
19122	Philadelphia	8521	2805	1779	197	690	139	32.9	20.9	2.3	8.1	1.6	11210	717	0.063960749	4822	0.43015165
19123	Philadelphia	9468	2171	696	968	460	47	22.9	7.4	10.2	4.9	0.5	9625	216	0.022441558	2771	0.287896104
19124	Philadelphia	24964	11360	9088	1160	682	430	45.5	36.4	4.6	2.7	1.7	23778	3062	0.128774497	15870	0.667423669
19125	Philadelphia	11662	1893	578	558	667	90	16.2	5	4.8	5.7	0.8	14093	565	0.040090825	3619	0.256794153
19126	Philadelphia	6412	989	346	187	111	345	15.4	5.4	2.9	1.7	5.4	6220	654	0.105144695	3832	0.61607717
19127	Philadelphia	2982	314	127	131	28	28	10.5	4.3	4.4	0.9	0.9	3719	82	0.022048938	763	0.205162678
19128	Philadelphia	18158	2232	926	863	380	63	12.3	5.1	4.8	2.1	0.3	17732	592	0.033385969	4042	0.22794947
19129	Philadelphia	5405	539	255	150	96	38	10.0	4.7	2.8	1.8	0.7	4490	197	0.043875278	1414	0.314922049
19130	Philadelphia	16110	3067	907	1124	589	447	19.0	5.6	7	3.7	2.8	13942	285	0.02044183	2682	0.192368383
19131	Philadelphia	18727	2277	505	769	408	595	12.2	2.7	4.1	2.2	3.2	15571	1816	0.116627063	10119	0.649861923
19132	Philadelphia	14295	1516	1069	231	59	157	10.6	7.5	1.6	0.4	1.1	14321	2313	0.161511068	12270	0.856783744
19133	Philadelphia	9259	5458	5043	140	149	126	58.9	54.5	1.5	1.6	1.4	9310	1137	0.122126745	5931	0.637056928
19134	Philadelphia	22091	10064	8909	684	318	153	45.6	40.3	3.1	1.4	0.7	21830	2483	0.113742556	13804	0.632340815
19135	Philadelphia	13436	4384	2645	1002	637	100	32.6	19.7	7.5	4.7	0.7	12976	1636	0.126078915	8307	0.640181874
19136	Philadelphia	13281	3846	2245	544	601	456	29.0	16.9	4.1	4.5	3.4	12297	1310	0.106530048	6854	0.557371717
19137	Philadelphia	3207	370	143	209	18	0	11.5	4.5	6.5	0.6	0	3481	275	0.079000287	1641	0.47141626
19138	Philadelphia	12827	747	304	303	22	118	5.8	2.4	2.4	0.2	0.9	12653	1407	0.111198925	8736	0.690429147
19139	Philadelphia	19444	2305	669	672	356	608	11.9	3.4	3.5	1.8	3.1	17882	2102	0.117548373	13592	0.760093949
19140	Philadelphia	20424	7872	6957	331	454	130	38.5	34.1	1.6	2.2	0.6	19615	2559	0.130461382	14678	0.748304869
19141	Philadelphia	14768	1681	585	301	234	561	11.4	4	2	1.6	3.8	11850	1424	0.120168776	8929	0.75350211
19142	Philadelphia	11601	3515	549	769	767	1430	30.3	4.7	6.6	6.6	12.3	10386	1580	0.152127864	7917	0.762276141
19143	Philadelphia	26807	3349	1053	990	595	711	12.5	3.9	3.7	2.2	2.7	26831	2955	0.1101338	16492	0.614662145
19144	Philadelphia	20550	1863	840	426	351	246	9.1	4.1	2.1	1.7	1.2	17844	1648	0.092355974	12157	0.681293432
19145	Philadelphia	19245	3868	875	862	1931	200	20.1	4.5	4.5	10	1	20606	848	0.041153062	7538	0.365815782
19146	Philadelphia	18640	3206	926	1032	1027	221	17.2	5	5.5	5.5	1.2	22233	865	0.038906131	6433	0.289344668
19147	Philadelphia	19162	3504	864	1373	1154	113	18.3	4.5	7.2	6	0.6	21159	560	0.026466279	3834	0.18119949
19148	Philadelphia	20658	6528	2301	1061	2807	359	31.6	11.1	5.1	13.6	1.7	23075	1111	0.048147346	5973	0.258851571
19149	Philadelphia	19476	10411	4753	2167	2857	634	53.5	24.4	11.1	14.7	3.3	19882	2150	0.108138014	11002	0.553364853
19150	Philadelphia	9853	839	253	463	31	92	8.5	2.6	4.7	0.3	0.9	10209	721	0.070623959	5436	0.532471349
19151	Philadelphia	13200	1489	390	598	79	422	11.3	3	4.5	0.6	3.2	12805	1434	0.111987505	8574	0.669582194
19152	Philadelphia	13323	6181	1428	2600	1393	760	46.4	10.7	19.5	10.5	5.7	12920	765	0.059210526	4554	0.35247678
19153	Philadelphia	5604	1222	292	395	121	414	21.8	5.2	7	2.2	7.4	5258	570	0.108406238	3095	0.588626854
19154	Philadelphia	12865	2602	928	1127	408	139	20.2	7.2	8.8	3.2	1.1	12921	788	0.060985992	4574	0.353997369
18054	Montgomery	1716	196	120	43	0	33	11.4	7	2.5	0	1.9	1367	2	0.001463058	395	0.288953914
18073	Montgomery	4030	314	164	88	31	31	7.8	4.1	2.2	0.8	0.8	419	0	0	66	0.1575179
18074	Montgomery	2166	177	6	104	42	25	8.2	0.3	4.8	1.9	1.2	1333	2	0.001500375	303	0.227306827
18076	Montgomery	1281	105	56	18	4	27	8.2	4.4	1.4	0.3	2.1	6	0	0	1	0.166666667
18915	Montgomery	547	175	24	82	69	0	32.0	4.4	15	12.6	0	651	0	0	76	0.116743472
18936	Montgomery	74	0	0	0	0	0	0.0	0	0	0	0	100	0	0	45	0.45
18964	Montgomery	5319	694	358	199	132	5	13.0	6.7	3.7	2.5	0.1	72	0	0	22	0.305555556
18969	Montgomery	6190	691	282	243	145	21	11.2	4.6	3.9	2.3	0.3	928	5	0.005387931	131	0.141163793
19001	Montgomery	6396	1073	451	354	229	39	16.8	7.1	5.5	3.6	0.6	6455	286	0.044306739	1979	0.306584043
19002	Montgomery	11863	1946	288	760	768	130	16.4	2.4	6.4	6.5	1.1	12433	274	0.022038124	2180	0.175339821
19003	Montgomery	5884	916	199	412	296	9	15.6	3.4	7	5	0.2	5917	131	0.022139598	1199	0.202636471
19004	Montgomery	4098	765	73	325	234	133	18.7	1.8	7.9	5.7	3.2	4067	133	0.032702238	893	0.219572166
19006	Montgomery	8576	2132	210	1215	560	147	24.9	2.4	14.2	6.5	1.7	7540	140	0.018567639	1276	0.169230769
19009	Montgomery	346	10	0	0	0	10	2.9	0	0	0	2.9	321	0	0	27	0.08411215
19012	Montgomery	2208	513	108	198	149	58	23.2	4.9	9	6.7	2.6	2519	148	0.058753474	1190	0.472409686
19025	Montgomery	2557	454	102	159	157	36	17.8	4	6.2	6.1	1.4	2320	10	0.004310345	299	0.12887931
19027	Montgomery	8026	1413	291	501	460	161	17.6	3.6	6.2	5.7	2	6082	308	0.050641236	2387	0.392469582
19031	Montgomery	2094	256	36	60	140	20	12.2	1.7	2.9	6.7	1	2052	4	0.001949318	364	0.177387914
19034	Montgomery	2449	351	54	105	185	7	14.3	2.2	4.3	7.6	0.3	2265	16	0.007064018	323	0.142604857
19035	Montgomery	1450	159	32	56	40	31	11.0	2.2	3.9	2.8	2.1	1439	12	0.008339124	196	0.136205698
19038	Montgomery	11575	1051	414	326	199	112	9.1	3.6	2.8	1.7	1	11932	334	0.027991954	3295	0.276148173
19040	Montgomery	7973	753	314	237	154	48	9.4	3.9	3	1.9	0.6	8268	273	0.033018868	2101	0.25411224

19044	Montgomery	6633	1448	513	385	550	0	21.8	7.7	5.8	8.3	0	6258	172	0.027484819	1330	0.212527964
19046	Montgomery	7718	1063	176	631	191	65	13.8	2.3	8.2	2.5	0.8	6805	173	0.025422483	1551	0.227920647
19066	Montgomery	1705	264	36	128	63	37	15.5	2.1	7.5	3.7	2.2	1761	15	0.008517888	233	0.132311187
19072	Montgomery	4317	756	169	341	180	66	17.5	3.9	7.9	4.2	1.5	3730	58	0.015549598	607	0.162734584
19075	Montgomery	2921	283	59	169	47	8	9.7	2	5.8	1.6	0.3	2840	31	0.010915493	520	0.183098592
19090	Montgomery	7563	913	183	433	289	8	12.1	2.4	5.7	3.8	0.1	8260	381	0.046125908	2890	0.349878935
19095	Montgomery	3282	667	81	234	247	105	20.3	2.5	7.1	7.5	3.2	1711	39	0.022793688	861	0.503214494
19096	Montgomery	5923	1433	251	591	470	121	24.2	4.2	10	7.9	2	4066	42	0.010329562	617	0.151746188
19401	Montgomery	16495	4146	2273	882	622	369	25.1	13.8	5.3	3.8	2.2	17446	1884	0.10799037	10860	0.622492262
19403	Montgomery	19119	3075	709	1120	978	268	16.1	3.7	5.9	5.1	1.4	18160	475	0.026156388	4190	0.230726872
19405	Montgomery	2064	378	235	119	24	0	18.3	11.4	5.8	1.2	0	2474	146	0.059013743	1178	0.476151981
19406	Montgomery	12786	3233	376	1377	1202	278	25.3	2.9	10.8	9.4	2.2	8832	160	0.018115942	2164	0.245018116
19422	Montgomery	7682	1332	230	406	681	15	17.3	3	5.3	8.9	0.2	7991	115	0.01439119	1332	0.166687523
19426	Montgomery	13257	2144	480	869	738	57	16.2	3.6	6.6	5.6	0.4	13842	277	0.020011559	2222	0.160525936
19428	Montgomery	9287	931	229	372	306	24	10.0	2.5	4	3.3	0.3	9406	205	0.021794599	2089	0.222092282
19435	Montgomery	38	0	0	0	0	0	0.0	0	0	0	0	106	0	0	3	0.028301887
19436	Montgomery	320	0	0	0	0	0	0.0	0	0	0	0	47	0	0	0	0
19437	Montgomery	271	24	0	24	0	0	8.9	0	8.9	0	0	429	0	0	57	0.132867133
19438	Montgomery	9290	864	257	315	284	8	9.3	2.8	3.4	3.1	0.1	8651	123	0.014218009	1534	0.177320541
19440	Montgomery	7411	1571	334	685	366	186	21.2	4.5	9.2	4.9	2.5	931	0	0	156	0.167561762
19444	Montgomery	4726	458	107	260	77	14	9.7	2.3	5.5	1.6	0.3	3939	32	0.008123889	732	0.185833968
19446	Montgomery	23656	4352	495	1884	1708	265	18.4	2.1	8	7.2	1.1	14518	203	0.013982642	2348	0.161730266
19453	Montgomery	756	101	2	99	0	0	13.4	0.3	13.1	0	0	740	12	0.016216216	244	0.32972973
19454	Montgomery	11255	2439	264	802	1263	110	21.7	2.3	7.1	11.2	1	11121	199	0.017894074	1786	0.160597069
19456	Montgomery	115	6	0	6	0	0	5.2	0	5.2	0	0	428	1	0.002336449	122	0.285046729
19462	Montgomery	6305	1091	423	293	309	66	17.3	6.7	4.6	4.9	1	4611	87	0.018867925	1020	0.22121015
19464	Montgomery	18734	1843	880	508	208	247	9.8	4.7	2.7	1.1	1.3	17421	1244	0.071408071	8128	0.466563343
19468	Montgomery	10649	1081	73	651	253	104	10.2	0.7	6.1	2.4	1	11872	320	0.026954178	2619	0.2206031
19472	Montgomery	31	0	0	0	0	0	0.0	0	0	0	0	1	0	0	0	0
19473	Montgomery	6500	632	69	313	137	113	9.7	1.1	4.8	2.1	1.7	5443	62	0.011390777	1160	0.213117766
19474	Montgomery	221	0	0	0	0	0	0.0	0	0	0	0	845	11	0.013017751	177	0.209467456
19477	Montgomery	27	0	0	0	0	0	0.0	0	0	0	0	116	0	0	29	0.25
19490	Montgomery	111	0	0	0	0	0	0.0	0	0	0	0	272	0	0	64	0.235294118
19492	Montgomery	430	0	0	0	0	0	0.0	0	0	0	0	274	5	0.018248175	107	0.390510949
17527	Lancaster	2068	545	79	446	0	20	26.4	3.8	21.6	0	1	120	0	0	39	0.325
17563	Lancaster	1163	281	82	199	0	0	24.2	7.1	17.1	0	0	1	0	0	0	0
19008	Delaware	6916	1290	80	672	480	58	18.7	1.2	9.7	6.9	0.8	7848	183	0.023318043	1372	0.174821611
19010	Delaware	7788	1451	532	495	403	21	18.6	6.8	6.4	5.2	0.3	7317	97	0.013256799	1135	0.155118218
19013	Delaware	13102	966	771	18	52	125	7.4	5.9	0.1	0.4	1	12571	2559	0.203563758	12924	1.028080503
19014	Delaware	7672	538	89	345	88	16	7.0	1.2	4.5	1.1	0.2	8245	415	0.050333535	2351	0.285142511
19015	Delaware	6794	619	135	314	67	103	9.1	2	4.6	1	1.5	7054	660	0.093563935	3423	0.485256592
19017	Delaware	92	12	0	12	0	0	13.0	0	13	0	0	218	6	0.027522936	39	0.178899083
19018	Delaware	9669	1821	532	603	374	312	18.8	5.5	6.2	3.9	3.2	10448	968	0.092649311	5937	0.568242726
19022	Delaware	1615	199	131	24	0	44	12.3	8.1	1.5	0	2.7	1601	170	0.106183635	1289	0.805121799
19023	Delaware	7819	1757	363	608	56	730	22.5	4.6	7.8	0.7	9.3	8174	1417	0.173354539	8442	1.032786885
19026	Delaware	12847	2058	532	756	404	366	16.0	4.1	5.9	3.1	2.8	12756	875	0.068595171	6019	0.471856381
19029	Delaware	1760	47	9	8	16	14	2.7	0.5	0.5	0.9	0.8	1879	92	0.048962214	888	0.472591804
19032	Delaware	2446	522	158	189	24	151	21.3	6.5	7.7	1	6.2	2618	225	0.085943468	2136	0.815889992
19033	Delaware	2838	356	68	89	99	100	12.5	2.4	3.1	3.5	3.5	3174	93	0.029300567	1142	0.359798362
19036	Delaware	4995	439	116	157	67	99	8.8	2.3	3.1	1.3	2	5230	402	0.076864245	2840	0.543021033
19041	Delaware	2486	335	85	155	75	20	13.5	3.4	6.2	3	0.8	2243	10	0.004458315	276	0.123049487
19043	Delaware	1185	200	2	198	0	0	16.9	0.2	16.7	0	0	1140	44	0.038596491	512	0.449122807
19050	Delaware	12149	1855	336	643	172	704	15.3	2.8	5.3	1.4	5.8	11884	1447	0.12176035	9068	0.763042747
19052	Delaware	243	0	0	0	0	0	0.0	0	0	0	0	85	0	0	16	0.188235294
19060	Delaware	3643	539	49	162	328	0	14.8	1.3	4.4	9	0	4068	49	0.012045231	491	0.120698132
19061	Delaware	7999	1121	261	484	344	32	14.0	3.3	6.1	4.3	0.4	8419	773	0.09181613	4577	0.543651265
19063	Delaware	15180	1780	353	696	574	157	11.7	2.3	4.6	3.8	1	14889	300	0.020149103	2143	0.143931762
19064	Delaware	8696	913	114	452	324	23	10.5	1.3	5.2	3.7	0.3	9032	191	0.021147033	1497	0.165744021
19070	Delaware	2795	223	19	82	58	64	8.0	0.7	2.9	2.1	2.3	2949	124	0.042048152	978	0.331637843
19073	Delaware	8411	1108	99	761	173	75	13.2	1.2	9	2.1	0.9	8331	73	0.008762453	1097	0.13167687
19074	Delaware	2341	237	36	102	69	30	10.1	1.5	4.4	2.9	1.3	2350	90	0.038297872	1095	0.465957447
19076	Delaware	2586	193	40	38	103	12	7.5	1.5	1.5	4	0.5	2744	135	0.049198251	1153	0.420189504
19078	Delaware	4822	332	42	179	59	52	6.9	0.9	3.7	1.2	1.1	4868	182	0.037387017	1553	0.319022186
19079	Delaware	3314	370	71	33	25	241	11.2	2.1	1	0.8	7.3	3619	437	0.120751589	3126	0.863774523
19081	Delaware	3712	567	43	256	190	78	15.3	1.2	6.9	5.1	2.1	3379	42	0.012429713	582	0.172240308
19082	Delaware	15854	6365	1608	2421	1392	944	40.1	10.1	15.3	8.8	6	15471	2089	0.135026824	11630	0.751729041
19083	Delaware	13362	1628	288	728	514	98	12.2	2.2	5.4	3.8	0.7	13520	297	0.021967456	2537	0.187647929
19085	Delaware	1805	447	96	178	164	9	24.8	5.3	9.9	9.1	0.5	2099	14	0.006669843	307	0.146260124
19086	Delaware	4575	621	53	227	326	15	13.6	1.2	5	7.1	0.3	4454	71	0.015940727	847	0.190166143
19094	Delaware	1778	214	133	81	0	0	12.0	7.5	4.6	0	0	1918	133	0.069343066	995	0.518769552
19317	Delaware	3932	639	138	170	331	0	16.3	3.5	4.3	8.4	0	4217	21	0.004979843	614	0.145601138
19319	Delaware	138	13	0	13	0	0	9.4	0	9.4	0	0	131	0	0	48	0.366412214
19342	Delaware	7826	1297	393	485	419	0	16.6	5	6.2	5.4	0	6753	83	0.012290834	979	0.144972605

19373	Delaware	665	36	0	23	13	0	5.4	0	3.5	2	0	852	0	0	84	0.098591549
19087	Chester	12117	2371	321	1252	705	93	19.6	2.6	10.3	5.8	0.8	13018	109	0.008373022	1633	0.125441696
19301	Chester	2948	615	112	205	290	8	20.9	3.8	7	9.8	0.3	2996	21	0.007009346	386	0.128838451
19310	Chester	906	163	21	110	0	32	18.0	2.3	12.1	0	3.5	292	0	0	78	0.267123288
19311	Chester	3506	740	471	142	113	14	21.1	13.4	4.1	3.2	0.4	3008	29	0.009640957	735	0.244348404
19312	Chester	4490	875	20	388	467	0	19.5	0.4	8.6	10.4	0	4813	13	0.002701018	570	0.118429254
19316	Chester	36	0	0	0	0	0	0.0	0	0	0	0	85	0	0	34	0.4
19320	Chester	19933	2400	1680	491	143	86	12.0	8.4	2.5	0.7	0.4	21101	1414	0.067011042	9725	0.460878631
19330	Chester	2096	315	221	89	5	0	15.0	10.5	4.2	0.2	0	2204	23	0.010435572	634	0.287658802
19333	Chester	3066	638	78	208	352	0	20.8	2.5	6.8	11.5	0	3225	14	0.004341085	399	0.12372093
19335	Chester	19493	2143	321	972	773	77	11.0	1.6	5	4	0.4	20471	574	0.028039666	3688	0.180157296
19341	Chester	8620	1668	274	578	794	22	19.4	3.2	6.7	9.2	0.3	9425	186	0.019734748	1513	0.160530504
19343	Chester	3019	205	33	140	32	0	6.8	1.1	4.6	1.1	0	2933	14	0.00477327	590	0.201159223
19344	Chester	4384	600	69	517	14	0	13.7	1.6	11.8	0.3	0	907	20	0.022050717	415	0.45755237
19345	Chester	0	0	0	0	0	0	#DIV/0!	-	-	-	-	1	0	0	0	0
19348	Chester	8938	1571	1135	241	163	32	17.6	12.7	2.7	1.8	0.4	8889	200	0.022499719	1496	0.168297896
19350	Chester	3828	388	74	174	131	9	10.1	1.9	4.5	3.4	0.2	4040	19	0.00470297	610	0.150990099
19352	Chester	3089	173	83	76	10	4	5.6	2.7	2.5	0.3	0.1	2650	11	0.004150943	527	0.198867925
19355	Chester	11020	2780	392	1051	1161	176	25.2	3.6	9.5	10.5	1.6	11331	109	0.009619628	1656	0.146147736
19358	Chester	133	8	2	6	0	0	6.0	1.5	4.5	0	0	17	0	0	6	0.352941176
19362	Chester	2195	278	236	27	15	0	12.7	10.8	1.2	0.7	0	1410	44	0.031205674	550	0.390070922
19363	Chester	5939	1236	940	293	3	0	20.8	15.8	4.9	0.1	0	6206	202	0.032549146	1827	0.294392523
19365	Chester	2670	519	245	165	95	14	19.4	9.2	6.2	3.6	0.5	2549	49	0.019223225	1218	0.477834445
19367	Chester	33	19	10	9	0	0	57.6	30.3	27.3	0	0	139	5	0.035971223	66	0.474820144
19369	Chester	91	9	0	9	0	0	9.9	0	9.9	0	0	217	0	0	64	0.294930876
19372	Chester	745	107	40	53	14	0	14.4	5.4	7.1	1.9	0	593	8	0.013490725	164	0.276559865
19374	Chester	267	150	150	0	0	0	56.2	56.2	0	0	0	439	23	0.0523918	236	0.537585421
19375	Chester	81	0	0	0	0	0	0.0	0	0	0	0	280	0	0	52	0.185714286
19380	Chester	21007	2376	949	835	544	48	11.3	4.5	4	2.6	0.2	21246	435	0.020474442	2956	0.139132072
19382	Chester	20843	1951	649	805	421	76	9.4	3.1	3.9	2	0.4	20400	471	0.023088235	3483	0.170735294
19383	Chester	131	0	0	0	0	0	0.0	0	0	0	0	132	0	0	6	0.045454545
19390	Chester	4543	622	409	49	116	48	13.7	9	1.1	2.6	1.1	5246	77	0.01467785	1276	0.243232939
19425	Chester	5711	1441	105	537	742	57	25.2	1.8	9.4	13	1	6002	30	0.004998334	783	0.130456514
19442	Chester	0	0	0	0	0	0	#DIV/0!	-	-	-	-	422	0	0	66	0.156398104
19457	Chester	73	0	0	0	0	0	0.0	0	0	0	0	154	0	0	90	0.584415584
19460	Chester	17663	1984	425	970	553	36	11.2	2.4	5.5	3.1	0.2	18162	404	0.022244246	3112	0.171346768
19465	Chester	7258	392	140	175	77	0	5.4	1.9	2.4	1.1	0	6806	40	0.005877167	1544	0.226858654
19475	Chester	4803	371	134	142	73	22	7.7	2.8	3	1.5	0.5	4981	182	0.036538848	1362	0.273439068
19520	Chester	2486	67	41	16	10	0	2.7	1.6	0.6	0.4	0	173	0	0	28	0.161849711
18901	Bucks	10891	1058	230	613	178	37	9.7	2.1	5.6	1.6	0.3	11696	170	0.014534884	1563	0.133635431
18902	Bucks	7957	871	307	326	222	16	10.9	3.9	4.1	2.8	0.2	7201	104	0.014442439	1060	0.147201778
18912	Bucks	104	0	0	0	0	0	0.0	0	0	0	0	369	4	0.010840108	77	0.208672087
18913	Bucks	62	16	0	16	0	0	25.8	0	25.8	0	0	211	2	0.009478673	17	0.08056872
18914	Bucks	7578	952	204	512	228	8	12.6	2.7	6.8	3	0.1	7634	78	0.010217448	1259	0.164920094
18917	Bucks	984	83	41	21	21	0	8.4	4.2	2.1	2.1	0	1178	21	0.017826825	358	0.303904924
18923	Bucks	496	55	0	27	28	0	11.1	0	5.4	5.6	0	320	2	0.00625	41	0.128125
18925	Bucks	2171	206	12	106	88	0	9.5	0.6	4.9	4.1	0	2156	28	0.012987013	374	0.173469388
18929	Bucks	3241	827	81	633	36	77	25.5	2.5	19.5	1.1	2.4	2899	18	0.006209038	383	0.132114522
18932	Bucks	148	0	0	0	0	0	0.0	0	0	0	0	159	2	0.012578616	30	0.188679245
18933	Bucks	75	0	0	0	0	0	0.0	0	0	0	0	153	1	0.006535948	42	0.274509804
18935	Bucks	111	0	0	0	0	0	0.0	0	0	0	0	1	0	0	0	0
18938	Bucks	6180	666	102	348	153	63	10.8	1.7	5.6	2.5	1	6263	75	0.011975092	766	0.122305604
18940	Bucks	11626	1862	191	846	726	99	16.0	1.6	7.3	6.2	0.9	11679	152	0.013014813	1553	0.132973714
18942	Bucks	1082	86	13	64	7	2	7.9	1.2	5.9	0.6	0.2	348	4	0.011494253	68	0.195402299
18944	Bucks	9913	574	210	309	21	34	5.8	2.1	3.1	0.2	0.3	2027	14	0.006906759	342	0.16872225
18946	Bucks	164	11	0	4	7	0	6.7	0	2.4	4.3	0	131	1	0.007633588	24	0.183206107
18947	Bucks	2354	83	30	42	11	0	3.5	1.3	1.8	0.5	0	1627	15	0.009219422	271	0.166564229
18950	Bucks	48	0	0	0	0	0	0.0	0	0	0	0	153	0	0	48	0.31372549
18954	Bucks	3716	648	99	479	48	22	17.4	2.7	12.9	1.3	0.6	3160	34	0.010759494	471	0.149050633
18955	Bucks	496	58	19	5	0	34	11.7	3.8	1	0	6.9	1	0	0	0	0
18960	Bucks	4827	236	69	128	29	10	4.9	1.4	2.7	0.6	0.2	1	0	0	0	0
18966	Bucks	13946	2169	255	1576	198	140	15.6	1.8	11.3	1.4	1	14167	291	0.020540693	2372	0.167431355
18974	Bucks	17423	2739	588	1537	444	170	15.7	3.4	8.8	2.5	1	16310	503	0.030839975	3343	0.204966278
18976	Bucks	8298	1470	356	835	259	20	17.7	4.3	10.1	3.1	0.2	8117	184	0.022668474	1246	0.15350499
18977	Bucks	1789	227	19	161	25	22	12.7	1.1	9	1.4	1.2	1771	11	0.00621118	193	0.108977979
18980	Bucks	40	0	0	0	0	0	0.0	0	0	0	0	225	1	0.004444444	43	0.191111111
19007	Bucks	9187	1746	1044	380	97	225	19.0	11.4	4.1	1.1	2.4	8364	606	0.072453372	4100	0.490196078
19020	Bucks	22300	6591	2204	3243	937	207	29.6	9.9	14.5	4.2	0.9	19527	1122	0.057458903	6143	0.314590055
19021	Bucks	3869	532	374	85	63	10	13.8	9.7	2.2	1.6	0.3	3980	274	0.068844221	1802	0.452763819
19030	Bucks	4744	404	80	267	48	9	8.5	1.7	5.6	1	0.2	4887	171	0.034990792	1323	0.270718232
19047	Bucks	12625	1331	320	699	282	30	10.5	2.5	5.5	2.2	0.2	13008	422	0.032441574	2607	0.200415129
19053	Bucks	10582	2591	283	1631	410	267	24.5	2.7	15.4	3.9	2.5	10646	415	0.038981777	2520	0.236708623
19054	Bucks	6446	685	178	457	24	26	10.6	2.8	7.1	0.4	0.4	6585	293	0.044495065	2108	0.320121488

19055	Bucks	4897	861	600	139	89	33	17.6	12.3	2.8	1.8	0.7	4997	248	0.049629778	1946	0.38943366
19056	Bucks	5794	769	324	239	206	0	13.3	5.6	4.1	3.6	0	5742	236	0.041100662	1917	0.333855799
19057	Bucks	6160	972	573	155	184	60	15.8	9.3	2.5	3	1	6109	317	0.051890653	2240	0.366672123
19067	Bucks	20921	2956	709	1625	531	91	14.1	3.4	7.8	2.5	0.4	21398	956	0.044677073	5321	0.2486681
19504	Berks	2029	117	28	61	23	5	5.8	1.4	3	1.1	0.2	1	0	0	0	0
17302	York	983	26	0	26	0	0	2.6	0	2.6	0	0	1117	25	0.022381379	406	0.36347359
17309	York	717	117	0	92	25	0	16.3	0	12.8	3.5	0	59	1	0.016949153	17	0.288135593
17314	York	2263	75	5	67	3	0	3.3	0.2	3	0.1	0	2590	47	0.018146718	965	0.372586873
17321	York	926	29	13	15	1	0	3.1	1.4	1.6	0.1	0	44	0	0	10	0.227272727

Exhibit B		Source: CAUSE-PA-I-10	Source: CAUSE-PA-I-12		Source: OCA-II-4					Source: U.S. Census Bureau. (2022). Race. American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B02001. Retrieved June 3, 2024, from https://data.census.gov/table/ACSDT5Y2022.B02001?t=Race%20and%20Ethnicity&g=040XX00US42$8600000&y=2022.			Source: U.S. Census Bureau. (2022). Poverty Status in the Past 12 Months. American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1701. Retrieved June 3, 2024, from https://data.census.gov/table/ACSST5Y2022.S1701?t=Income%20and%20Poverty&g=040XX00US42$8600000&y=2022.		
Zip	**County**	**New Deposits**	**Deposits Collected**	**Deposits/ Customer**	**Customers**	**Confirmed Low-Income**	**CAP**	**% CLI**	**% CAP**	**Residents**	**% White**	**% Minority**	**150% FPL**	**FPL Determined**	**% 150% FPL**
19143	Philadelphia	956	$271,213.69	$ 10.11	26831	6361	4858	23.71%	18.11%	63186	15%	85%	24623	62581	39.35%
19124	Philadelphia	983	$268,137.89	$ 11.28	23778	6852	5338	28.82%	22.45%	72919	24%	76%	31590	72604	43.51%
19111	Philadelphia	515	$206,930.37	$ 8.73	23693	3027	2258	12.78%	9.53%	67149	46%	54%	17265	66592	25.93%
19148	Philadelphia	381	$156,107.55	$ 6.77	23075	2503	1899	10.85%	8.23%	50324	59%	41%	14069	50028	28.12%
19120	Philadelphia	662	$223,692.51	$ 9.92	22555	5740	4414	25.45%	19.57%	71360	10%	90%	32789	71128	46.10%
19146	Philadelphia	490	$170,901.96	$ 7.69	22233	2134	1627	9.60%	7.32%	40303	52%	48%	8309	40122	20.71%
19134	Philadelphia	1151	$295,676.24	$ 13.54	21830	6059	4812	27.76%	22.04%	60229	34%	66%	33274	59777	55.66%
19067	Bucks	217	$167,547.53	$ 7.83	21398	840	605	3.93%	2.83%	53320	84%	16%	4277	52899	8.09%
19380	Chester	148	$110,510.05	$ 5.20	21246	351	255	1.65%	1.20%	50494	86%	14%	4254	50301	8.46%
19147	Philadelphia	320	$126,545.59	$ 5.98	21159	1164	862	5.50%	4.07%	39100	72%	28%	5914	39063	15.14%
19320	Chester	355	$223,814.92	$ 10.61	21101	2194	1661	10.40%	7.87%	55321	67%	33%	9421	54848	17.18%
19145	Philadelphia	416	$159,770.47	$ 7.75	20606	2835	2203	13.76%	10.69%	44107	51%	49%	11283	43770	25.78%
19335	Chester	134	$134,188.35	$ 6.56	20471	466	327	2.28%	1.60%	51126	83%	17%	3564	50805	7.02%
19382	Chester	155	$139,703.35	$ 6.85	20400	475	331	2.33%	1.62%	53117	84%	16%	5833	51327	11.36%
19149	Philadelphia	592	$239,835.23	$ 12.06	19882	3379	2531	17.00%	12.73%	58741	32%	68%	23542	58394	40.32%
19140	Philadelphia	1096	$261,326.90	$ 13.32	19615	6780	5318	34.57%	27.11%	53996	11%	89%	28298	53098	53.29%
19020	Bucks	207	$168,313.98	$ 8.62	19527	1726	1342	8.84%	6.87%	56746	64%	36%	9780	56375	17.35%
19104	Philadelphia	763	$197,828.46	$ 10.17	19443	2913	2241	14.98%	11.53%	53679	37%	63%	21090	39075	53.97%
19460	Chester	126	$103,276.75	$ 5.69	18162	423	300	2.33%	1.65%	43246	84%	16%	4144	42453	9.76%
19403	Montgomery	158	$120,234.49	$ 6.62	18160	667	481	3.67%	2.65%	44111	79%	21%	4239	43735	9.69%
19139	Philadelphia	830	$217,152.61	$ 12.14	17882	5215	4006	29.16%	22.40%	46041	7%	93%	19042	45235	42.10%
19144	Philadelphia	702	$196,092.36	$ 10.99	17844	4074	3168	22.83%	17.75%	47454	18%	82%	17954	45436	39.51%
19128	Philadelphia	288	$125,776.67	$ 7.09	17732	631	458	3.56%	2.58%	38381	76%	24%	4581	37849	12.10%
19121	Philadelphia	792	$240,769.51	$ 13.75	17505	4003	3054	22.87%	17.45%	37740	19%	81%	18700	36602	51.09%
19401	Montgomery	468	$230,238.29	$ 13.20	17446	2614	1927	14.98%	11.05%	42908	41%	59%	12092	42150	28.69%
19464	Montgomery	434	$196,445.35	$ 11.28	17421	2241	1677	12.86%	9.63%	47913	74%	26%	9208	47501	19.38%
18974	Bucks	68	$100,674.44	$ 6.17	16310	673	501	4.13%	3.07%	42811	87%	13%	3564	42321	8.42%
19131	Philadelphia	539	$164,350.49	$ 10.55	15571	3671	2829	23.58%	18.17%	44116	11%	89%	14598	41304	35.34%
19082	Delaware	441	$191,184.85	$ 12.36	15471	3285	2450	21.23%	15.84%	42847	23%	77%	11599	42761	27.13%
19063	Delaware	82	$ 82,345.80	$ 5.53	14889	284	203	1.91%	1.36%	37716	85%	15%	2459	36293	6.78%
19446	Montgomery	97	$ 84,421.75	$ 5.81	14518	405	287	2.79%	1.98%	60659	74%	26%	5605	59438	9.43%
19132	Philadelphia	753	$202,874.80	$ 14.17	14321	5030	3909	35.12%	27.30%	32371	5%	95%	16056	32178	49.90%
18966	Bucks	51	$ 84,209.66	$ 5.94	14167	304	229	2.15%	1.62%	36167	93%	7%	2841	35927	7.91%
19125	Philadelphia	374	$120,810.06	$ 8.57	14093	879	645	6.24%	4.58%	24601	79%	21%	3881	24539	15.82%
19130	Philadelphia	238	$ 94,549.52	$ 6.78	13942	681	520	4.88%	3.73%	30280	70%	30%	4102	29866	13.73%
19426	Montgomery	54	$ 68,131.50	$ 4.92	13842	247	178	1.78%	1.29%	42656	78%	22%	1914	36225	5.28%
19083	Delaware	53	$ 78,403.95	$ 5.80	13520	337	247	2.49%	1.83%	37143	87%	13%	2432	36918	6.59%
19114	Philadelphia	173	$ 97,414.05	$ 7.23	13471	1069	783	7.94%	5.81%	31551	74%	26%	4514	31167	14.48%
19115	Philadelphia	142	$ 67,137.18	$ 5.04	13330	1245	963	9.34%	7.22%	35103	64%	36%	5376	34428	15.62%
19087	Chester	71	$ 78,020.00	$ 5.99	13018	189	144	1.45%	1.11%	33683	76%	24%	1502	31306	4.80%
19047	Bucks	77	$ 79,785.96	$ 6.13	13008	358	254	2.75%	1.95%	33874	85%	15%	3046	32370	9.41%

19135	Philadelphia	461	$136,227.53	$ 10.50	12976	2996	2313	23.09%	17.83%	34214	49%	51%	12332	34135	36.13%
19116	Philadelphia	131	$ 76,416.36	$ 5.90	12942	1128	876	8.72%	6.77%	33648	67%	33%	7312	33022	22.14%
19154	Philadelphia	197	$111,320.54	$ 8.62	12921	1011	749	7.82%	5.80%	34823	79%	21%	4627	34550	13.39%
19152	Philadelphia	228	$104,656.18	$ 8.10	12920	1541	1180	11.93%	9.13%	35211	54%	46%	8937	34238	26.10%
19151	Philadelphia	340	$128,391.46	$ 10.03	12805	2833	2133	22.12%	16.66%	33553	7%	93%	8433	33234	25.37%
19026	Delaware	168	$152,862.69	$ 11.98	12756	1142	847	8.95%	6.64%	31917	68%	32%	4046	31841	12.71%
19138	Philadelphia	392	$118,328.38	$ 9.35	12653	3187	2446	25.19%	19.33%	32471	3%	97%	11658	31937	36.50%
19013	Delaware	642	$202,379.29	$ 16.10	12571	4263	3270	33.91%	26.01%	34456	15%	85%	13852	31623	43.80%
19002	Montgomery	68	$ 73,351.69	$ 5.90	12433	308	212	2.48%	1.71%	31608	78%	22%	2077	31135	6.67%
19136	Philadelphia	382	$132,647.66	$ 10.79	12297	2127	1592	17.30%	12.95%	36435	57%	43%	9960	34597	28.79%
19038	Montgomery	68	$ 90,056.14	$ 7.55	11932	458	324	3.84%	2.72%	32672	77%	23%	2813	30813	9.13%
19050	Delaware	261	$166,158.90	$ 13.98	11884	1994	1521	16.78%	12.80%	28905	22%	78%	6505	28526	22.80%
19468	Montgomery	98	$ 83,735.36	$ 7.05	11872	404	285	3.40%	2.40%	28083	85%	15%	2625	27546	9.53%
19141	Philadelphia	510	$143,711.77	$ 12.13	11850	3172	2416	26.77%	20.39%	34239	5%	95%	14681	33209	44.21%
19119	Philadelphia	221	$ 93,750.69	$ 7.94	11812	1125	833	9.52%	7.05%	29079	34%	66%	4985	28284	17.62%
18901	Bucks	48	$ 55,931.70	$ 4.78	11696	192	136	1.64%	1.16%	28311	89%	11%	1892	25811	7.33%
18940	Bucks	45	$ 69,207.52	$ 5.93	11679	138	104	1.18%	0.89%	29834	83%	17%	1450	29603	4.90%
19355	Chester	71	$ 70,359.82	$ 6.21	11331	151	119	1.33%	1.05%	28178	71%	29%	2203	28160	7.82%
19122	Philadelphia	364	$139,274.27	$ 12.42	11210	1702	1375	15.18%	12.27%	22898	41%	59%	7979	18756	42.54%
19454	Montgomery	72	$ 69,780.21	$ 6.27	11121	326	249	2.93%	2.24%	28036	70%	30%	2029	27664	7.33%
19053	Bucks	64	$ 77,756.04	$ 7.30	10646	475	375	4.46%	3.52%	28245	80%	20%	2525	28054	9.00%
19018	Delaware	245	$133,384.45	$ 12.77	10448	1208	892	11.56%	8.54%	23302	60%	40%	4523	23263	19.44%
19142	Philadelphia	417	$119,049.56	$ 11.46	10386	3200	2384	30.81%	22.95%	31018	5%	95%	13512	30954	43.65%
19150	Philadelphia	203	$ 90,856.89	$ 8.90	10209	1505	1107	14.74%	10.84%	22932	4%	96%	4017	22796	17.62%
19123	Philadelphia	186	$ 87,291.51	$ 9.07	9625	691	510	7.18%	5.30%	18474	58%	42%	4390	18166	24.17%
19341	Chester	114	$ 65,790.64	$ 6.98	9425	175	126	1.86%	1.34%	20545	77%	23%	769	20538	3.74%
19428	Montgomery	98	$ 62,800.04	$ 6.68	9406	327	231	3.48%	2.46%	20321	82%	18%	1848	20304	9.10%
19133	Philadelphia	484	$110,364.89	$ 11.85	9310	3541	2813	38.03%	30.21%	25642	14%	86%	14840	25542	58.10%
19064	Delaware	30	$ 48,834.87	$ 5.41	9032	188	134	2.08%	1.48%	25218	89%	11%	1518	25131	6.04%
19348	Chester	63	$ 52,808.04	$ 5.94	8889	286	202	3.22%	2.27%	23707	80%	20%	2006	23272	8.62%
19406	Montgomery	100	$ 71,040.49	$ 8.04	8832	277	208	3.14%	2.36%	28826	66%	34%	1928	28594	6.74%
19438	Montgomery	44	$ 44,249.30	$ 5.11	8651	304	214	3.51%	2.47%	24962	87%	13%	1701	24743	6.87%
19061	Delaware	194	$104,997.78	$ 12.47	8419	1281	975	15.22%	11.58%	20282	77%	23%	3663	20063	18.26%
19007	Bucks	182	$ 87,255.56	$ 10.43	8364	1009	736	12.06%	8.80%	22337	65%	35%	4887	22110	22.10%
19073	Delaware	35	$ 43,478.00	$ 5.22	8331	114	85	1.37%	1.02%	21297	93%	7%	1258	21177	5.94%
19040	Montgomery	60	$ 57,085.18	$ 6.90	8268	268	189	3.24%	2.29%	22137	86%	14%	2275	21899	10.39%
19090	Montgomery	81	$ 67,288.46	$ 8.15	8260	506	367	6.13%	4.44%	19814	70%	30%	1900	19587	9.70%
19014	Delaware	72	$ 58,114.20	$ 7.05	8245	356	274	4.32%	3.32%	20925	86%	14%	2401	20106	11.94%
19023	Delaware	303	$118,199.13	$ 14.46	8174	2487	1893	30.43%	23.16%	22493	17%	83%	8774	22124	39.66%
18976	Bucks	38	$ 40,578.82	$ 5.00	8117	194	130	2.39%	1.60%	22352	84%	16%	1448	21894	6.61%
19422	Montgomery	39	$ 50,183.96	$ 6.28	7991	164	127	2.05%	1.59%	20050	75%	25%	973	19847	4.90%
19008	Delaware	27	$ 45,239.51	$ 5.76	7848	251	186	3.20%	2.37%	20492	85%	15%	955	19945	4.79%
18914	Bucks	24	$ 35,097.34	$ 4.60	7634	124	96	1.62%	1.26%	21067	86%	14%	1004	21061	4.77%
19006	Montgomery	29	$ 51,020.37	$ 6.77	7540	173	139	2.29%	1.84%	23244	81%	19%	1737	22806	7.62%
19010	Delaware	54	$ 47,757.67	$ 6.53	7317	139	103	1.90%	1.41%	21406	80%	20%	1710	19130	8.94%
18902	Bucks	22	$ 45,178.20	$ 6.27	7201	86	58	1.19%	0.81%	22621	88%	12%	1203	22536	5.34%
19015	Delaware	93	$ 69,703.03	$ 9.88	7054	970	704	13.75%	9.98%	16484	68%	32%	2444	16460	14.85%
19103	Philadelphia	102	$ 38,536.35	$ 5.54	6961	79	58	1.13%	0.83%	25705	71%	29%	3157	25155	12.55%
19465	Chester	54	$ 45,211.45	$ 6.64	6806	173	131	2.54%	1.92%	18710	94%	6%	1399	18534	7.55%
19046	Montgomery	36	$ 47,493.75	$ 6.98	6805	274	204	4.03%	3.00%	18994	85%	15%	1603	18628	8.61%
19342	Delaware	33	$ 35,717.99	$ 5.29	6753	100	78	1.48%	1.16%	20948	79%	21%	896	18935	4.73%

19054	Bucks	71	$ 50,378.76	$ 7.65	6585	313	217	4.75%	3.30%	17440	91%	9%	1076	17413	6.18%
19001	Montgomery	38	$ 47,846.21	$ 7.41	6455	301	210	4.66%	3.25%	17830	70%	30%	2017	17599	11.46%
18938	Bucks	32	$ 40,485.58	$ 6.46	6263	73	54	1.17%	0.86%	13380	89%	11%	589	13314	4.42%
19044	Montgomery	43	$ 42,748.71	$ 6.83	6258	203	138	3.24%	2.21%	17027	79%	21%	1780	17011	10.46%
19126	Philadelphia	184	$ 57,168.08	$ 9.19	6220	1300	981	20.90%	15.77%	17627	8%	92%	5195	16858	30.82%
19363	Chester	64	$ 60,496.46	$ 9.75	6206	346	256	5.58%	4.13%	17670	78%	22%	2918	17567	16.61%
19107	Philadelphia	104	$ 39,331.70	$ 6.36	6182	604	524	9.77%	8.48%	15232	53%	47%	3624	13987	25.91%
19057	Bucks	65	$ 49,818.76	$ 8.15	6109	453	334	7.42%	5.47%	18439	78%	22%	2263	18267	12.39%
19027	Montgomery	57	$ 62,387.75	$ 10.26	6082	394	295	6.48%	4.85%	19863	42%	58%	3129	19849	15.76%
19425	Chester	13	$ 28,346.61	$ 4.72	6002	47	36	0.78%	0.60%	17385	70%	30%	367	17255	2.13%
19003	Montgomery	50	$ 38,598.67	$ 6.52	5917	263	193	4.44%	3.26%	13953	77%	23%	1088	13348	8.15%
19056	Bucks	78	$ 48,169.31	$ 8.39	5742	386	292	6.72%	5.09%	15765	81%	19%	1896	15597	12.16%
19473	Montgomery	35	$ 35,416.67	$ 6.51	5443	159	113	2.92%	2.08%	17522	89%	11%	2095	17431	12.02%
19106	Philadelphia	75	$ 37,306.46	$ 6.87	5427	52	33	0.96%	0.61%	14012	83%	17%	1013	12924	7.84%
19153	Philadelphia	119	$ 53,405.23	$ 10.16	5258	1000	746	19.02%	14.19%	12223	10%	90%	3805	12014	31.67%
19390	Chester	23	$ 34,943.71	$ 6.66	5246	192	147	3.66%	2.80%	12677	83%	17%	1346	12516	10.75%
19036	Delaware	87	$ 61,188.34	$ 11.70	5230	636	479	12.16%	9.16%	13181	79%	21%	1998	13154	15.19%
19055	Bucks	63	$ 46,424.75	$ 9.29	4997	345	263	6.90%	5.26%	13667	77%	23%	2313	13518	17.11%
19475	Chester	56	$ 37,707.56	$ 7.57	4981	365	288	7.33%	5.78%	11840	83%	17%	2128	11616	18.32%
19030	Bucks	50	$ 26,391.78	$ 5.40	4887	379	284	7.76%	5.81%	12490	86%	14%	1499	12462	12.03%
19078	Delaware	51	$ 47,916.43	$ 9.84	4868	340	236	6.98%	4.85%	11671	91%	9%	1144	11592	9.87%
19312	Chester	17	$ 34,991.96	$ 7.27	4813	111	79	2.31%	1.64%	12021	81%	19%	1246	11999	10.38%
19462	Montgomery	33	$ 29,195.74	$ 6.33	4611	156	111	3.38%	2.41%	15868	79%	21%	1340	15624	8.58%
19129	Philadelphia	75	$ 34,377.41	$ 7.66	4490	418	306	9.31%	6.82%	11370	59%	41%	2261	10487	21.56%
19086	Delaware	21	$ 25,340.72	$ 5.69	4454	129	96	2.90%	2.16%	12649	78%	22%	961	12309	7.81%
19317	Delaware	16	$ 28,702.54	$ 6.81	4217	42	36	1.00%	0.85%	10594	83%	17%	550	10594	5.19%
19060	Delaware	8	$ 19,866.78	$ 4.88	4068	53	41	1.30%	1.01%	11239	83%	17%	895	11218	7.98%
19004	Montgomery	44	$ 31,868.77	$ 7.84	4067	99	70	2.43%	1.72%	9971	78%	22%	1139	9944	11.45%
19096	Montgomery	7	$ 24,541.36	$ 6.04	4066	64	41	1.57%	1.01%	15384	77%	23%	997	15038	6.63%
19350	Chester	11	$ 22,675.13	$ 5.61	4040	50	41	1.24%	1.01%	10636	86%	14%	964	10569	9.12%
19021	Bucks	64	$ 45,500.27	$ 11.43	3980	390	295	9.80%	7.41%	9744	79%	21%	2217	9673	22.92%
19444	Montgomery	9	$ 23,915.74	$ 6.07	3939	69	54	1.75%	1.37%	11194	89%	11%	393	11048	3.56%
19072	Montgomery	16	$ 23,628.49	$ 6.33	3730	56	42	1.50%	1.13%	10557	81%	19%	557	10538	5.29%
19127	Philadelphia	72	$ 33,737.39	$ 9.07	3719	83	66	2.23%	1.77%	5623	84%	16%	879	5541	15.86%
19079	Delaware	80	$ 41,347.67	$ 11.43	3619	1050	824	29.01%	22.77%	9183	13%	87%	3195	9112	35.06%
19118	Philadelphia	24	$ 18,761.18	$ 5.26	3564	81	52	2.27%	1.46%	10599	72%	28%	980	9838	9.96%
19137	Philadelphia	75	$ 28,119.68	$ 8.08	3481	510	397	14.65%	11.40%	8100	88%	12%	2098	8032	26.12%
19081	Delaware	20	$ 18,667.48	$ 5.52	3379	70	50	2.07%	1.48%	10577	84%	16%	523	9078	5.76%
19333	Chester	32	$ 16,856.04	$ 5.23	3225	48	34	1.49%	1.05%	7886	75%	25%	505	7863	6.42%
19033	Delaware	34	$ 27,529.51	$ 8.67	3174	166	119	5.23%	3.75%	7804	88%	12%	1012	7740	13.07%
18954	Bucks	6	$ 19,062.83	$ 6.03	3160	44	38	1.39%	1.20%	10635	86%	14%	212	10518	2.02%
19311	Chester	13	$ 26,883.19	$ 8.94	3008	100	77	3.32%	2.56%	11342	79%	21%	1042	11311	9.21%
19301	Chester	18	$ 15,255.48	$ 5.09	2996	72	53	2.40%	1.77%	7960	71%	29%	555	7726	7.18%
19070	Delaware	25	$ 25,251.18	$ 8.56	2949	184	134	6.24%	4.54%	6409	80%	20%	765	6397	11.96%
19343	Chester	9	$ 19,186.92	$ 6.54	2933	36	28	1.23%	0.95%	8316	89%	11%	466	8135	5.73%
18929	Bucks	7	$ 10,603.17	$ 3.66	2899	40	34	1.38%	1.17%	9700	89%	11%	284	9700	2.93%
19075	Montgomery	13	$ 14,185.47	$ 4.99	2840	68	48	2.39%	1.69%	7868	87%	13%	330	7850	4.20%
19076	Delaware	44	$ 25,360.47	$ 9.24	2744	242	166	8.82%	6.05%	6449	75%	25%	1343	6292	21.34%
19352	Chester	5	$ 14,643.04	$ 5.53	2650	35	31	1.32%	1.17%	11279	83%	17%	471	9276	5.08%
19032	Delaware	60	$ 37,442.48	$ 14.30	2618	577	435	22.04%	16.62%	6758	45%	55%	1624	6758	24.03%
17314	York	21	$ 25,012.76	$ 9.66	2590	117	92	4.52%	3.55%	6386	96%	4%	819	6286	13.03%

19365	Chester	40	$ 28,027.59	$ 11.00	2549	190	139	7.45%	5.45%	7402	77%	23%	803	7400	10.85%
19012	Montgomery	21	$ 27,651.02	$ 10.98	2519	174	137	6.91%	5.44%	6664	44%	56%	553	6635	8.33%
19405	Montgomery	55	$ 23,858.99	$ 9.64	2474	241	180	9.74%	7.28%	5110	78%	22%	1013	5108	19.83%
19074	Delaware	34	$ 24,932.76	$ 10.61	2350	201	150	8.55%	6.38%	5926	92%	8%	632	5926	10.66%
19025	Montgomery	5	$ 9,912.72	$ 4.27	2320	36	25	1.55%	1.08%	7044	85%	15%	149	7044	2.12%
19034	Montgomery	20	$ 12,684.15	$ 5.60	2265	25	13	1.10%	0.57%	7138	81%	19%	604	6819	8.86%
19041	Delaware	16	$ 13,066.25	$ 5.83	2243	22	17	0.98%	0.76%	6404	85%	15%	416	5498	7.57%
19330	Chester	13	$ 14,229.75	$ 6.46	2204	64	49	2.90%	2.22%	5761	90%	10%	536	5749	9.32%
18925	Bucks	2	$ 7,197.45	$ 3.34	2156	25	20	1.16%	0.93%	6510	86%	14%	255	6510	3.92%
19085	Delaware	3	$ 25,666.80	$ 12.23	2099	19	12	0.91%	0.57%	10779	80%	20%	162	5359	3.02%
19031	Montgomery	6	$ 9,592.50	$ 4.67	2052	74	55	3.61%	2.68%	5159	85%	15%	350	4797	7.30%
18944	Bucks	11	$ 14,605.45	$ 7.21	2027	31	23	1.53%	1.13%	27635	92%	8%	1426	27561	5.17%
19094	Delaware	32	$ 20,349.10	$ 10.61	1918	358	269	18.67%	14.03%	4589	77%	23%	861	4589	18.76%
19029	Delaware	21	$ 18,560.36	$ 9.88	1879	198	146	10.54%	7.77%	3988	90%	10%	785	3984	19.70%
18977	Bucks	4	$ 5,986.30	$ 3.38	1771	13	9	0.73%	0.51%	4565	89%	11%	154	4565	3.37%
19066	Montgomery	7	$ 9,652.89	$ 5.48	1761	21	17	1.19%	0.97%	5594	82%	18%	262	4890	5.36%
19095	Montgomery	7	$ 20,563.00	$ 12.02	1711	86	66	5.03%	3.86%	7437	55%	45%	1320	7066	18.68%
18947	Bucks	4	$ 7,575.68	$ 4.66	1627	13	8	0.80%	0.49%	6423	92%	8%	256	6379	4.01%
19022	Delaware	62	$ 22,144.76	$ 13.83	1601	384	283	23.99%	17.68%	3671	77%	23%	937	3667	25.55%
19035	Montgomery	4	$ 20,252.01	$ 14.07	1439	10	9	0.69%	0.63%	4149	88%	12%	73	4092	1.78%
19362	Chester	21	$ 13,990.94	$ 9.92	1410	100	72	7.09%	5.11%	5981	89%	11%	845	5967	14.16%
18054	Montgomery	4	$ 7,756.28	$ 5.67	1367	40	30	2.93%	2.19%	4960	94%	6%	722	4952	14.58%
18074	Montgomery	2	$ 10,748.55	$ 8.06	1333	26	19	1.95%	1.43%	5423	97%	3%	519	5380	9.65%
18917	Bucks	15	$ 13,771.48	$ 11.69	1178	42	29	3.57%	2.46%	2252	85%	15%	287	2252	12.74%
19043	Delaware	13	$ 7,655.88	$ 6.72	1140	102	71	8.95%	6.23%	3051	99%	1%	380	3005	12.65%
17302	York	8	$ 9,460.14	$ 8.47	1117	65	46	5.82%	4.12%	2386	96%	4%	221	2386	9.26%
19102	Philadelphia	21	$ 5,704.02	$ 5.73	996	19	13	1.91%	1.31%	5635	76%	24%	1059	5303	19.97%
19440	Montgomery	3	$ 4,295.00	$ 4.61	931	22	13	2.36%	1.40%	19897	71%	29%	2078	19622	10.59%
18969	Montgomery	1	$ 3,635.00	$ 3.92	928	14	8	1.51%	0.86%	15533	86%	14%	1533	15418	9.94%
19344	Chester	13	$ 10,730.16	$ 11.83	907	78	56	8.60%	6.17%	12784	94%	6%	1699	12467	13.63%
19373	Delaware	1	$ 3,583.75	$ 4.21	852	6	6	0.70%	0.70%	1919	94%	6%	45	1919	2.34%
19474	Montgomery	2	$ 5,373.67	$ 6.36	845	18	8	2.13%	0.95%	386	93%	7%	0	386	0.00%
19453	Montgomery	8	$ 4,034.65	$ 5.45	740	19	15	2.57%	2.03%	1543	97%	3%	157	1543	10.17%
18915	Montgomery	4	$ 3,720.15	$ 5.71	651	17	12	2.61%	1.84%	1458	61%	39%	78	1458	5.35%
19372	Chester	2	$ 2,720.99	$ 4.59	593	16	7	2.70%	1.18%	2021	77%	23%	23	2021	1.14%
19374	Chester	5	$ 8,350.90	$ 19.02	439	33	25	7.52%	5.69%	812	81%	19%	76	812	9.36%
19437	Montgomery	0	$ 1,690.00	$ 3.94	429	1	1	0.23%	0.23%	968	78%	22%	4	726	0.55%
19456	Montgomery	4	$ 3,010.23	$ 7.03	428	8	6	1.87%	1.40%	270	93%	7%	0	270	0.00%
18073	Montgomery	2	$ 2,050.68	$ 4.89	419	8	5	1.91%	1.19%	11271	93%	7%	1099	11071	9.93%
18912	Bucks	0	$ 2,181.25	$ 5.91	369	3	2	0.81%	0.54%	181	100%	0%	94	181	51.93%
18942	Bucks	2	$ 2,185.00	$ 6.28	348	4	3	1.15%	0.86%	2607	90%	10%	205	2595	7.90%
19009	Montgomery	0	$ 1,128.75	$ 3.52	321	0	0	0.00%	0.00%	1091	95%	5%	69	919	7.51%
18923	Bucks	2	$ 2,562.34	$ 8.01	320	8	4	2.50%	1.25%	1384	95%	5%	84	1384	6.07%
19310	Chester	8	$ 3,187.21	$ 10.92	292	11	10	3.77%	3.42%	3013	91%	9%	750	3009	24.93%
19375	Chester	0	$ 791.25	$ 2.83	280	3	3	1.07%	1.07%	176	100%	0%	0	176	0.00%
19492	Montgomery	5	$ 3,207.46	$ 11.71	274	9	9	3.28%	3.28%	674	98%	2%	65	618	10.52%
19490	Montgomery	1	$ 1,798.54	$ 6.61	272	6	5	2.21%	1.84%	274	94%	6%	0	274	0.00%
18980	Bucks	0	$ 50.00	$ 0.22	225	5	4	2.22%	1.78%	104	99%	1%	4	104	3.85%
19017	Delaware	1	$ 1,210.00	$ 5.55	218	2	1	0.92%	0.46%	289	99%	1%	0	282	0.00%
19369	Chester	9	$ 1,708.75	$ 7.87	217	4	3	1.84%	1.38%	159	50%	50%	62	159	38.99%
18913	Bucks	2	$ 607.50	$ 2.88	211	1	1	0.47%	0.47%	180	100%	0%	5	180	2.78%

19520	Chester	0	$ -	$ -	173	1	1	0.58%	0.58%	6261	94%	6%	618	6254	9.88%
18932	Bucks	1	$ 833.75	$ 5.24	159	4	4	2.52%	2.52%	314	95%	5%	31	314	9.87%
19457	Chester	2	$ 643.75	$ 4.18	154	9	7	5.84%	4.55%	148	86%	14%	25	148	16.89%
18933	Bucks	1	$ 2,018.75	$ 13.19	153	3	2	1.96%	1.31%	126	100%	0%	16	126	12.70%
18950	Bucks	0	$ 1,165.00	$ 7.61	153	4	2	2.61%	1.31%	117	100%	0%	0	117	0.00%
19367	Chester	5	$ 1,731.62	$ 12.46	139	7	5	5.04%	3.60%	142	100%	0%	31	133	23.31%
19383	Chester	0	$ -	$ -	132	0	0	0.00%	0.00%	5271	76%	24%	307	354	86.72%
19319	Delaware	1	$ 980.00	$ 7.48	131	4	4	3.05%	3.05%	735	92%	8%	62	583	10.63%
18946	Bucks	1	$ 438.13	$ 3.34	131	6	4	4.58%	3.05%	568	97%	3%	32	441	7.26%
17527	Lancaster	0	$ 1,257.50	$ 10.48	120	2	1	1.67%	0.83%	6525	94%	6%	907	6496	13.96%
19477	Montgomery	0	$ 905.00	$ 7.80	116	1	1	0.86%	0.86%	44	100%	0%	0	44	0.00%
19435	Montgomery	0	$ -	$ -	106	0	0	0.00%	0.00%	120	100%	0%	0	120	0.00%
18936	Montgomery	0	$ 420.56	$ 4.21	100	8	6	8.00%	6.00%	265	96%	4%	0	265	0.00%
19052	Delaware	0	$ 215.00	$ 2.53	85	2	2	2.35%	2.35%	625	100%	0%	20	625	3.20%
19316	Chester	0	$ 427.23	$ 5.03	85	1	0	1.18%	0.00%	81	100%	0%	0	81	0.00%
18964	Montgomery	0	$ 325.00	$ 4.51	72	1	1	1.39%	1.39%	14129	85%	15%	1491	14023	10.63%
17309	York	0	$ 45.00	$ 0.76	59	6	4	10.17%	6.78%	1968	96%	4%	267	1968	13.57%
19436	Montgomery	0	$ -	$ -	47	0	0	0.00%	0.00%	486	97%	3%	100	426	23.47%
17321	York	1	$ 112.50	$ 2.56	44	2	1	4.55%	2.27%	2368	95%	5%	159	2368	6.71%
19358	Chester	0	$ 350.00	$ 20.59	17	2	1	11.76%	5.88%	384	76%	24%	199	384	51.82%
18076	Montgomery	0	$ -	$ -	6	0	0	0.00%	0.00%	3152	86%	14%	283	3148	8.99%
19345	Chester	0	$ -	$ -	1	0	0	0.00%	0.00%	718	74%	26%	14	32	43.75%
17563	Lancaster	0	$ -	$ -	1	0	0	0.00%	0.00%	4073	87%	13%	925	4073	22.71%
18955	Bucks	0	$ -	$ -	1	0	0	0.00%	0.00%	1406	90%	10%	80	1266	6.32%
18960	Bucks	0	$ -	$ -	1	0	0	0.00%	0.00%	11850	92%	8%	1020	11733	8.69%
19504	Berks	0	$ -	$ -	1	0	0	0.00%	0.00%	5213	94%	6%	337	5174	6.51%
18935	Bucks	0	$ -	$ -	1	0	0	0.00%	0.00%	316	95%	5%	0	316	0.00%
19472	Montgomery	0	$ -	$ -	1	0	0	0.00%	0.00%	60	100%	0%	0	60	0.00%

Exhibit C

County	2020 Awarded MEAF Grant Dollars	2020 Contributions distributed to agencies	2021 Awarded MEAF Grant Dollars	2021 Distribution	2022 Awarded MEAF Grant Dollars	2022 Distribution	2023 Awarded MEAF Grant Dollars	2023 Distribution	Total Grant Dollars Awarded to Customers (2020-2023)	Dollar amounts from agencies (amount awarded divided by 2)	dollar amount matched (amount awarded divided by 2)	Dollar Amounts Distributed (2020-2023)	Available Match (1:1 match)	Difference (assuming agency provides full grant amount)	Difference (assuming shareholder match applied)	Difference (if all match available to org)
BUCKS	$989	$22,224	$16,169	$23,124	$32,015	$24,480	$31,798	$45,051	$80,971	$40,486	$40,486	$114,879	$114,879	$33,908	$74,394	$148,787
CHESTER	$1,776	$22,224	$6,206	$23,124	$2,000	$24,480	$18,938	$45,051	$28,920	$14,460	$14,460	$114,879	$114,879	$85,959	$100,419	$200,838
DELAWARE	$0	$22,224	$12,144	$23,124	$145,874	$24,480	$65,948	$45,051	$223,966	$111,983	$111,983	$114,879	$114,879	($109,087)	$2,896	$5,792
MONTGOMERY	$1,091	$22,224	$43,076	$23,124	$67,705	$24,480	$35,992	$45,051	$147,864	$73,932	$73,932	$114,879	$114,879	($32,985)	$40,947	$81,894
PHILADELPHIA	$3,168	$42,224	$29,800	$43,124	$2,344	$44,480	$20,404	$65,051	$55,716	$27,858	$27,858	$194,879	$194,879	$139,163	$167,021	$334,042
YORK	$0	$1,700	$835	$1,700	$2,096	$1,700	$2,891	$1,700	$5,822	$2,911	$2,911	$6,800	$6,800	$978	$3,889	$7,778
Total	**7,023.00**	**132,821.00**	**108,230.00**	**137,321.00**	**252,035.00**	**144,102.00**	**175,972.00**	**246,953.00**	$543,260	$271,630	$271,630	$661,197	$661,197	$117,937	$389,567	$779,134

MEAF Grant Dollars from CAUSE-PA I-9

Distribution from CAUSE-PA III-31(a) (these numbers equal the contributions minus the shareholder match)

Assumption is that agency uses money to provide 50% of grant, PECO matches that 50% via shareholder dollars as match on account - see REVISED Attachment CAUSE-PA-TURN-III-30(a) at 4

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company - Electric	Docket No. R-2024-3046931

APPENDIX A

TO THE
DIRECT TESTIMONY OF ELIZABETH R. MARX

On Behalf of

Tenant Union Representative Network

and

Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania

June 17, 2024

ELIZABETH R. MARX, ESQ.

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PROFESSIONAL EXPERIENCE

Pennsylvania Utility Law Project 2014-current
Executive Director, 2020-current
Supervising Attorney, 2017-2020
Staff Attorney, 2014-2017

Pennsylvania Coalition Against Domestic Violence 2008-2014
Staff Attorney, 2010-2014
Legal Intern, 2008-2010

Widener University Commonwealth School of Law 2009-2010
Research Assistant, Professor John Capowski

YWCA Domestic Violence Legal Center 2007
Certified Legal Intern

EDUCATION

JD **Widener University Commonwealth School of Law** **May 2010**
Magna Cum Laude
Executive Managing Editor, Widener Law Journal

BA **Temple University** **May 2005**
Cum Laude
Major - Political Science; Minor - Economics and Women's Studies

PROFESSIONAL BOARDS AND ADVISORY COMMITTEES

- **Chairperson, LIHEAP Advisory Committee**
  Pennsylvania Department of Human Services
  Chair, 2020-current
- **Chairperson, Weatherization Assistance Program Policy Advisory Council**
  Pennsylvania Department of Community and Economic Development
  Chair, January 2023-current
  Member, 2020-2022
- **Member, Consumer Advisory Council**
  Pennsylvania Public Utility Commission
  2021-current
- **Member, Climate Change Advisory Committee**
  Pennsylvania Department of Environmental Protection
  2022-current
- **Member, Steering Committee**
  National Leadership Forum, Adults Exposed to Domestic Violence in Childhood
  2014-2016

SELECT PRESENTATIONS

Public Testimony

- **En Banc Hearing, Supplier Consolidated Billing, June 2018**
  Pa. Public Utility Commission, Docket No. M-2018-2645254

- **Public Hearing, Property Assessed Clean Energy Program, April 2018**
  Pa. House of Representatives, Commerce Committee
  http://www.legis.state.pa.us/WU01/LI/TR/Transcripts/2018_0058_0005_TSTMNY.pdf.

- **Public Hearing, Impact of COVID-19 on Utility Debt Crisis, September 2020**
  Pa. House of Representatives, Commerce Committee
  https://www.legis.state.pa.us/WU01/LI/TR/Transcripts/2020_0092_0002_TSTMNY.pdf

- **Public Hearing, Pennsylvania's Housing Crisis, March 2021**
  Pa. Senate, Democratic Policy Committee
  https://www.senatormuth.com/wp-content/uploads/2021/03/Elizabeth-Marx.pdf

- **Public Hearing, Pennsylvania's Retail Energy Markets, June 2022**
  Pa. House of Representatives, Consumer Affairs Committee
  https://www.legis.state.pa.us/WU01/LI/TR/Transcripts/2022_0073_0002_TSTMNY.pdf

- **Public Hearing, Title 66, Ch. 14 of the Public Utility Code, October 2023**
  Pa. Senate, Consumer Affairs and Professional Licensure
  https://www.pasenategop.com/news/consumer-100323/

- **Public Hearing, Title 66, Ch. 14 of the Public Utility Code, January 2024**
  Pa. House of Representatives, Consumer Protection, Technology, Utilities Committee
  https://www.legis.state.pa.us/cfdocs/Legis/CMS/ArchiveDetails.cfm?SessYear=2023&MeetingId=3479&Code=63&Chamber=H

National Conference Workshops

- **In Pursuit of Safe and Affordable Water in Pittsburgh**
  National Energy and Utility Affordability Conference (June 2022)

- **State and Local Gov't Role in Helping Consumers Fill the Gap**
  Consumer Federation, High Cost Lending Summit (Feb. 2022)

- **The Impact of Water Policies on Communities of Color and Low Income**
  Partners for Justice Virtual Conference (May 2021)

- **Addressing the Unique Utility Needs of Domestic Violence Victims**
  National Energy and Utility Affordability Conference (2016, 2017, 2018, 2020)

- **Protecting Utility Consumers in the Fast-Changing Markets**
  Community Action Partnership Annual Convention (Aug. 2017)

- **State Level Advocacy: Interaction with PUCs and Beyond**
  National Energy and Utility Affordability Conference (June 2017)

- **Critical Utility Protections for Domestic Violence Survivors**
  NASUCA Consumer Protection Committee (Dec. 2019, Sept. 2023)

SELECT APPELLATE CASE WORK

- Coalition for Affordable Util. Servs. & Energy Efficiency in Pa. v. Pa. PUC, 120 A.3d 1087 (Pa. Commw. Ct. 2014) (*counsel for CAUSE-PA*).
- Retail Energy Supply Ass'n v. Pa. PUC, 185 A.3d 1206 (Pa. Commw. Ct. 2017) (*counsel for CAUSE-PA*).

PROFESSIONAL CERTIFICATIONS

- **Institute of Public Utilities, Michigan State University**
  Fundamentals of Regulatory Studies, 2014

HONORS AND AWARDS

Outstanding Social Service Award **2017**
Awarded by The Women's Center of Columbia / Montour County to individuals who have demonstrated an outstanding level of commitment to serving victims of domestic violence.

Dean's Award **2010**
The Dean's Award is given annually to the graduating student who, in the dean's opinion, has demonstrated outstanding legal aptitude, exemplary service, significant leadership skills and the potential to become an outstanding member of the legal community.

Distinguished Legal Scholarship **2010**
Awarded to a graduating member of the Widener Law Journal for distinguished service and distinguished legal writing abilities.

PUBLICATIONS

- Jim Grevatt, Elizabeth Marx, Sarah Ralich, & Levana Layendecker, Small Steps in Coordination Equal Leaps and Bounds for Pennsylvania's Underserved Families: Driving Policy Improvements through Collaborative Advocacy, ACEEE 2018 Summer Study on Energy Efficiency in Buildings (Aug. 2018).
- Elizabeth Marx, Protecting Victims, Saving Lives: 36 Years of Effective Domestic Violence Prevention, AT ISSUE, Pa. Bar Ass'n (Summer, 2013).
- Elizabeth R. Marx, When is a Billboard Just a Billboard?: Twp. of Exeter v. Zoning Hearing Board and the Implications of Business-Infused Police Power, 19 WIDENER L.J. 711 (2010).

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company - Electric	Docket No. R-2024-3046931

APPENDIX B

TO THE
DIRECT TESTIMONY OF ELIZABETH R. MARX

On Behalf of

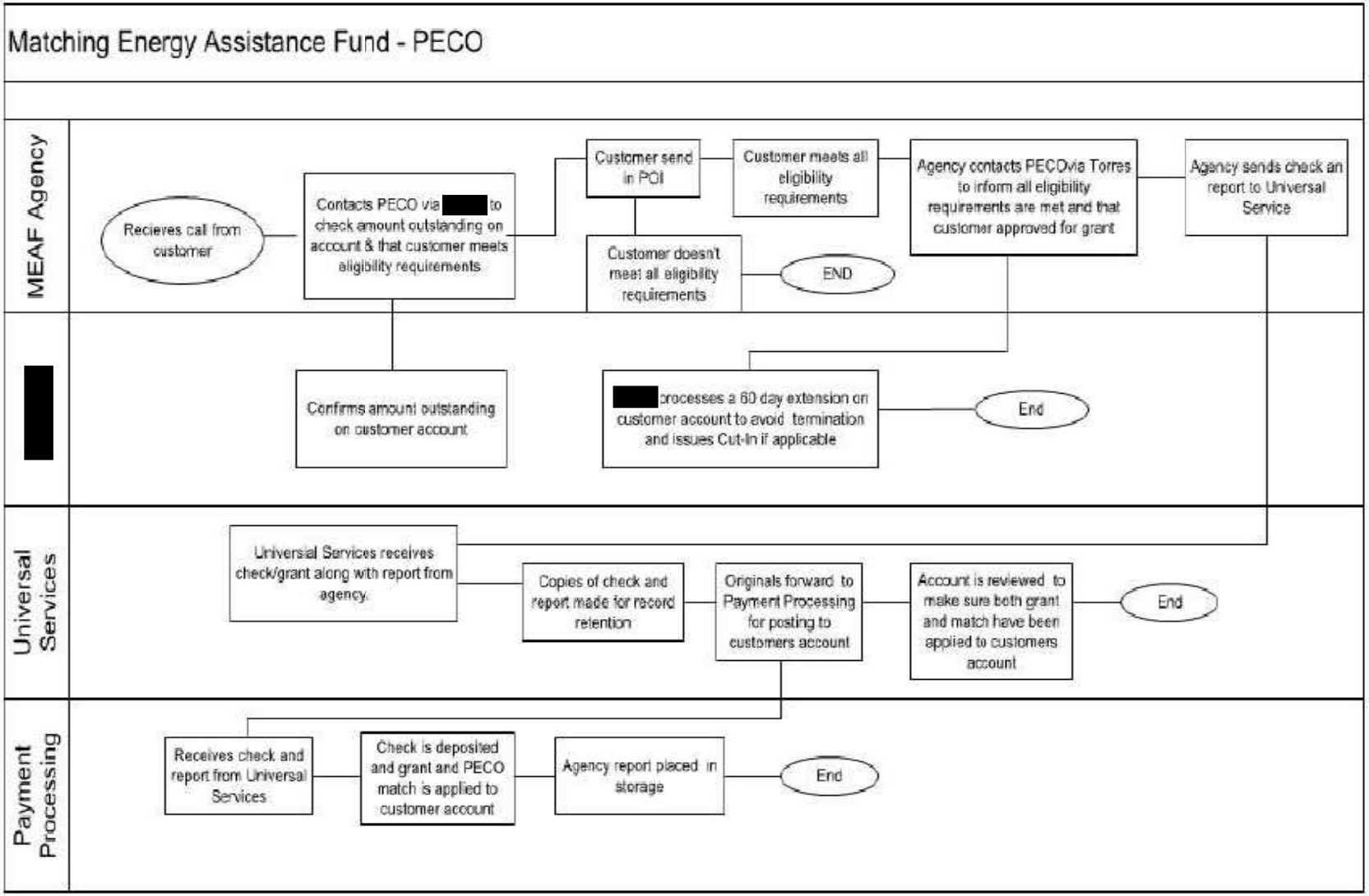
Tenant Union Representative Network

and

Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania

June 17, 2024

MEAF Flow Chart



BEFORE THE

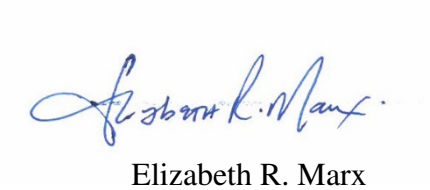
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3046931
PECO Energy Company - Electric Division	:	

VERIFICATION

I, Elizabeth R. Marx, hereby state that the facts set forth in my Direct Testimony labeled TURN and CAUSE-PA Statement No. 1 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 19 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: June 17, 2024



Elizabeth R. Marx

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company - Electric	Docket No. R-2024-3046931

SURREBUTTAL TESTIMONY OF ELIZABETH R. MARX

On Behalf of

Tenant Union Representative Network

and

Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania

August 2, 2024

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Appendix A: PECO Security Deposit Letter

PREPARED SURREBUTTAL TESTIMONY OF ELIZABETH R. MARX

Q: Please state your name, occupation, and business address.

A. Elizabeth R. Marx. I am an attorney, and currently serve as Executive Director of the Pennsylvania Utility Law Project, with offices at 118 Locust Street, Harrisburg, PA 17101.

Q: Have you previously provided testimony in this proceeding?

A: Yes. I provided direct testimony in this proceeding on June 17, 2024 on behalf of the Tenant Union Representative Network (TURN) and the Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania (CAUSE-PA).

Q: What is the purpose of your surrebuttal testimony?

A: The purpose of my surrebuttal testimony is to address the rebuttal testimony of witnesses for PECO and for the Commission's Bureau of Investigation and Enforcement (I&E). First, I will respond to PECO witness Joseph Bisti (PECO Statement 7-R) to address fundamental flaws in his analysis of how high fixed charges will impact low-income customers.

Second, I will respond to PECO witness Jaqueline F. Golden (PECO Statement 10-R). I will discuss Ms. Golden's assertions related to the affordability of a rate increase and outline the inadequacy of PECO's outreach efforts related to Universal Service Programs. I will address her unfounded concerns regarding the utilization of LIHEAP data to efficiently enroll eligible households in CAP. I will also respond to Ms. Golden's discussion of maximum CAP credits, and my ongoing concerns about the inadequacy of PECO's limited "health usage rider" to ensure medically vulnerable households can maintain service at affordable rates. I will respond to Ms. Golden's inaccurate statements about PECO's adherence to the statutory prohibition on assessing low income security deposits, and its regulatory obligation to provide low-income customers with security deposit refunds. In my response to Ms. Golden's discussion of the Low-Income Usage

Reduction Program (LIURP), I will outline why *prior* increases to PECO's LIURP budget to mitigate the impact of *prior* approved rate increases do not eliminate the need for a current increase to mitigate the impact of the current rate increase, and why PECO's multi-family collaboratives do not sufficiently address my concerns about the availability of LIURP for tenants. I will respond to Ms. Golden's discussion of the Matching Energy Assistance Fund (MEAF), describing PECO's failure to ensure that hardship funds are reaching customers. I will also respond to Ms. Golden in relation to language access, reiterating my stance that PECO is providing inadequate service to non-English speaking customers. In my discussion of Rate R and Rate RH, I will outline how PECO is failing to meet its obligation to provide customers with the most advantageous rate. In response to Ms. Golden's testimony about payment processing, I will discuss the need for PECO to allow dual service customers to choose whether to apply partial payments to gas or electric. I will also explain why the examples provided in Ms. Golden's testimony do not support PECO's contention of exemplary management.

Finally, I will respond to the rebuttal statement of I&E's witness Christine Wilson in relation to her discussion of my LIURP recommendations, and will explain why my recommendations are in fact properly considered in this rate proceeding

I. RESPONSE TO PECO WITNESS JOSEPH BISTI (PECO ST. 7-R)

Q: Could you summarize Mr. Bisti's testimony related to the residential fixed charge and low-income customers?

A: Mr. Bisti claims that high-usage, low-income customers would benefit from having a higher fixed rate and a comparatively lower volumetric rate.[1] Mr. Bisti presents an analysis of average monthly charges for low-income customers with average (mean) usage rates, and

[1] PECO St. 7-R at 10.

compares charges using PECO's proposed fixed charge of $14.28 and the current fixed charge of $10.50 with correspondingly adjusted volumetric rates. The table presenting this analysis is further subdivided into CAP and non-CAP confirmed low-income customers and by Federal Poverty Level tier. Based on that analysis, Mr. Bisti concludes "that the cost impact of the proposed change in the residential customer charge is not material (between -0.1% and 0.7%)."[2] He further asserts that "most of PECO's low-income electric customers would pay more if the revenue increase were applied on a volumetric basis as compared to the Company's proposed increase in the customer charge."[3]

Q: Do you have any concerns with this analysis?

A: Yes. First, there are some incongruencies that undermine the quality of the data. For example, the table is subdivided into CAP and non-CAP confirmed low-income customers, which is then further subdivided into income tiers based on percentage of the Federal Poverty Level (FPL). The section for CAP customers includes a category for customers from 151-200% FPL, but the income limit for being on CAP is 150%, so there should not be any customers in this category. The CAP section also includes an 'Unknown' income category, but this also does not make sense. PECO needs to have a customer's specific income to calculate their percentage of income bill amount for CAP. These glaring defects raise serious concerns about the data used to produce this table.

Second, even if one were to ignore the issues raised above, the table does not identify the number of customers in each category. This is a critical piece of information to support Mr. Bisti's assertion "that most of PECO's low-income electric customers would pay more if the revenue

[2] PECO St. 7-R at 10.
[3] PECO St. 7-R at 10.

increase were applied on a volumetric basis as compared to the Company's proposed increase in the customer charge." [4] However, that would be impossible to conclude from Mr. Bisti's table. In the table provided by Mr. Bisti, there are three categories of low-income customers that will achieve savings with the lower fixed customer charge: CAP customers at 51%-100% FPL, CAP customers at 101%-150% FPL, and non-CAP customers at 51%-100% FPL. Without the number of customers in each category, it is impossible to determine how many customers are allegedly saving money and how many allegedly losing money.

Third, there is a significant difference in the results depending on whether you use the *median* or the *mean* to calculate average usage. Table 1 below reproduces the same table from PECO Statement 7-R, replacing mean usage with median usage.[5] When using median monthly usage, it appears that low-income customers have a savings with the current fixed charge as opposed to with PECO's proposed fixed charge. This is likely because the mean usage used for the table in Mr. Bisti's rebuttal testimony is skewed by outlier customers with very high monthly usage. I should emphasize that I do not believe that either this table or the one in Mr. Bisti's rebuttal testimony accurately demonstrates the effect of an increased fixed rate on low-income customers, in part because of the flaws in the data described above. But, this table shows that even when we use PECO's flawed categorization of customer groups, low-income customers with median usage have lower rates with the current fixed rate. As shown below, monthly rates would be lower for almost every category of low-income customer under the current fixed rate as opposed to PECO's high fixed charge proposal.

[4] PECO St. 7-R at 10.
[5] CAUSE-PA-TURN-VII-23(a).

Table 1: Rate Design Impact on Low-income Customers - Median Usage, Rate R[6]

	Federal Poverty Level	Median Usage	Proposed PECO Rate R, $14.28 Cust Charge Plus $0.09418/kWh	Proposed PECO Rate R, $10.50 Cust Charge Plus $0.09995/kWh	$ Diff	% Diff
CAP	0 - 25%	628	$140.02	$139.87	($0.15)	-0.1%
	25 - 50%	704	$155.10	$155.38	$0.28	0.2%
	51 - 100%	600	$134.32	$134.00	($0.32)	-0.2%
	101 - 150%	535	$121.31	$120.61	($0.69)	-0.6%
	151 - 200%	601	$134.62	$134.31	($0.31)	-0.1%
	Unknown	566	$127.55	$127.03	($0.51)	-0.3%
Non-CAP Confirmed Low-income	0 - 25%	532	$120.74	$120.03	($0.71)	-0.7%
	25 - 50%	595	$133.40	$133.06	($0.34)	-0.4%
	51 - 100%	520	$121.41	$120.72	($0.69)	-0.8%
	101 - 150%	535	$121.34	$120.65	($0.70)	-0.7%
	151 - 200%	545	$123.46	$122.83	($0.63)	-0.6%
	Unknown	472	$108.86	$107.80	($1.05)	-1.0%

Fourth, Mr. Bisti's analysis was only performed for customers on rate R, and not rate RH. High usage low-income customers are often in the wrong rate and, as discussed elsewhere in my testimony, should be in rate RH. Once again, I emphasize that that there are significant flaws in the low income categorization and data used in Mr. Bisti's rate impact analysis that cannot be ignored. Nevertheless, Table 2 shows that even when we use PECO's flawed categorization of customer groups, low-income customers in rate RH with median usage have lower rates under the

[6] CAUSE-PA-TURN-VII-23(a), monthly data averaged over 2023.

current fixed rate as opposed to the proposed increased rate. As shown below, almost every category of customer has lower rates under the current fixed rate.

Table 2: Rate Design Impact on Low-income Customers - Median Usage, RH[7]

	Federal Poverty Level	Median Usage	Proposed PECO Rate RH, $14.28 Cust Charge Plus $0.07472/kWh (Non-Summer) or $0.09418/kWh (Summer)	Proposed PECO Rate RH, $10.50 Cust Charge Plus $0.07722/kWh (Non-Summer) or $0.09995/kWh (Summer)	$ Diff	% Diff
CAP	0 - 25%	1090	$216.05	$215.82	($0.23)	-0.1%
	25 - 50%	1173	$231.74	$231.83	$0.09	0.0%
	51 - 100%	896	$180.94	$180.20	($0.74)	-0.4%
	101 - 150%	874	$176.48	$175.60	($0.88)	-0.5%
	151 - 200%	1031	$205.48	$205.08	($0.39)	-0.2%
	Unknown	1010	$201.06	$200.53	($0.53)	-0.3%
Non-CAP Confirmed Low-Income	0 - 25%	891	$179.33	$178.46	($0.87)	-0.5%
	25 - 50%	1027	$204.54	$204.10	($0.44)	-0.2%
	51 - 100%	859	$173.51	$172.55	($0.96)	-0.6%
	101 - 150%	884	$178.18	$177.31	($0.88)	-0.5%
	151 - 200%	909	$182.88	$182.11	($0.78)	-0.4%
	Unknown	724	$148.90	$147.56	($1.34)	-0.9%
All Rate RH Customers	N/A	894	$180.31	$179.54	($0.78)	-0.4%

[7] CAUSE-PA-TURN-VII-23(a), monthly data averaged over 2023.

Finally, Mr. Bisti's analysis ignores the basis of my objection to raising the fixed rate: Recovery of rates through higher fixed charges reduces the amount of control the customer has to reduce their bill by reducing their usage. As discussed in my direct testimony, this directly undermines the goals of the Low-income Usage Reduction Program (LIURP) by reducing the amount of savings that can be achieved by participating in LIURP. And those savings can be significant - according to the most recent APPRISE report from April 2024, LIURP services in 2022 reduced usage by 7.1% for baseload customers and 10.5% for electric heating customers.[8] The potential for savings through LIURP is far greater than the pennies Mr. Bisti claims low income households might save under a high fixed charge structure. As explained, the presence of high usage outlier customers likely caused a significant difference between the median and the mean monthly usage in Mr. Bisti's analysis and the analysis above, which confirms my understanding that there are significant number of low-income customers with high usage who would benefit from LIURP services.

For these reasons, and the reasons set forth in my direct testimony, I reiterate my recommendation that PECO's fixed charge remain at $10.50.[9] To the extent any increase in the Company's residential distribution rate is approved, it should be applied to the volumetric charge.

[8] See JFG-1, PECO Energy 2022 LIURP Evaluation APPRISE Final Report at 7.
[9] CAUSE-PA/TURN St. 1 at 23-24.

II. RESPONSE TO PECO WITNESS JAQUELINE F. GOLDEN (PECO ST. 10-R)

A. Affordability of Rate Increase

Q: How does Ms. Golden address your concerns about affordability of current and proposed rates for low-income customers?

A: My testimony, as well as testimony from Roger Colton on behalf of the Office of Consumer Advocate, and Elizabeth Lankenau on behalf of the City of Philadelphia, emphasized the unaffordability of current rates for low-income households in PECO's service territory, and raised concerns that increasing rates would exacerbate this affordability crisis.[10] In response, Ms. Golden describes PECO's existing efforts to "connect customers in need with programs that can reduce their bill" and describes PECO's "robust" community education and outreach.[11]

Q: Can you summarize Ms. Golden's rebuttal testimony regarding PECO's existing outreach efforts?

A: According to Ms. Golden, PECO conducts hundreds of outreach events throughout the Company's service territory, partners with social service agencies to provide materials and trainings, sends out CAP-specific mailings and conducts outbound calls to confirmed low-income customers and non-CAP recipients of LIHEAP.[12] Ms. Golden also highlights PECO's virtual outreach and the launch of an "Assistance Finder" tool on its websites.[13]

[10] See, e.g., CAUSE-PA/TURN St. 1 at 10, 15, 45; OCA St. 4 at 8-16, 24; City and PEA St. 1 at 3-6.
[11] PECO St. 10-R at 3:4-8.
[12] PECO St. 10-R at 3.
[13] PECO St. 10-R at 4.

Q: Can you explain PECO's budget request regarding its outreach efforts?

A: Yes. Ms. Golden notes that the Company is requesting an additional $300,000 to build upon the efforts she summarizes in her testimony, including connecting more customers to LIHEAP and expanding virtual enrollment activities.[14]

Q: Do you believe the outreach efforts described by Ms. Golden address your concerns about affordability of this rate increase for low-income households?

A: No. As I discussed in my direct testimony, CAP enrollment is critical to minimizing the impact of any rate increase on low-income households. While PECO claims to conduct outreach and promote the availability of CAP, its CAP enrollment rates have not meaningfully increased in proportion to PECO's estimated low-income population since 2017. As Table 3 indicates, since 2017, PECO's CAP enrollment rates have hovered around one-third of PECO's estimated eligible low-income customers.[15]

[14] PECO St. 10-R at 4:18-5:2.

[15] I note that in addition to "confirmed low-income customers," PECO tracks the number of "unconfirmed low-income customers," which PECO defines as "a customer that has provided a verbal statement of income but has not provided physical documentation of income." PECO St. 10-R at 14 n5. In 2023, the average number of "unconfirmed" low-income customers was 113,716. CAUSE-PA/TURN VI-13. I use estimated low-income customers rather than confirmed low-income customers in part because these 113,716 customers would otherwise not be included in PECO's count of low-income customers. As I explained at length in my direct testimony, PECO's definition of "confirmed low income customers" is unduly restrictive and is not reflective of the Commission's regulatory definition of the term. 52 Pa. Code §§ 54.71; 62.2.

Table 3: Monthly Average CAP Enrollment, Estimated Low-Income Customers[16]

Year	CAP Enrollment	Estimated Low-Income	Percent of Estimated Low-Income
2017	126,401	386,185	33%
2018	116,325	389,621	30%
2019	112,157	393,662	28%
2020	113,536	388,000	29%
2021	118,393	373,840	32%
2022	119,149	370,514	32%
2023	126,647	373,243	34%

Meanwhile, PECO boasts about its outreach to confirmed low-income customers and non-CAP recipients of LIHEAP – while at the same time rejecting my proposal to leverage data and streamline administrative processes through the implementation of automated CAP enrollment and recertification, effectively using LIHEAP recipient data shared by the Department of Human Services. It is a waste of funds to invest money in outbound calling to non-CAP LIHEAP recipients when PECO will soon have, in hand, all of the information it needs to enroll LIHEAP recipients in CAP directly – without duplicative administrative processes.

Q: Has PECO produced evidence that its outreach efforts have resulted in increased CAP enrollment?

A: PECO's outreach efforts have yielded limited results. PECO states that it sent 57,178 CAP-specific mailings to households in 2023, including mailing CAP applications to 31,392 non-CAP LIHEAP recipients.[17] PECO further states that it doesn't track response rates (applications

[16] Pa. P.U.C. Bureau of Consumer Services, 2019 Universal Service Report at 7, https://www.puc.pa.gov/General/publications_reports/pdf/EDC_NGDC_UniServ_Rpt2019.pdf, 51; Pa. P.U.C. Bureau of Consumer Services, 2022 Universal Service Report at 10, 59; https://www.puc.pa.gov/media/2573/2022-universal-service-report-final.pdf; OCA-II-1(a).

[17] CAUSE-PA/TURN VI-2.

received, number of CAP approvals and denials, etc.) for CAP specific mailings.[18] The only data that PECO was able to provide was unimpressive – of the 31,392 non-CAP LIHEAP recipients PECO sent CAP applications to in 2023, only 10% (3,111 customers) enrolled in CAP. PECO's data did not capture the total response rate, or how many of those households were denied following submission of an application.[19] PECO further boasts that it conducts outbound calling to confirmed low-income customers and non-CAP recipients of LIHEAP – but again fails to collect any data on the outcomes of those calls.[20] An outreach program must focus on meaningful results to households, and not just "awareness" without follow up.

Q: Do you have other concerns about the outreach services Ms. Golden describes as it relates to other PECO Universal Service Programs?

A: Yes. PECO's outreach is failing to ensure customers have access to its Matching Energy Assistance Fund (MEAF), and is failing to ensure that CAP customers with high usage are able to access LIURP services to reduce usage.

MEAF is critical to helping households avoid termination of service – especially in the summer months when LIHEAP is not available. Asked how a customer at risk of shutoff is informed about the availability of MEAF, PECO stated that the termination notice and post-termination notice both inform a customer that they "may be eligible for a payment agreement or special assistance programs" and further clarifies that "MEAF is a special assistance program."[21] If a customer calls Customer Service, a Customer Service Representative *might* discuss MEAF –

[18] CAUSE-PA/TURN VI-4.
[19] CAUSE-PA/TURN VI-4.
[20] PECO St. 10-R at 3; CAUSE-PA/TURN VI-7. Similarly, PECO boasts of its "Assistance Finder" tool on its website, stating that "from May 2023 through April 2024, almost 40,000 customers completed the survey in the tool . . . with nearly 5000 customers submitting CAP applications." PECO St. 10-R at 4. Yet, PECO was unable to identify how many of those 5000 customers were approved or denied for CAP. CAUSE-PA/TURN VI-8.
[21] CAUSE-PA/TURN V-3.

though there is no standardized referral process to ensure that such a referral will be made to potentially eligible households.[22] As discussed below, as well as in my direct testimony, the number of MEAF grants awarded to households has been unacceptably low for many years, with substantial sums of money available to help vulnerable households prevent the loss of service left unspent. I believe PECO can and must do more to make households aware of the availability of MEAF, CAP, LIURP, and other utility rate and efficiency assistance programs to help address both chronic and acute financial hardship in the face of ever-increasing rates.

Generally, to effectively reach underserved, disinvested, and marginalized communities, outreach must be intentionally targeted and personalized. Without this intentional targeting, PECO leaves a significant number of customers facing unaffordable bills and not benefiting from PECO's Universal Service Programs. At the same time, reaching these communities also requires lowering barriers to access assistance. Unnecessarily burdensome hurdles to program enrollment keep out customers who are in great need of access to available assistance.

Contrary to Ms. Golden's assertions, PECO's outreach and community engagement does not appear to be adequately addressing the broad crisis of unaffordability faced by PECO's low-income customers. To meaningfully address this unaffordability, especially if a rate increase is granted in this proceeding, PECO should adopt the recommendations throughout my direct testimony – including adopting automatic recertification and enrollment in CAP using LIHEAP data, targeted outreach to CAP customers exceeding their maximum CAP credit to ensure access to usage reduction services, and increased oversight of MEAF agencies.

[22] Id.

B. CAP enrollment

Q: Ms. Golden opposes auto-enrollment in CAP via DHS data sharing in part because of concern about customers being able to make an affirmative choice before enrolling in CAP and in part because of the potential costs. Do you share these concerns?

A: No, Ms. Golden's concern is misplaced. While I agree that customers should make an affirmative choice to enroll in CAP, I do not agree that utilizing the DHS data in the manner I suggest would require additional steps to obtain such consent. DHS has developed a process – in close collaboration with low income consumers, consumer advocates, utilities, and the Commission – to share data with utilities only after a customer has already made an affirmative choice on their LIHEAP application to participate in the data-sharing program to facilitate streamlined enrollment in utility assistance programs. The following language will be included on the LIHEAP application for program year 2024-2025 to obtain consent from LIHEAP participants to share their information for the purposes of enrolling in utility-run assistance programs such as CAP:

> *Do you want DHS to share information from your application with your utility to help enroll your household in a utility or energy assistance program?*
>
> *Many Pennsylvania gas and electric utilities offer programs that help low-income customers reduce monthly bills, save energy, and eliminate past-due balances. DHS can share information from your application with your utility, including your income and household members (such as names and dates of birth) to help you enroll in these programs if you want us to share it. Your information will be kept confidential.*
>
> *This is optional. You can get a LIHEAP grant if you qualify even if you do not want DHS to share your information with your utility.*

Notably, this language was adopted by DHS from a consensus recommendation of the LIHEAP Advisory Committee (LAC), which was developed in close collaboration with LAC members and stakeholders – including several members of PECO's staff.

Under my proposal, the precise mechanics of the auto-enrollment process for new and returning CAP participants would be determined in a separate proceeding, because I recognize that there are some complex questions involved in how that process works. PECO could address any remaining concerns about notification and consent through that process.

I also note my agreement with Ms. Golden that customers should be informed about the program they are enrolled in and believe that any auto-enrollment process should include program education as a prominent feature of the process. PECO's commitment to CAP auto-enrollment would change only the burdensome requirement to complete multiple applications for assistance, not the amount of education available about the program. Under Section 1303 of the Public Utility Code, PECO has an obligation to provide customers with the most advantageous rate available. If a CAP rate is the best rate available for a customer and PECO has knowledge via the customer's participation in LIHEAP that the customer is eligible for that rate, it is incumbent on PECO to ensure that that customer is enrolled in CAP.

PECO is requesting a $300,000 increase in its outreach budget despite a readily available streamlined method of increasing CAP enrollments for households who are already known to be eligible. As discussed in my direct testimony, LIHEAP alone often does not create an affordable bill or mitigate the impact of the proposed rate increase.[23] Many LIHEAP recipients are in need of and could benefit from CAP enrollment. PECO must take advantage of the opportunity LIHEAP data sharing presents to enroll eligible households in CAP efficiently, allowing customers who may otherwise be missed by PECO's outreach efforts to benefit from CAP.

[23] CAUSE-PA/TURN St. 1 at 21-22.

Q: Ms. Golden disagrees with your proposal for auto-recertification through DHS data sharing because CAP customers who receive LIHEAP grants already may recertify on a four-year cycle instead of the standard two-year cycle. How do you respond?

A: First and foremost, I note that PECO filed a letter with the Commission on July 31, 2024, indicating that PECO intends to begin using LIHEAP data to automatically recertify CAP eligibility for households that receive a LIHEAP grant.[24]

Once data sharing begins in the fall, PECO will have – in hand – all of the data necessary to confirm income through the LIHEAP data sharing program, obviating the need for a separate recertification process altogether. It would be a waste of administrative resources to require separate recertification every four years if PECO already knows the household is eligible to maintain enrollment in the program. Doing so would eliminate the need for duplicative administrative work by both PECO and the customer, helping families in need to stay enrolled in the program. CAP stabilizes categorically unaffordable rates for low-income households. Without CAP, many low-income customers fall quickly into arrears – ultimately increasing collections costs, uncollectible expenses, and involuntary terminations. Once enrolled in CAP, PECO should do everything it can to ensure eligible households remain enrolled in the program. Relying on the state's income verification process to streamline recertification is a sound, cost-effective solution to do just that.

[24] PECO Energy Company 2019-2028 Universal Service and Energy Conservation Plan, Docket No. M-2018-3005795, Letter re: LIHEAP Data Sharing (filed July 31, 2024).

C. Maximum CAP Credits

Q: Ms. Golden rejects your proposal for PECO to implement the maximum CAP credit exemptions enumerated in the Commission's formal CAP Policy Statement,[25] citing its existing health usage exemption and stating that all other exemptions are not warranted. How do you respond?

A: In general, I reject the notion that the exemptions to maximum CAP credit limits enumerated in the Commission's formal CAP policy statement are not warranted. As detailed in my direct testimony, many of the households who exceed their maximum CAP credit are uniquely vulnerable – due to housing conditions, serious illness, or health related usage.[26] CAP rates are intended as an alternative to traditional collection methods for low-income households that are unable to afford service at full tariff rates. Exemptions from the maximum CAP credit limits are critical to ensuring that households who may have exceeded CAP credits because of reasons beyond their control are nonetheless able to stay connected to and afford service.

As the Commission has expressly acknowledged in adopting the maximum CAP credit exemptions in its formal CAP policy statement, the use of these exemptions is good policy. PECO shouldn't be allowed to raise rates, broadly undermining affordability, without making changes like this one to allow vulnerable customers to continue to receive an affordable bill through CAP.

[25] 52 Pa. Code 69.265 (3)(vi).
[26] CAUSE-PA/TURN St. 1 at 35-38.

Q: Can you respond to Ms. Golden's statement that the "addition of a household member" exemption[27] is unnecessary?

A: Ms. Golden reasons that this exemption is unnecessary, as a customer can simply submit updated household and income information to determine if they qualify for a lower PIPP amount or a higher annual maximum CAP credit if their updated FPL places them in a lower FPL tier. In my experience, there is a lack of education that would inform CAP customers that they can submit updated information when their household changes size, or that doing so could (in some instances) change their PIPP amount or annual maximum CAP credit.

Q: Can you address Ms. Golden's statement that "PECO currently has a health usage rider in place to address the serious illness of a household member."?[28]

A: Yes. The CAP Policy Statement exempts households from a maximum CAP credit threshold if "a member of the household experienced a serious illness."[29] PECO's "health usage rider" provides an exemption only when a CAP customer uses more than 100 kWh per month of electricity for life sustaining equipment such as an oxygen concentrator.[30]

PECO's narrow health usage rider should not be considered an adequate replacement for the maximum CAP credit exemption for serious illness contained in the Commission's formal CAP Policy Statement. The health usage rider excludes households based on PECO's judgment about how much energy must be consumed, and by which types of equipment, to warrant an exemption. PECO is not a healthcare provider, yet each time it requires a household to disclose the type of

[27] 52 Pa. Code 69.265 (3)(vi)(a).
[28] PECO St. 10-R at 15:10-11.
[29] 52 Pa. Code 69.265 (3)(vi)(B).
[30] PECO St. 10-R at 15:11-14. I noted my concerns about this "health usage rider" in my direct testimony, and reiterate them here. CAUSE-PA/TURN St. 1 at 36-37.

medical equipment used (and, thus, the nature of their illness), PECO is making a determination about whether and how a serious illness is impacting a household's usage. There are many scenarios that cannot be easily quantified where a serious illness requires significant usage. For example, many illnesses require stable temperatures in a household, which requires adequate heating and cooling, though it does not appear that PECO recognizes this type of usage under its current health usage rider policy. I am concerned that PECO's policy may be having a disparate and potentially discriminatory impact on medically vulnerable households, including households with members suffering from a serious illness, chronic condition, or a disability, based on the nature of their illness and the prescribed treatment for that illness.

I also am deeply concerned that PECO is requiring households to disclose individual health information about the nature of their illness and the equipment used to treat their illness to determine whether the household qualifies for their health usage rider. This, again, contradicts the Commission's related policies prohibiting utilities from requiring disclosure of the nature of a household member's illness in order to obtain a medical certificate.[31]

Further, I note that there are also many serious illnesses which may not require electricity as a treatment, but which nevertheless should qualify the household for an exemption to the maximum CAP credit limit. Indeed, the premise of a serious illness exemption is to ensure that medically vulnerable low income CAP customers and their household members will receive adequate levels of rate assistance to produce an affordable monthly bill – allowing the family to

[31] See Rulemaking to Amend the Provisions of 52 Pa. Code, Chapter 56 to Comply with the Amended Provisions of 66 Pa. C.S. Chapter 14, Docket No. L-2015-2508421, at 8 (order entered July 21, 2016); see also Rulemaking to Amend the Provisions of 52 Pa. Code, Chapter 56 to Comply with the Amended Provisions of 66 Pa. C.S. Chapter 14, Docket No. L-2015-2508421, Final Order - Attachment One, at 162 (order entered Feb. 28, 2019). In explaining the rationale for eliminating the requirement that a medical certificate indicate the "nature" of an illness and the "specific reason for which the service is required", the Commission explained that this information inappropriately "*divulge[d] information about the patient's medical condition to the utility – contrary to the privacy and confidentiality of personal medical information that patients come to expect*." Id. (emphasis added).

remain focused on treating the serious illness without facing categorically unaffordable electric bills. Indeed, a person dealing with cancer treatments may not need to plug in an electronic medical device at home to treat their cancer, but it is nevertheless critical that the household be able to maintain electricity at an affordable rate to ensure the family can remain safely and stably housed. Again, recognition of the Commission's maximum CAP credit exemption for serious illness, regardless of whether the household relies on specific electronic medical equipment, is consistent with medical certificate policies, which extend to households with a serious illness *or* a medical condition which requires service to treat their condition.[32]

I further note that PECO's health usage rider also requires a significant amount of paperwork, burdening both customers and the Company. My recommendation is that PECO adopt the broader serious illness exemption to the maximum CAP credit, consistent with the Commission's formal CAP policy statement,[33] and discontinue the use of the specific health usage rider.

Q: Ms. Golden rejects the idea that PECO should implement an exemption for when a CAP customer's energy consumption is beyond their ability to control, stating that it is unnecessary because CAP customers with high usage can request to participate in PECO's LIURP program, its Energy Efficiency programs and/or apply to LIHEAP. Do you agree with this assessment?

A: No. As a preliminary matter, I note that having high usage is not the same as having energy consumption that is beyond the customer's ability to control. If LIURP, energy efficiency

[32] 52 Pa. Code § 56.334(1).
[33] 52 Pa. Code § 69.265 (3)(vi).

programs, or LIHEAP[34] are able to address a customer's high usage, I believe – and argued in my direct testimony – PECO should ensure that those resources are available and implemented for customers approaching their maximum CAP credit.

PECO is not ensuring that high usage CAP customers are actually receiving benefits from LIURP – *and receiving them early enough to ensure that a household would be able to avoid exceeding their maximum CAP credits altogether*. PECO should be doing more – including implementing a temporary maximum CAP credit while households wait to receive LIURP as described below and in my direct testimony.[35] However, for a number of reasons LIURP is often unable to adequately serve high usage CAP customers to meaningfully reduce their home energy usage. This can be due to inadequate funding for LIURP,[36] or to conditions in the home such as a leaky roof, broken windows or mold. Similarly, LIURP is often unable to address high usage driven by de facto heating. Exemption should specifically be available for those households with high usage who cannot get help from LIURP or energy efficiency programs – whether due to landlord consent issues, LIURP funding, or home repair needs. PECO wants it both ways – to use LIURP as the reason why they should not allow an exemption to the maximum CAP credit, but without doing more to ensure that LIURP services are actually received by CAP customers. The most recent APPRISE report shows average savings for CAP customers of 5.4% for baseload and 10% for electric heating.[37] PECO must do more to ensure that CAP customers with high usage –

[34] I presume, given the context, that Ms. Golden's reference to LIHEAP here is to LIHEAP's Crisis Interface program, which repairs and replaces inoperable heating systems. If instead Ms. Golden intended to reference LIHEAP bill assistance, I note, as detailed in my direct testimony, that LIHEAP is not adequate nor is it intended to defer the financial impact of PECO's rate increase. CAUSE-PA/TURN St. 1 at 21-22. Any customer who exceeds their maximum CAP credits is charged at full tariff rates and would be impacted by both the lack of the CAP discount and the increased rates.
[35] CAUSE-PA/TURN St. 1 at 39:1-3.
[36] See Exhibit JFG-1, APPRISE Report at 16 (CMC identified via a needs assessment that there were more low-income high-usage customers that could be reached through an expansion of the program). See also CAUSE-PA/TURN St. 1 at 42-43.
[37] Id. at 49.

especially those exceeding their maximum CAP credits – are receiving appropriately comprehensive and timely LIURP efficiency measures which truly address and lower household usage. Lower usage by CAP customers benefits all residential ratepayers, including those enrolled in CAP and those who help support the program through rates. If, following LIURP treatment, a customer is still exceeding their maximum CAP credit, that is truly usage beyond a household's ability to control – and that household should be provided an exemption.

Q: Ms. Golden further rejects the implementation of the maximum CAP credit exemption for customers who live in housing that is condemned or has housing code violations that negatively impact energy consumption, because "housing conditions should be addressed primarily by the property owner, such as the landlord or customer." How do you respond to this assertion?

A: For many customers, the availability of repairs necessary to address their home being condemned or code violations is outside their control. Many homeowners lack the resources to address repair needs, and assistance can take years to obtain.[38] While those repairs are pending, it is imperative that households continue to have affordable bills. In addition, tenants in rental housing that need repairs can face difficult choices in trying to force landlords to make needed repairs, and the process for compelling repairs can take years. Of course, the legal mechanisms that are available to tenants to force landlords to make repairs, like withholding of rent, can lead to adverse consequences up to and including eviction. Even if a tenant wins an eviction case because they were withholding rent in order to force the landlord to make repairs, that eviction filing will follow the tenant for the rest of their life, permanently limiting that tenant's access to

[38] Following a significant one year investment into a statewide whole home repairs program in 2022, the state has failed to continue funding this critical program. Waiting lists for available programs in Philadelphia like the Basic Systems Repair Program and Built to Last can be years long.

safe and affordable housing in the future.[39] For these reasons, I believe this exemption should also be implemented by PECO.

Q: How does Ms. Golden respond to your proposals to provide CAP customers an earlier notification that they are in danger of exceeding their maximum CAP credit limit, and to amend the letter to improve the information provided to CAP customers about their options to help reduce usage and, in turn, reduce CAP credits needed to achieve an affordable bill?

A: Ms. Golden provides little by way of substantive response to my concerns – except to note that PECO's current notification process was approved as part of PECO's last USECP, and that a letter was previously reviewed by the Bureau of Consumer Services.[40] As explained in my direct testimony, my recommendations are based on current data and actual experience, and my recommendations are offered to prevent more households from facing categorically unaffordable rates – in turn increasing collection expenses. Based on the evidence in this proceeding, I reiterate my proposal that the maximum CAP credit notification letter must provide earlier notification of possible exhaustion of credits, and more clearly provide information about steps customers can take to address the usage.

Q: How does Ms. Golden respond to your proposal that all customers approaching the maximum CAP credit limit be referred and evaluated for LIURP, with a temporary exemption to the maximum CAP credit while LIURP review is pending?

A: Again, Ms. Golden provides little by way of substantive response to my proposal, simply stating that PECO provides its LIURP vendor with information about high usage CAP customers

[39] See Eisenberg and Brantley, "Record Costs: Collateral Consequences of Eviction Court Filings in Pennsylvania", (July 2024); https://sites.fordschool.umich.edu/poverty2021/files/2024/07/Record-costs-Collatoral-Consequences-of-Eviction-Court-Filings-In-Pennsylvania.pdf.
[40] PECO St. 10-R at 16.

for review each month, and that PECO's focus is on customers with the highest need, where LIURP assistance can maximize potential bill savings.[41] This response ignores the substantive thrust of my analysis and proposal. Of the customers who reached their maximum CAP credit in 2023, less than a quarter received any LIURP services.[42] When asked what, if any, instructions PECO provides its LIURP vendor regarding high usage CAP customers, PECO stated only that it "directs the vendor to reach out to all customers who qualify and prioritize customers who have high usage to ensure implementation of measures that can maximize energy saving benefits."[43]

PECO is not in any way targeting its LIURP to high usage CAP customers, and apparently provides no oversight of its LIURP vendor to ensure that high usage CAP customers actually receive LIURP and are able to reduce their usage. Addressing high usage among CAP customers ensures individual households are able to afford their bills and stay connected to service. Moreover, addressing high CAP usage has the added benefit of lowering costs for the CAP program overall. PECO has proposed to dramatically increase rates, claiming to have robust outreach and community engagement. Yet PECO refuses to engage in the kind of targeted outreach and coordination that could have a meaningful impact on affordability and household comfort. Paired with PECO's refusal to implement maximum CAP credit exemptions, its failure to take further steps to match high usage CAP customers with LIURP services is unacceptable.

If any rate increase is approved in this proceeding, PECO must be required to more closely target high usage CAP customers for LIURP, provide a temporary exemption to the maximum CAP credit while LIURP services are pending, and provide permanent exemptions to households

[41] PECO St. 10-R at 16-17.
[42] CAUSE-PA/TURN St. 1 at 40:7-8.
[43] CAUSE-PA/TURN VII-9.

who are unable to receive LIURP services or have received the full extent of LIURP services possible.

Q: How does Ms. Golden respond to your recommendation to adjust maximum CAP credits when the Price to Compare is adjusted?

A: Ms. Golden argues that such a change would create confusion, may be detrimental to the customer, and could result in increased costs associated with IT and process changes. In an apparent contradiction, Ms. Golden states that adjusting the maximum CAP credit with the changing PTC would make it difficult for customers to "plan financially." In reality, it is the changing PTC that makes it difficult for families to plan, financially. Adjusting the CAP credit threshold to reflect the changing PTC would ensure that CAP customers are receiving the most affordable bill in light of the changing PTC.

Despite claiming increased costs, PECO was unable to provide a specific cost estimate of this proposed change.[44] I acknowledge the complexities of making these adjustments. At the same time, as referenced in my direct testimony, PECO's Price to Compare has increased by 50% in the past three years, but PECO's maximum CAP credit has not adjusted to accommodate that increase.[45]

Q: Can you summarize your recommendations regarding maximum CAP credits in response to the rebuttal of Ms. Golden?

A: Yes. I stand by the recommendations in my direct testimony to adopt the Commission's CAP credit exemptions, improve delivery of targeted LIURP services to CAP customers in danger

[44] CAUSE-PA/TURN VII-10.
[45] CAUSE-PA/TURN St. 1 at 41-42.

of exceeding the maximum CAP credit limit, and adjust the maximum CAP credit to account for changes to the PTC.

D. Security Deposits

Q: What concerns do you have with Ms. Golden's testimony about PECO's processes with respect to low-income customers and security deposits?

A: In response to my concerns about how PECO is assessing security deposits, Ms. Golden states that a security deposit might be assessed based on several factors such as the customer's credit history or their previous account history with PECO. Then, if a customer "says that they cannot pay the assessed deposit, PECO informs the customer that PECO will send a letter with contact information that the customer can use to call and speak to a Company representative regarding the customer's income information and request to waive the deposit after verifying their low-income eligibility for such a waiver."[46]

Ms. Golden's description does not appear to be accurate. As shown in Appendix A, which includes an example of such a letter referred to in Ms. Golden's testimony, the letter does not contain any information about the statutory prohibition on assessing a security deposit on a low-income customer. In fact, it does not contain any information about any low-income programs at all, who a customer could contact to verify that they are low-income, or even a website they could go to for information about low-income programs or a waiver of the security deposit. The only website listed on the letter is the generic PECO website. The only phone numbers on the letter are to the main customer service line, 1-800-494-4000, and to a number to pay by phone, 1-877-432-9384. In fact, any customer who would receive such a letter would likely believe that their only

[46] PECO St. 10-R at 6-7.

option would be to pay the security deposit, because the letter states: "If you do not pay the deposit, we may shut off your service." The letter does note that if customers are "having trouble paying" they may be eligible for budget billing or a payment arrangement, but there is not so much as a hint in the letter that the assessed deposit must be removed if the customer is low-income.[47]

The Commission requires notice of the low-income security deposit exemption to be provided to applicants and customers at the time the security deposit is assessed, along with instructions for how the applicant or customer can verify income in order for the deposit to be removed.[48] It is especially important for a utility to provide notice of the low-income security deposit exemption to prevent that utility from violating the statutory prohibition on assessing a security deposit on a low-income customer. Contrary to Ms. Golden's testimony, I see no evidence that PECO provides any notice about the low-income security deposit prohibition to applicants or customers at the time a deposit is assessed. This means that it is very likely PECO is repeatedly violating the statutory prohibition on assessing a security deposit on a low-income customer. PECO should be ordered to (1) inform all customers and applicants for service of the low-income security deposit prohibition at the time a security deposit is assessed, (2) provide information to the customers about how PECO gathers income information to prevent imposition of a deposit, and (3) explain what customers can do to access the exemption if it is not automatically applied.

[47] See Appendix A.
[48] Rulemaking to Amend the Provisions of 52 Pa. Code, Chapter 56 to Comply with the Amended Provisions of 66 Pa. C.S. Ch. 14, L-2015-2508421, Final Rulemaking Order, Attach. One at 48 (Feb. 28, 2019); see also 52 Pa. Code §§ 56.36, 56.286.

Q: Ms. Golden has stated that PECO only provides a customer with a direct refund of a security deposit if the customer contacts PECO to affirmatively request a direct refund. Is this process consistent with the Commission regulations?

A: No. Commission regulations clearly state that a public utility "***shall*** refund a deposit, along with any applicable interest, within 60 days upon determining that the customer or applicant from whom a deposit was collected is not subject to a deposit under § 56.32(e) (relating to security and cash deposits) or § 56.41(4) (relating to general rule)."[49] The Commission has held repeatedly, even as recently as a few weeks ago, that this regulation requires public utilities to directly return security deposits to customers unless they have gotten informed consent from a customer allowing the deposit to be applied to their account.[50] Instead, PECO's practice of applying a deposit to a customer account absent an affirmative request of the customer for a refund achieves the opposite result, and violates Commission regulations. PECO should be required to provide low-income customers with a direct refund of any previously collected deposits, and should only apply the deposit to a customer's account if they provide explicit and informed consent to do so.

E. Low Income Usage Reduction Program (LIURP)

Q: You recommended that PECO's LIURP budget for electric customers be raised by $4.4 million up to a total of $10 million, but those amounts are not consistent with each other. Could you please clarify?

A: Yes, there was a typo in my direct testimony regarding the amount of the proposed increase in funding for critical usage reduction services to help reduce the disproportionate impact on high

[49] See 52 Pa. Code § 56.53(f).
[50] See Columbia 2023 USCEP Order on Columbia 2024 Petition Docket No M-2023-3039487 (order entered on July 11, 2024) at 7, PGW 2023 USCEP Order, Docket No M-2021-3029323 (order entered on January 12, 2023) at 28, PPL 2023 USECP Order, Docket No M-2022-3031727 (order entered on February 9, 2023) at 55-56, and Duquesne 2020 USECP Order (order entered on April 14, 2022) at 57.

usage customers. My recommendation is for PECO to increase its LIURP budget by $3,400,000, bringing its annual LIURP budget for electric customers to about $10,000,000. This will bring PECO's LIURP budget in closer alignment with the other electric distribution companies, and will provide critical assistance necessary to help offset the deeply harmful impact that a rate increase of this size will have on low-income, high usage customers who face profound obstacles to reducing usage on their own.

Q: Ms. Golden also notes that PECO has "consistently increased its LIURP budget and believe[s] the current budget is appropriate." How do you respond?

A: What Ms. Golden omits is that each of the increases she mentions were agreed to by PECO and approved by the Commission in the context of its prior proposals to increase rates.[51] These prior increases –intended to reduce the impact of previous increases in residential rates – do not address the need for expanded usage reduction programming to help offset *further* negative impacts presented by PECO's *current* proposed rate increase. PECO cannot now point to a *prior* increase in LIURP – agreed to as part of a comprehensive settlement in a prior rate case to mitigate the impact on high usage customers – to absolve it from addressing the further increased need driven by its current rate proposal.

[51] See Pa. P.U.C. v. PECO Energy – Electric, Docket No, Docket No. R-2021-3024601, Joint Petition for Settlement of Rate Investigation (Sept. 15, 2021); https://www.puc.pa.gov/pcdocs/1719365.pdf at 10 (agreeing that "PECO will increase its annual electric LIURP budget by $1 million")(recommended decision at Pa. P.U.C. v. PECO Energy – Electric, Docket No. R-2021-3024601, Recommended Decision (Oct. 12, 2021); https://www.puc.pa.gov/pcdocs/1722005.pdf. (adopted by Pa. P..U.C v. PECO Energy – Electric, Docket No, R-2021-3024601, Order (Nov. 15, 2021); https://www.puc.pa.gov/pcdocs/1725544.docx. For TURN and CAUSE-PA's Statement in Support of this settlement term, see Pa. P.U.C. v. PECO Energy – Electric, Docket No, Docket No. R-2021-3024601, Joint Statement of TURN and CAUSE-PA In Support of Joint Petition for Full Settlement (Sept. 15, 2021); https://www.puc.pa.gov/pcdocs/1719365.pdf at 13-15 (describing that LIURP budget increases "will help to mitigate the impact of the rate increase for low and moderate income residential customers").

Q: Ms. Golden responds to your critique that PECO is completing a smaller number of LIURP jobs by stating that "[t]he number of jobs completed in a year is also dependent upon a number of factors, including how many measures are being installed, and their costs." How do you respond?

A: It is well documented that the costs for goods and services has increased over recent years, and I have no doubt that costs for LIURP jobs has increased. Asked about the referenced cost drivers, PECO stated:

> Costs have increased for the measures listed above primarily driven by inflation. As stated in the direct testimony of Ms. Humphrey, St. No. 2 on page 5, inflation spiked significantly in 2022, averaging 5.5% inflation increase in the Consumer Price Index, over the three-year period of 2021-2023. As a result, PECO has faced steadily increasing costs including labor, appliances, and other related materials.[52]

PECO's response underscores why a significant increase in LIURP funding is necessary – to keep pace with inflation and to offset the impact of any rate increase in this proceeding.

Q: Ms. Golden suggested that the LIURP Notice of Proposed Rulemaking ("NOPR") proceeding would be a more appropriate venue for you to make recommendations about LIURP. Do you agree with that?

A: No. The detailed analysis and recommendations I made in my testimony were tailored specifically toward PECO, and are proposed as a direct mitigation measure to help lessen the severe consequences of the current proposed rate increase on low-income high usage customers. The LIURP NOPR proceeding is not a more appropriate venue to make these recommendations and perform this analysis, because the LIURP NOPR proceeding covers LIURP regulations across all of Pennsylvania, not just for PECO. As stated by Ms. Golden, "[t]he latest APPRISE LIURP

[52] CAUSE-PA/TURN VII-11.

Evaluation Final Report completed in 2024 for 2022 found that…savings from electric heating jobs averaged 10.5%".[53] Low-income PECO customers could benefit greatly from LIURP, though only very few customers are currently able to access the program. Thus, it is critically important that PECO bring its LIURP spending in line with the other electric distribution companies and adopt practices that maximize the number of low-income customers who can access LIURP, as outlined in my previous testimony. It is especially critical for PECO to improve investments in comprehensive, long-term energy reduction programs for its low-income customers in order to reduce the increasing costs associated with universal service programs as a result of higher rates like the ones requested in this case.

Q: Ms. Golden stated that PECO had two multi-family collaboratives. Does that satisfy your recommendation for a collaborative about tenant access to LIURP?

A: No. The multi-family collaboratives were organized to "determine (1) if it is necessary to establish a LIURP pilot program designed to serve multifamily residents whose usage is comparatively high but does not meet PECO's high usage threshold and (2) how such pilot program would be funded."[54] This is an entirely different issue from the one I raised in my direct testimony. The disparity between LIURP services for homeowners and tenants has been significant and persists with 2,544 homeowners receiving LIURP services while only 1,671 tenants received LIURP services in 2023.[55] As I stated in my direct testimony, what is needed here is an examination of the barriers to tenant participation in LIURP and what measures the company can feasibly provide to tenants without landlord approval. In addition, I am concerned that PECO does not track

[53] PECO St. 10-R at 20 n.10.
[54] Pa. P.U.C. v. PECO Energy – Gas, Docket No. R-2022-3031113, Joint Petition For Settlement Of Rate Investigation (Sept. 19, 2022); https://www.puc.pa.gov/pcdocs/1759065.pdf at 10 (adopted by Pa. P.U.C. v. PECO Energy – Gas, Docket No. R-2022-3031113, Order (Oct. 27, 2022); https://www.puc.pa.gov/pcdocs/1762493.pdf.
[55] CAUSE-PA I-30.

any data specifically related to the barriers to tenant participation in LIURP. In response to discovery about the number of times a tenant customer's landlord was contacted or how many landlords returned consent forms, PECO stated that it does not track that data.[56] It is impossible to evaluate whether tenants are appropriately able to access LIURP absent data that could help PECO and stakeholders understand why tenants are underserved by LIURP.

F. Matching Energy Assistance Fund

Q: Ms. Golden rejects your suggestion to set higher grant amounts than proposed and to vary the grant amounts based on heating types, arguing that an increase in grants for higher balances will provide assistance to fewer people. How do you respond?

A: As discussed in my direct testimony, PECO has been consistently underspending its MEAF dollars.[57] PECO is failing to ensure that hardship funds are reaching customers. Indeed, as of the end of 2023, the MEAF agencies had a combined $260,000 on hand for grant assistance, all of which was eligible for PECO's shareholder match.[58] After PECO distributed an additional $210,000 in January 2024, PECO's MEAF agencies had a combined $471,000 on hand – *totaling almost a million dollars of grant assistance dollars after shareholder matching*.[59] PECO Electric terminated 87,430 households in 2023 alone, and issued 59 termination notices in May 2024 and 28,653 termination notices in June 2024.[60] Meanwhile, in 2023, only 547 applications were submitted – and only 280 approved.[61] With this much money available to help customers, Ms.

[56] CAUSE-PA/TURN VII-13.
[57] CAUSE-PA/TURN St. 1 at 55-59.
[58] Attachment CAUSE-PA-TURN-III-29(a) at 25.
[59] Id.
[60] CAUSE-PA/TURN Attachment V-1(a).
[61] CAUSE-PA/TURN VIII-2(a-c).

Golden's concerns that increasing grant amounts will provide assistance to fewer households rings hollow.

In my opinion, PECO's proposal to increase grant amounts to $1000 per account (from $500 per commodity) doesn't go far enough. As described in my direct testimony, in 2022, confirmed low-income customers in arrears had average arrears of more than $1000 for electric and for gas.[62] In 2023, and to date in 2024, approximately a quarter of MEAF applicants who were denied were denied because their balance was too high.[63] My proposal, to provide grants of $1000 for Rate R, $1000 for gas customers (combined $2000 for dual service customers) and $2000 for Rate RH customers, would ensure more households are able to get the money they need to avoid termination and restore service.

In addition, in changing the grant amounts from a per commodity amount to a per account amount, PECO is increasing the grant amount for electric-only and gas-only customers while maintaining the same grant amount for dual service (gas and electric) customers. I don't believe this is appropriate, as it unreasonably discriminates against dual service customers. Because PECO serves customers for both electric non-heating needs and heating needs (whether as electric heating/Rate RH customers or as dual service electric and gas customers), PECO's hardship fund must have grant amounts that provide an additional benefit to those customers that depend entirely on PECO for their home energy needs.

[62] CAUSE-PA/TURN St. 1 at 65. In 2022, the average arrears for PECO electric confirmed low-income customers in debt was $1,479.30 and for PECO gas confirmed low-income customers in debt was $2,158.61. Id.
[63] CAUSE-PA/TURN VIII-2(a-c).

Q: Ms. Golden also rejects your proposal to eliminate PECO's zero-balance requirement, stating that "MEAF is not intended to be a supplemental grant program, but rather a means to address collections risk by achieving a zero balance." How do you respond?

A: I strongly disagree with Ms. Golden's characterization of MEAF as a "means to address collections risk." Rather, as Ms. Golden rightly states in the preceding paragraph of her testimony, *MEAF is an emergency program to help customers avoid termination*. By failing to work in tandem with other relief, like CAP and payment arrangements, to resolve the immediate crisis faced by the household and prevent termination or restore service, PECO is wasting hardship fund dollars and setting the bar too high for most households in crisis to meet. Especially given the amount of money currently unspent on hardship funds, PECO should prioritize making MEAF dollars available to customers by allowing MEAF funds to cover an amount that PECO would otherwise accept from the customer or other grant sources to resolve the crisis.

Q: In recent months, has PECO made any progress in distributing MEAF dollars?

A: No. As shown in the table below, in May and June 2024, only 83 applications were submitted for PECO's MEAF.[64] Of those applications, only 6 were approved – a paltry 7% of applications received.[65] The vast majority of denials were in Philadelphia.[66]

[64] CAUSE-PA/TURN Attachment V-8(a).
[65] CAUSE-PA/TURN Attachment V-9(a).
[66] CAUSE-PA/TURN Attachment V-10(a).

Table 4: May 2024 and June 2024 MEAF Applications[67]

	May 2024 MEAF Applications			June 2024 MEAF Applications		
County	**Total**	**Approved**	**Denied**	**Total**	**Approved**	**Denied**
Bucks	1	1	0	1	1	0
Chester	9	0	9	12	1	11
Delaware	5	1	4	17	0	17
Mongomery	0	0	0	0	0	0
Philadelphia	23	2	21	15	0	15
York	0	0	0	0	0	0
Total	38	4	34	45	2	43

Q: Do we have any information on MEAF application denials?

A: Yes. MEAF agencies report on the number of denials for a number of different denial reasons. As shown in Table 5 below, approximately one quarter of denials in 2023 and in 2024 to date were because the balance exceeded the program limit. An additional 14% of denials were due to missing documentation or incomplete applications (household did not send required documentation; incomplete application; household did not follow up). Because we don't know processing times on these applications, it is also possible that some of the "no balance owed" and "not in shutoff status" denials were due to the amount of time between initial application and processing.

[67] Total MEAF Application numbers taken from CAUSE-PA/TURN Attachment V-8(a). Approved MEAF Application numbers taken from CAUSE-PA/TURN Attachment V-9(a). Denied MEAF Application numbers taken from CAUSE-PA/TURN Attachment V-10(a).

Table 5: MEAF Application Denial Reasons in 2023 and 2024[68]

Denial Reason	2023 Denials	2024 Denials	2023 Percentage of denials	2024 Percentage of denials
Household income exceeds program limit	16	28	6%	12%
Household did not send required documentation	6	5	2%	2%
Household already received LIHEAP benefit	24	28	9%	12%
Balance exceeds program limit	65	56	24%	24%
Household already received MEAF benefit this year	2	1	1%	0%
Incomplete application	6	1	2%	0%
No balance owed	16	13	6%	6%
Account closed	7	7	3%	3%
Household did not follow-up	26	1	10%	0%
ERAP	16	0	6%	0%
Not in shutoff status	71	77	27%	34%
Other	12	12	4%	5%
Total	267	229		

I am also alarmed to see that 9% of MEAF denials in 2022 and 12% of MEAF denials in 2023 were based on the household's prior receipt of a LIHEAP grant. Receipt of a LIHEAP grant should never *disqualify* a household from receiving other forms of needed assistance.

Q: How do these denial numbers compare to the total number of applications submitted in 2023 and 2024?

A: In 2023, PECO MEAF agencies received 547 applications, and in 2024 through the end of June, PECO MEAF agencies received 253 applications.[69] This reflects a denial rate of 48% of applications in 2023, and 90% of applications in 2024.

[68] CAUSE-PA/TURN Attachment VIII-2(a-c).
[69] CAUSE-PA/TURN VIII-2(a-c). I note that the 2023 application numbers in this interrogatory response vary slightly from the numbers reported in the response to CAUSE-PA/TURN III-24(a), which I cited in my direct

Q: One requirement of MEAF is for service to be off, or for the household to be in danger of an involuntary termination. Was PECO issuing termination notices during May and June 2024?

A: Yes. While PECO's involuntary terminations were paused due to a billing system constraint, PECO issued 59 termination notices in May 2024 and 28,653 termination notices in June.[70] PECO data suggests that the company was on track to send even more termination notices in July. In the first five days of July, inclusive of the July 4 holiday, PECO issued 22,287 termination notices.[71]

Q: How do these application and denial numbers affect your recommendations?

A: If anything, the low approval and high denial rates for PECO's MEAF underscore the critical need to adopt my recommendations regarding PECO's MEAF to increase grant amounts and eliminate its zero-balance requirement. PECO must break down these arbitrary barriers to assistance, and ensure donated funds are reaching households in crisis as intended.

The low application numbers also underscore a lack of PECO oversight as to whether its hardship fund is actually available to customers in its service territory. While PECO's MEAF agencies processed only 547 applications in 2023, PECO shutoff service to more than 87,000 electric households.[72] This disparity is striking – especially because, as noted previously, across

testimony, and had a total of 623 applications. The variation for 2023 appears to be a difference in the number of applications in Chester County – 171 in CAUSE-PA/TURN III-24(a) and 95 in CAUSE-PA/TURN VIII-2(a-c). I also note an irregularity in the 2024 MEAF application numbers for Philadelphia: CAUSE-PA/TURN III-24(a), which reflects applications through May 2024, shows 215 MEAF applications for Philadelphia, while CAUSE-PA/TURN VIII-2(a-c), which reflects MEAF applications through June 2024, has only 188 MEAF applications for Philadelphia.

[70] CAUSE-PA/TURN Attachment V-1(a).

[71] Id.

[72] Attachment OCA II-1(a).

all of the counties in PECO's service territory, there is close to a million dollars in grant assistance remaining unspent – yet seemingly unavailable to most PECO customers.

Q: Do you believe PECO has sufficient processes in place to monitor MEAF agency activity?

A: No. PECO cannot claim to have sufficient processes in place if customers aren't applying for or receiving hardship funds. It is PECO's responsibility – subject to PUC oversight – to ensure that hardship funds are available to customers. As shown in the data shared above, a tiny fraction of PECO customers are applying for MEAF grants, and an even smaller fraction are approved. Low *approval* numbers in the face of profound need for assistance strongly suggests that PECO's eligibility requirements are too strict, and its assistance levels are inadequate to resolve acute financial hardship. Low *application* numbers, in turn, suggest that PECO is not properly advertising the program or monitoring whether its agencies are properly making MEAF available to customers.

Q: Ms. Golden further suggests that PECO's MEAF implementation issues do not warrant Commission investigation because (1) the Company's issues were temporary and have been resolved; (2) PECO has implemented continuous monitoring of UESF; and (3) PECO will affirmatively communicate significant issues with a MEAF agency to the Commission's Bureau of Consumer Services ("BCS") and provide them with status reports as appropriate. Do you believe this is sufficient to address your concerns?

A: No, I do not. I stand firmly behind my recommendation that PECO's handling of MEAF funds and oversight over its MEAF program be referred to the PUC's Bureau of Audits and the Bureau of Investigation and Enforcement for further investigation. I would add to my

recommendation that the Bureau of Consumer Services should also be consulted in the audit and investigation, given its role in resolving individual complaints and reviewing universal service program plans.

Q: Can you explain your reasoning?

A: Yes. While PECO claims any issues with its MEAF agency in Philadelphia were temporary, PECO's discovery responses tell a different story. First, the notes from a meeting between PECO and its Philadelphia MEAF agency indicate that the MEAF agency failed to distribute donations received through PECO's golf outing to other county MEAF agencies, going back to at least 2020.[73]

I am deeply concerned that PECO, prior to 2023, took little to no action to address and resolve MEAF issues. Either PECO knew of the issues and ignored them, or its oversight of MEAF was so lax that it did not even realize the issues were occurring. Indeed, given PECO's MEAF is set up to require interaction with the agency for each and every grant issued in order to release "match" funding, I have to assume that PECO personnel were aware that grants were not being issued with any regularity. Likewise, PECO personnel were certainly aware of the infrequent processing of applications since an approved application results in a hold on termination activity (as discussed below). These concerns underscore my recommendation for further investigation by the Bureau of Audits, I&E and BCS to ensure appropriate use and allocation of donations collected.

In response to discovery questioning the limited amount of grants in Philadelphia in 2022, PECO admitted that it had no information regarding the reason for MEAF denials – despite the fact that only 7 MEAF grants were distributed in Philadelphia that year[74] Over the same timeframe,

[73] CAUSE-PA/TURN III-26(a) at 5.
[74] CAUSE-PA/TURN III-23, CAUSE-PA I-8(a).

more than 51,000 PECO customers were terminated for nonpayment in Philadelphia alone.[75] PECO's inability to provide basic explanation for the reason for the extremely low MEAF acceptance rate reflects a complete lack of oversight over how PECO's MEAF agency in Philadelphia was using PECO customer funds.

Q: Has PECO explained what it means by "continuous monitoring" in relation to its oversight of MEAF?

A: PECO describes its continuous monitoring as follows:

> Throughout the year PECO receives notification from UESF when MEAF grants are approved so that holds can be placed on customer's accounts while grants are processing. PECO regularly checks with UESF on status of pending applications. Any issues that arise are handled via phone call and/or email to UESF, or meetings held with PECO and UESF.[76]

Q: Do you believe PECO's "continuous monitoring" is sufficient to ensure the program is operating efficiently and effectively to ensure vulnerable households have access to assistance?

A: I do not believe that PECO's purported "continuous monitoring" is sufficient to address ongoing issues.[77] Even with these processes in place, only 38 applications for MEAF were submitted in Philadelphia in May and June, and only 2 of those applications were approved. This demonstrates to me that PECO needs to do more to monitor not just the processing of submitted applications, but also customer access to and ability to submit applications, and the reasons for rejection of applications in the first place.

[75] See OCA-II-16(a).
[76] CAUSE-PA/TURN VII-15.
[77] I note that despite this reference to continuous monitoring, PECO has not had a meeting with UESF since June 3, 2024. See CAUSE-PA/TURN VII-16.

Q: Did PECO affirmatively communicate significant issues with MEAF to BCS previously?

A: No. After being asked in discovery to provide communications in 2022, 2023 and 2024 with BCS about MEAF operations, PECO could not provide a single affirmative outreach to BCS – only responses to concerns from BCS, prompted by individual consumer complaints or issues raised by third parties.[78] As discussed above, PECO was aware of concerns with its MEAF provider in Philadelphia's application processing as early as 2022, and reasons for concern with the MEAF provider's management of PECO funds go back to at least 2020. Nevertheless, PECO did not produce any evidence that it notified BCS, or took any other affirmative action, to address the issues its MEAF agency was experiencing and their impact on the ability to distribute funds to households in need. PECO's general pronouncement that it will do better going forward is an empty promise. If PECO's history is a guide, PECO will remain quiet about issues unless and until prompted by BCS to provide information.

Q: Are there any other reasons you believe PECO's oversight of MEAF dollars should be referred for further investigation by the Commission?

A: Yes. Having reviewed the communications and meeting notes between PECO and its Philadelphia MEAF provider disclosed in response to discovery, I am concerned about the directives PECO has provided. For example, it appears that upon learning that PECO's Philadelphia MEAF provider hadn't reimbursed other MEAF agencies for money raised in

[78] The specific question asked in discovery was "Reference PECO St. 10-R at 24:13-15. Please provide any emails, documents, letters, notes of calls, calendar invites or any other documents that reflect PECO's communications with the Bureau of Consumer Services regarding delays or concerns regarding MEAF operations in 2022, 2023 or to date in 2024." CAUSE-PA/TURN VI-16. See also Attachment CAUSE-PA/TURN VI-19 at 9 (email query from BCS to PECO on 5/2/2024 prompted by outreach from PGW flagging hardship fund distribution issues); at 8 (email query from BCS to PECO on 6/14/2024 prompted by concerns raised to BCS by advocates).

PECO's golf tournament fundraiser, PECO directed the agency to use MEAF dollars received through other donations to reimburse the other agencies.[79] I believe further investigation is warranted, outside the context of the time-constrained rate proceeding, to determine if PECO properly handled hardship fund dollars and provided sufficient oversight to its MEAF agencies.

G. Language Access

Q: Ms. Golden states that PECO believes its existing processes to address language access issues are appropriate. Do you agree?

A: No. As detailed in my direct testimony, I do not believe PECO is providing adequate service to its non-English speaking customers. Ms. Golden cites general concerns about costs as justification for not tracking customer language, and opposes my proposal to include a tagline about interpretation service on residential customer bills and termination notices. If PECO does not track customer language and is therefore not able to reach out to customers in a language they can understand, a logical alternative would be to provide a blanket notice in the most common languages of the availability of interpretation services.

H. Rate R and Rate RH

Q: Please summarize Ms. Golden's response to your recommendations regarding the determination of residential heat type.

A: Ms. Golden outlines the existing way that an account can be changed from R to RH, argues that high usage in the wintertime does not necessarily indicate electric heating, and suggests that tariff language should not allow customers to enroll in Rate RH if they rely on electric heating

[79] CAUSE-PA/TURN III-26(a) at 4. See also Id. at 7 ("Notes were light today – mostly a heads up that our second invoice for FY 2024 should be paid tomorrow, another check for our $300k commitment should follow shortly after that, and reiterating that the proceeds should be used for golf distribution catchup, followed by ggap transmittals, followed by retaining for future MEAF grants.").

equipment as a supplementary heating source because Rate RH is not designed to facilitate customer use of space heating.

Q: Do you believe Ms. Golden's response sufficiently addresses your concerns?

A: No. While customers may have the right to switch to Rate RH by contacting PECO to inform them that they have installed electric heating equipment, customers are never informed of their right to do so. At no time either when service is established or during their time as a customer is a customer told that they have this right. This is inadequate. PECO is not meeting its obligation to provide customers with the most advantageous rate available if customers are never informed that they may be able to switch to a more advantageous rate.

In relation to the need to educate customers about Rate RH, Ms. Golden asserts that high usage in the wintertime does not necessarily indicate electric heating and therefore does not warrant outreach. In my experience, high electric usage in the wintertime is a very strong indicator of electric heating of some type – whether that is the de facto,[80] supplemental, or primary heating source used by the household. PECO has a statutory duty to inform customers of the most advantageous rate and, in turn, must affirmatively inform customers of the availability of Rate RH. To fulfill this statutory obligation, PECO must improve screening of new and moving customers to assess heating type; PECO can't merely ignore these obligations.

Ms. Golden also rejects my proposed modification to tariff language related to the availability of Rate RH. She states that because of cost and safety hazards, Rate RH should not be available for customers who use space heating.[81] On the contrary, Rate RH is critically important,

[80] De facto heating refers to those households with non-heating electric accounts that use electricity for heat because their primary heating source is inoperable or unaffordable.
[81] PECO St. 10-R at 31:10.

particularly for those who have very high heating costs because they need to use space heaters or other supplemental electric heating source to stay warm in winter. Because of the risk of unaffordability for low-income customers who rely on de facto heating to heat all or portions of their home, and the potential for the rapid accrual of high uncollectible expenses, PECO should treat CAP customers who use de facto heating as an RH customer for the purpose of determining applicable CAP assistance.

Finally, it is critical for PECO to know and identify possible de facto heating customers precisely because of the safety risks and costs to both the de facto heating customer and other ratepayers and community members that Ms. Golden mentions. By shirking its duty to educate consumers about the different residential rate classes, PECO is not discouraging de facto heating, and may in fact be compounding unaffordability of winter heating bills and the rapid accrual of steep, unaffordable debts.

I. Payment Processing

Q: Ms. Golden rejects a suggestion from OCA Witness Roger Colton that PECO should allow dual service customers to designate that all or part of their combined PECO bill payment be applied to electric service, stating that there is no basis for permitting customers to "prefer" one service over another. Do you agree?

A: No. If a customer can only afford to pay for electricity charges, and prioritizes maintaining electric service over gas service, they have the right to do so. Low and moderate income households across the state who receive electric and gas service from different companies frequently make such impossible tradeoffs as to what bills and necessities to pay for with limited means. It is inappropriate for PECO to take this choice away from its customers, especially in the face of a changing climate that could change a customer's decision making regarding the

importance of electric. I note that application of a single payment across PECO's two utilities – electric and natural gas – may raise legal questions regarding PECO's processes. I anticipate counsel for TURN/CAUSE-PA will address such issues further through briefing.

Q: Does Ms. Golden's response raise other concerns for you?

A: Yes. Ms. Golden states that "a customer in arrears is at risk of termination of both services."[82] When asked for data about the number of dual service customers who a) had gas and electric service terminated at the same time; b) had only gas service terminated; or c) had only electric service terminated, PECO responded only that "termination data for dual service accounts is not isolated between electric and gas."[83] These responses only raise more questions for me. I read this to mean that for dual service customers, PECO terminates both services at the same time. Because of PECO's payment posting rules, insufficient payments are equally applied between gas and electric and so, inevitably, households are in arrears for both services – even if their payments were sufficient to retain electric or gas service alone. It is unjust and unreasonable for PECO to take this choice between electricity and gas away from its customers.

J. Exemplary Management

Q: Ms. Golden rebuts OCA's witness Mr. Colton, claiming that PECO has provided "extensive support" for exemplary management performance. Do you agree?

A: No. Ms. Golden cites a number of areas where PECO has provided substantial assistance to low-income customers, but the examples she cites do not support her contention of exemplary management performance. First, Ms. Golden cites to PECO incorporating updated energy burdens and converting to a CAP PIPP. While I support these changes, I note that PECO failed to

[82] PECO St. 10-R at 29.
[83] CAUSE-PA/TURN VII-20.

implement these updates until almost three years after the Commission updated its CAP Policy Statement – and only after extensive litigation regarding their obligation to do so. Similarly, Ms. Golden points to increased LIURP budgets – all of which were put in place because of settlement agreements in previous rate cases.

I have discussed at length, both in this testimony and in my direct testimony, my concerns with PECO's oversight of MEAF, as well as PECO's unimpressive CAP enrollment efforts and lackluster LIURP referrals and coordination. I also explained at length the disproportionate level of arrears and terminations amongst PECO's low-income customers, and the inadequacy of its assistance programs to serve identified need.

Finally, I note that three different witnesses identified possible racially discriminatory impacts of PECO's practices.[84] In each instance, PECO defends its practices by claiming its policies apply equally to all customers. But racially disparate impacts remain problematic, even absent specific intent to discriminate. All of these factors support Mr. Colton's original contention that PECO is not entitled to a claim of "exemplary management" as a basis to further inflate rates.

III. RESPONSE TO I&E WITNESS CHRISTINE WILSON (I&E ST. 1-R)

Q: Please summarize the rebuttal testimony of Ms. Christine Wilson, witness for I&E, related to your LIURP recommendations.

A: Ms. Wilson suggests in her rebuttal testimony that my recommendations related to the LIURP budget should be denied because they are not properly considered in the context of the present proceeding. [85] Ms. Wilson disagrees with my recommended increase to PECO's LIURP

[84] OCA St. 4 at 67-69; City and PEA St. 1 at 3-4, CAUSE-PA/TURN St. 1 at 79-80, 44-45.
[85] I&E St. 1-R at 6: 11-13

budget. In support of this argument, Ms. Wilson cites dicta from Commission decisions and the Commission's Notice of Proposed Rulemaking for the *Initiative to Review and Revise the Exhibit Low income Usage Reduction (LIURP) Regulations at 52 Pa. Code §§ 58.1-58.18*.[86] In the cited proposed rulemaking, the Commission initially proposed that the "LIURP budget can only be revised through USECP proceedings initiated pursuant to the periodic USECP review process or in response to a petition to amend a USECP earlier than the periodic USECP review process."[87] Ms. Wilson also cites the following language from the Proposed Rulemaking,: "As LIURP is a ratepayer-funded program, considerations impacting its budget determination should be open to scrutiny and comment. USECP proceedings allow all interested parties to provide comments, raise questions, and review information justifying the proposed change to the LIURP budget in an on-the-record proceeding."[88]

Q: What is your response to Ms. Wilson's arguments against review of PECO's LIURP budget in the context of this proceeding?

A: Ms. Wilson's assertions that universal service issues, specifically changes to PECO's LIURP, should not be considered within the context of the base rate proceedings precludes the important consideration of whether rates and terms and conditions of service for low-income customers are just, reasonable, and in the public interest. Any evaluation of the justness and reasonableness of existing and proposed rates must include an analysis of the adequacy and design of rate assistance and universal service programs.

[86] Id. at 8
[87] Initiative to Review and Revise the Existing Low-income Usage Reduction Program (LIURP) Regulations at 52 Pa. Code §§ 58.1—58.18, Notice of Proposed Rulemaking, Docket No. L-2016-2557886, at 36 (NOPR entered on May 18, 2023).
[88] I&E St. 1-R at 5, citing Notice of Proposed Rulemaking for the *Initiative to Review and Revise the Exhibit Low-income Usage Reduction Program (LIURP) Regulations at 52 Pa. Code §§ 58.1-58.18*, Docket No. L-2016-2557886, p. 36, 37 (Order Entered May 18, 2023).

Further, I note that Ms. Wilson's arguments are primarily legal in nature. They cite to dicta from various Commission Orders, language in a proposed, not final, rulemaking, and a Commissioner's non-precedential statement. I am advised that Counsel for TURN and CAUSE-PA will address these arguments through briefing. However, I do note that multiple commenters to the Commission's proposed rulemaking submitted comments opposing the proposed language that Ms. Wilson cites in her testimony.[89]

Q: Does this conclude your surrebuttal testimony?

A: Yes.

[89] Initiative to Review and Revise the Existing Low-income Usage Reduction Program (LIURP) Regulations Pa. Code §§ 58.1—58.18, Comments of the Consumer Advisory Council at 2-3; Joint Comments of the Commission on Economic Opportunity and Pa. Weatherization Providers Task Force, at 3-5; Comments of OCA, at 20-23; Comments of the Tenant Union Representative Network, at 5-6; Comments of Energy Justice Advocates, at 3; Comments of the Pa. Coalition of Local Energy Efficiency Contractors, Inc. at 7 (Comments Respectively filed, January 16, 2024); see also Comments of the Independent Regulatory Review Commission at 4 (filed March 18, 2024).

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company - Electric	Docket No. R-2024-3046931

APPENDIX A

TO THE
SURREBUTTAL TESTIMONY OF ELIZABETH R. MARX

On Behalf of

Tenant Union Representative Network

and

Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania

August 2, 2024

0086

An Exelon Company

December 08, 2023

[redacted]

Account Number: [redacted]
Service Address:
[redacted]

We require you to pay a deposit of $160.00

We ask customers for a deposit if we cannot verify their credit history or if they have multiple late or missed payments.

About the deposit

- For **residential customers**, the amount will be two times your average monthly bill. We will add 50% of the amount to your next bill, and 25% to each of the two bills after this.
- For **non-residential customers**, the amount will be equal to the total of your two largest monthly bills. We will bill the amount to your next bill.
- If you pay your bills in full and on time for 12 consecutive months (24 months for commercial services), we will refund your account with the amount of the deposit, plus any interest earned on it.
- If you stop or transfer your service before we refund your deposit, we will apply it to your final bill, plus any interest.

If you do not pay the deposit, **we may shut off your service**.

Where to find out more

You can see copies of our deposit and credit policies at our main office 2301 Market Street, Philadelphia, PA. You may also visit our website www.peco.com for a review of PECO policies.

Questions
1-800-494-4000
peco.com
7 am - 7 pm, Mon - Fri

Ways to pay

- At an authorized payment location - call **1-800-494-4000** to find one near you. Please make sure you get a receipt as proof of payment.
- By credit card or check - phone **1-877-432-9384** (the service provider will charge a convenience fee).
- Through online banking.
- At our website **peco.com**

Having trouble paying?

We have several programs that could help you manage your monthly bills, such as:

- budget billing to even out the cost of monthly bills throughout the year
- payment arrangements to pay off amounts you owe.

Learn more about how we can help you reduce your energy costs by visiting our website **www.peco.com**

BEFORE THE

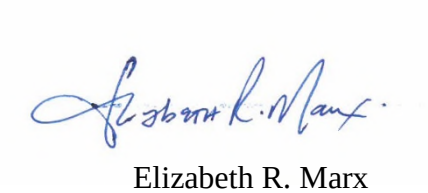
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3046931
PECO Energy Company - Electric Division	:	

VERIFICATION

I, Elizabeth R. Marx, hereby state that the facts set forth in my Surrebuttal Testimony labeled TURN and CAUSE-PA Statement No. 1-SR 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 19 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: August 2, 2024



Elizabeth R. Marx

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
The Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania
& The Tenant Union Representative Network
CAUSE-PA-TURN Set VI

Response Date: July 25, 2024

CAUSE-PA-TURN-VI-19

Reference CAUSE-PA/TURN III-28. For the time between PECO's response to CAUSE-PA/TURN III-28 and now, please provide any additional emails, notes of conversation, meeting invitations, agendas, or other document, either internal to PECO or between PECO and UESF staff, that reference MEAF grant application numbers or MEAF grant processing delays.

RESPONSE:

Refer to Attachment CAUSE-PA-TURN-VI-19(a.1) and Confidential Attachment CAUSE-PA-TURN-VI-19(a.2).

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

Responsible Witness: Jaqueline F. Golden

[redacted]:(PECO)

From: [redacted]:(PECO)
Sent: Wednesday, July 10, 2024 3:01 PM
To: [redacted]@bcoc.org; [redacted]@bcoc.org; [redacted]@bcoc.org; [redacted]@bcoc.org; [redacted]@uesfacts.org; [redacted]@uesfacts.org; [redacted]; [redacted]@cadcom.org; [redacted]@cadcom.org; [redacted]; [redacted]@cadcom.org; [redacted]; [redacted]; [redacted]@mason-dixon.org
Cc: [redacted]; [redacted]; [redacted]; [redacted]@bcoc.org; [redacted]@mason-dixon.org; [redacted]@uesfacts.org
Subject: MEAF Data Tracking

Importance: High

Follow Up Flag: Follow up
Due By: Wednesday, July 10, 2024 2:00 PM
Flag Status: Flagged

Hello All:

When you get a chance, please forward total # of applications= approved + denied for May and June 2024. Please send this information to me ASAP.

Thanks for your cooperation.
[redacted]

[redacted]:(PECO)

Subject: PECO/UESF Weekly Checkpoint
Location: Microsoft Teams Meeting

Start: Tue 6/18/2024 4:00 PM
End: Tue 6/18/2024 4:30 PM
Show Time As: Tentative

Recurrence: Weekly
Recurrence Pattern: every 2 week(s) on Monday from 4:00 PM to 4:30 PM

Meeting Status: Not yet responded

Organizer: [redacted]:(PECO)
Required Attendees: [redacted] - UESF; [redacted] - UESF; [redacted]:(PECO); [redacted]:(PECO); [redacted]:(PECO)

Updating attendees and changing to bi-weekly.

Thanks!
[redacted]

Microsoft Teams meeting

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Click here to join the meeting

Meeting ID: 220 909 405 975
Passcode: WXqYQp
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Join with a video conferencing device

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[redacted]:(PECO)

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

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[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

From: [redacted] <[redacted]@pa.gov>
Sent: Friday, June 14, 2024 10:17 AM
To: [redacted]:(PECO) <[redacted].[redacted]@exeloncorp.com>
Cc: [redacted] <[redacted]@pa.gov>
Subject: RE: [External] RE: [EXTERNAL]PECO's Hardship Fund

Hi [redacted],

Hope you are well. Yesterday, BCS received concerns from low-income advocates that UESF is not accepting Hardship Fund grant applications or issuing payments for PECO customers in Philadelphia. We told them that we had previously confirmed with PECO that UESF was still accepting MEAF applications and issuing grants for Philadelphia residents.

I just want to confirm with you that this information is still correct. Also, is there any data PECO could provide us on the number of MEAF applications approved and grants issued by UESF for each month in 2024?

Thanks in advance for your help with this. Have a great weekend!

[redacted] | Energy Policy Manager
Pennsylvania Public Utility Commission | Bureau of Consumer Services
400 North Street | 2nd Floor | Harrisburg, PA 17120
Tel: [redacted] | Email: [redacted]@pa.gov
www.puc.pa.gov | **Consumer Hotline** 1-800-692-7380

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From: [redacted]:(PECO) <[redacted].[redacted]@exeloncorp.com>
Sent: Monday, May 06, 2024 3:18 PM
To: [redacted] <[redacted]@pa.gov>
Cc: [redacted] <[redacted]@pa.gov>; [redacted] <[redacted]@pa.gov>
Subject: [External] RE: [EXTERNAL]PECO's Hardship Fund

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Hi [redacted],

I can confirm that UESF is still processing PECO Hardship applications and that PECO is matching approved grants when the initial donation funding is received.

Thanks!
[redacted]

[redacted] [redacted] (he/him) | customer financial operations – universal services manager | W: [redacted]

peco℠
AN EXELON COMPANY

From: [redacted] <[redacted]@pa.gov>
Sent: Thursday, May 2, 2024 8:39 AM
To: [redacted]:(PECO) <[redacted].[redacted]@exeloncorp.com>
Cc: [redacted] <[redacted]@pa.gov>; [redacted] <[redacted]@pa.gov>
Subject: [EXTERNAL]PECO's Hardship Fund

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Good Morning [redacted],

BCS was notified that the Utility Emergency Service Fund (UESF) is no longer providing matching grant funds or processing applications for PGW. Just checking to see if the same thing is happening with PECO. Has there been a suspension or delay in PECO's Hardship Fund application processing or a decrease in the grant amounts?

Thanks.

PAPUC
www.puc.pa.gov
Ask Aira! PAPUC

[redacted]
Energy Policy Manager
Bureau of Consumer Services
Phone: [redacted]
Email: [redacted]@pa.gov
Consumer Hotline:
1-800-692-7380

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[redacted]:(PECO)

From: [redacted]:(PECO)
Sent: Tuesday, June 18, 2024 9:47 AM
To: [redacted]; [redacted]
Cc: [redacted]:(PECO)
Subject: RE: [EXTERNAL]Automatic reply: PECO/UESF Weekly Checkpoint

No problem! We can check in real quick and see if anyone has questions/updates.

From: [redacted] <[redacted]@uesfacts.org>
Sent: Monday, June 17, 2024 4:22 PM
To: [redacted]:(PECO) <[redacted].[redacted]@exeloncorp.com>; [redacted] <[redacted]@uesfacts.org>
Cc: [redacted]:(PECO) <[redacted]@exeloncorp.com>
Subject: RE: [EXTERNAL]Automatic reply: PECO/UESF Weekly Checkpoint

[redacted]

I believe she meant June 28th.

If you all want to meet tomorrow that is fine with me.

Or we can wait until Ms. [redacted] returns.

Sorry for the delay I was in a training.
Thanks

From: [redacted]:(PECO) <[redacted].[redacted]@exeloncorp.com>
Sent: Monday, June 17, 2024 2:57 PM
To: [redacted] <[redacted]@uesfacts.org>; [redacted] <[redacted]@uesfacts.org>
Cc: [redacted]@exeloncorp.com
Subject: RE: [EXTERNAL]Automatic reply: PECO/UESF Weekly Checkpoint

FYI [redacted]'s OOO says she'll return 5/28.

Please let me know if we need to reschedule our meeting tomorrow.

Thanks!
[redacted]

From: [redacted] <[redacted]@uesfacts.org>
Sent: Monday, June 17, 2024 2:45 PM
To: [redacted]:(PECO) <[redacted].[redacted]@exeloncorp.com>
Subject: [EXTERNAL]Automatic reply: PECO/UESF Weekly Checkpoint

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Good Day,
I will be out of the office on vacation with limited acces but will monitor my mails and respond accordingly on or before my return on Tuesday May 28, 2024.
Thank you,
[redacted] "[redacted]" [redacted]

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[redacted]:(PECO)

From: [redacted] <[redacted]@uesfacts.org>
Sent: Wednesday, July 10, 2024 3:34 PM
To: [redacted]:(PECO)
Subject: RE: MEAF Data Tracking
Attachments: MEAF Agency Tracking Report - 7.10.2024 PHILA FY 2023-2024 .xlsx

Good Afternoon, [redacted]

Sorry for the delay I was in a Board Meeting most of the afternoon.

Attached is the information that you requested. Thanks

From: [redacted]:(PECO) <[redacted]@exeloncorp.com>
Sent: Wednesday, July 10, 2024 3:01 PM
To: [redacted]@bcoc.org; [redacted]@bcoc.org; [redacted]@bcoc.org; [redacted]@bcoc.org; [redacted] <[redacted]@uesfacts.org>; [redacted] <[redacted]@uesfacts.org>; [redacted] <[redacted]@caadc.org>; [redacted]@cadcom.org; [redacted]@cadcom.org; [redacted] <[redacted]@cadcom.org>; [redacted]@cadcom.org; [redacted] <[redacted]@humanservicesinc.org>; [redacted] <[redacted]@humanservicesinc.org>; [redacted]@mason-dixon.org
Cc: [redacted] <[redacted]@cadcom.org>; [redacted] <[redacted]@humanservicesinc.org>; [redacted] <DMILLER@CAADC.ORG>; [redacted]@bcoc.org; [redacted]@mason-dixon.org; [redacted] <[redacted]@uesfacts.org>
Subject: MEAF Data Tracking
Importance: High

Hello All:

When you get a chance, please forward total # of applications= approved + denied for May and June 2024. Please send this information to me ASAP.

Thanks for your cooperation.
[redacted]

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Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
The Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania
& The Tenant Union Representative Network
CAUSE-PA-TURN Set VI

Response Date: July 25, 2024

CAUSE-PA-TURN-VI-17

Reference PECO St. 10-R at 31:1-5. Please provide, from 2020 to date in 2024, per month:

a. The number of customers who have requested that PECO switch them from Rate R to Rate RH
b. The number of customers who have been switched from Rate R to Rate RH.

RESPONSE:

a. PECO does not track the number of customers who requested a switch from Rate R to Rate RH.

b. See Attachment CAUSE-PA-TURN-VI-17(a) for the number of customers who switched from Rate R to Rate RH. Data for February 2024 to present, at this level of detail, is not available.

Responsible Witness: Jacqueline F. Golden

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2024-3046931

Response of PECO Energy Company
To Interrogatories of the
The Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania
& The Tenant Union Representative Network
CAUSE-PA-TURN Set II

Response Date: June 03, 2024

CAUSE-PA-TURN-II-6

Reference PECO Exhibit 2, PECO Electric Proposed Tariff No. 8 at 53, regarding the availability of Rate RH, Residential Heating Service. For the period January 2018 to April 2024, disaggregated by month, year, and nine-digit zip code, please provide the following in a live Excel spreadsheet:

a. The number of customers on Rate RH who have permanently connected electric resistance heaters where such heaters supply all of the heating requirements to the dwelling;
b. The number of customers on Rate RH who have heat pump installations where the heat pump serves as the heating system for the dwelling and all of the supplementary heating required is supplied by electric resistance heaters;
c. The number of customers on Rate RH who have heat pump installations where the heat pump serves as the heating system for the dwelling and all of the supplementary heating required is supplied by non-electric energy sources.

RESPONSE:

PECO does not track Rate RH customers as stated in subparts a through c.

Responsible Witness: Jacqueline F. Golden

WALMART STATEMENT NO. 1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company – Electric Division	:	

DIRECT TESTIMONY AND EXHIBITS OF

LISA V. PERRY

ON BEHALF OF

WALMART INC.

JUNE 17, 2024

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Exhibit LVP-3: Impact of PECO's Proposed Increase in Return on Equity Vs. National Average for Distribution Only Utilities, 2021 to Present

I. Introduction

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

A. My name is Lisa V. Perry. My business address is 2608 SE J Street, Bentonville, AR 72716-0550. I am employed by Walmart Inc. ("Walmart") as Director, Utility Partnerships - Regulatory.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS DOCKET?

A. I am testifying on behalf of Walmart.

Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.

A. I received a J.D. in 1999 and a LL.M. in Taxation in 2000 from the University of Florida Levin College of Law. From 2001 to 2019, I was in private practice with an emphasis from 2007 to 2019 in Energy Law. My practice included representing large commercial clients before the utility regulatory commissions in Colorado, Texas, New Mexico, Arkansas, and Louisiana in matters ranging from general rate cases to renewable energy programs. I joined the Energy Services department at Walmart in September 2019 as Senior Manager, Energy Services. My Witness Qualifications Statement is attached as Exhibit LVP-1.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION ("COMMISSION")?

A. Yes; I submitted testimony in Docket No. R-2024-3046523. I am also submitting Direct Testimony in Docket No. R-2024-3046932 today.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE OTHER STATE REGULATORY COMMISSIONS?

A. Yes, I have submitted testimony with State Regulatory Commissions for Arkansas, Colorado, Connecticut, Florida, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, North Carolina, New York, Ohio, Oklahoma, South Carolina, Texas, Virginia, and Wyoming. I have also provided legal representation for customer stakeholders before the State Regulatory Commissions for Colorado, Texas, Arkansas, Louisiana, and New Mexico in the cases listed under "Commission Dockets" in Exhibit LVP-1.

Q. ARE YOU SPONSORING EXHIBITS IN YOUR TESTIMONY?

A. Yes. I am sponsoring the Exhibits listed in the Table of Contents.

Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS IN PENNSYLVANIA.

A. As shown on Walmart's website, Walmart operates 159 retail units, six distribution centers, and four fulfillment centers, and employs over 57,000 associates within the Commonwealth of Pennsylvania.[1] In fiscal year ending 2024, Walmart purchased $16.2 billion worth of goods and services from Pennsylvania-based suppliers, supporting over 156,000 supplier jobs.[2]

[1] https://corporate.walmart.com/about/location-facts/united-states/pennsylvania
[2] *Id.*

Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS WITHIN THE PENNSYLVANIA SERVICE TERRITORY FOR PECO ENERGY COMPANY – ELECTRIC DIVISION ("PECO" OR "COMPANY").

A. Walmart has approximately 23 retail stores and related facilities in PECO's Pennsylvania service territory. Primarily, these facilities are served on High-Tension Power ("HT") and General Service ("GS") rates.

II. Purpose of Testimony and Summary of Recommendations

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to respond to the Company's Tariff Electric – Pa. P.U.C. No. 8 filed in this docket on March 28, 2024, along with supporting testimony, in which the Company is proposing an increase in its electric distribution rates and to provide recommendations to assist the Commission in its thorough and careful consideration of the Company's proposed rate increase, including the impact on customers. Specifically, my Direct Testimony addresses (i) the return on equity ("ROE") proposed by the Company; (ii) the cost of service study ("COSS") and revenue allocation proposed by the Company; (iii) the Company's GS and HT rate design; (iv) the Company's Electric Vehicle DCFC Pilot Rider ("EV-FC Pilot Rider" or "Rider") for electric vehicle ("EV") charging; and (v) the importance of customer engagement through the Company's key account management team for larger customers.

Q. IN SETTING THE REVENUE REQUIREMENT AND ROE FOR THE COMPANY, SHOULD THE COMMISSION CONSIDER THE IMPACT OF THE ASSOCIATED RATE INCREASE ON BUSINESS CUSTOMERS?

A. Yes. Electricity is a significant operating cost for retailers such as Walmart. When electric rates increase, the increased cost to retailers can put pressure on consumer prices and on the other expenses required by a business to operate. The Commission should thoroughly and carefully consider the impact on customers, including business customers, in examining the requested revenue requirement and ROE, in addition to all other facets of this case, to ensure that any increase in the Company's rates is the minimum amount necessary to provide safe, adequate, and reliable service, while also providing PECO the opportunity to recover its reasonable and prudent costs and earn a reasonable return on its investment.

Q. PLEASE SUMMARIZE WALMART'S RECOMMENDATIONS TO THE COMMISSION.

A. Walmart's recommendations to the Commission are as follows:

(1) The Commission should reject the 10.95 percent ROE requested by the Company. When setting the ROE for the Company, the Commission should thoroughly and carefully consider the impact on customers associated with the approved ROE, in addition to all other facets of this case, to ensure that any increase in the Company's rates reflects the minimum amount necessary to compensate the Company for adequate and reliable service, while also providing the Company an opportunity to earn a reasonable return for its shareholders.

(2) The Commission should closely examine the Company's proposed revenue requirement increase and the associated ROE in light of:

(a) The customer impact of the resulting revenue requirement increase;

(b) The most recent ROE approved by this Commission in a fully litigated rate case and ROEs approved by other utility regulatory commissions nationwide, which do not support the Company's requested ROE; and

(c) The use of a fully projected future test year ("FPFTY"), which reduces the risk due to regulatory lag based on the inclusion of the most current information in its rates when they will be in effect.

(3) The Commission should reject the proposed 15 basis point performance adder.

(4) Walmart does not take a position on the Company's proposed COSS at this time. However, Walmart reserves the right to address any changes to the Company's COSS or alternative proposals from other parties, in accordance with the Commission's procedures for this docket.

(5) At the Company's proposed revenue requirement, Walmart does not oppose the Company's proposed revenue allocation methodology.

(6) If the Commission determines that the appropriate revenue requirement is less than the revenue requirement proposed by the Company, then the Commission should take steps to further reduce the interclass subsidy as reflected in Table 2 later in my testimony. Starting with the revenue allocation proposed by the Company, the Commission should apply 50

percent of the overall revenue reduction to those rate classes with a relative rate of return (defined later in my testimony and referred to as the "RROR") above 1.0, except that in no event should a subsidizing rate class (RROR above 1.0) be moved to a subsidized position (RROR below 1.0). The remaining 50 percent of the overall revenue reduction should be evenly applied to mitigate the proposed increases for all rate classes on an equal percentage basis.

(7) Walmart does not take a position on the Company's proposed rate design for the GS rate or the HT rate at this time. However, to the extent that an alternative rate design for the GS or HT rates or modifications to the Company's respective rate design is proposed by other parties, Walmart reserves the right to address any such changes in accordance with the Commission's procedures in this docket.

(8) In light of the growth of EVs around the country, Walmart recommends that the Commission approve the Company's proposed extension of the EV-FC Pilot Rider and takes no position on its proposed revisions to the Rider.

(9) Walmart appreciates the Company's ongoing commitment to engaging with all its customers through continuous evaluation of their relationship and adapting processes as technology and customer needs evolve. In particular, Walmart values the Company's key account program and supports the efforts of this team, as previously discussed. While not a specific recommendation, Walmart highlights this in its testimony to inform the

Commission of the valuable service provided by the Company's key account management team.

Q. DOES THE FACT THAT YOU MAY NOT ADDRESS AN ISSUE OR POSITION ADVOCATED BY THE COMPANY INDICATE WALMART'S SUPPORT?

A. No. The fact that an issue is not addressed herein or in related filings should not be construed as an endorsement of, agreement with, or consent to any filed position.

III. Revenue Requirement and ROE

(A) Revenue Requirement and Requested ROE

Q. WHAT IS YOUR UNDERSTANDING OF THE COMPANY'S PROPOSED REVENUE REQUIREMENT INCREASE IN THIS DOCKET?

A. My understanding is that the Company proposes an annual increase in its operating revenue of approximately $463.6 million.[3] For 2025, the Company is proposing a one-time credit of $65 million resulting in a net increase of $399 million for that year.[4] The Company provided in its filing data from three different time periods, being (i) Historical Test Year ("HTY") ended December 31, 2023; (ii) Future Test Year ("FTY") ending December 31, 2024; and (iii) FPFTY ending December 31, 2025, with its proposed rate increase being based on the adjusted FPFTY.[5]

[3] *See* PECO Statement No. 3, Direct Testimony of Michael J. Trzaska ("Trzaska Direct"), p. 15, lines 9-10.
[4] *See id.*at 15, lines 10-12.
[5] *See id.* at 2, lines 5-12.

Q. WHAT IS THE COMPANY'S PROPOSED ROE IN THIS DOCKET?

A. The Company proposes an ROE of 10.95 percent, which is comprised of a 10.80 percent cost of equity plus a 15 basis point performance adder.[6] The 10.80 percent cost of equity is based on a range of 10.57 percent to 11.50 percent.[7] For purposes of my testimony, I will analyze the effects of the 10.80 percent ROE and the 15 basis point adder separately.

Q. IS WALMART CONCERNED THAT THE COMPANY'S PROPOSED ROE IS EXCESSIVE?

A. Yes. Walmart is concerned that the Company's proposed total ROE of 10.95 percent is excessive, especially in light of:

1) The customer impact of the resulting revenue requirement increase, as discussed in more detail below;

2) The most recent ROE approved by this Commission in a fully litigated rate case and ROEs approved by other utility regulatory commissions nationwide, as discussed more fully below, which do not support the Company's requested ROE; and

3) The use of an FPFTY, which reduces the risk due to regulatory lag based on the inclusion of the most current information in its rates when they will be in effect.

[6] *See* PECO Statement No. 5, Direct Testimony of Paul R. Moul ("Moul Direct"), p. 2, lines 3-7.
[7] *See id.* at 7, line 17 to p. 8, line 2.

(B) Recent ROEs Approved by the Commission

Q. IS THE COMPANY'S PROPOSED ROE SIGNIFICANTLY HIGHER THAN THE ROEs PREVIOUSLY APPROVED BY THE COMMISSION FROM 2018 TO PRESENT?

A. Yes. The requested ROE of 10.80 percent exceeds the only publicly available authorized ROE assigned by the Commission since 2018.

Q. SINCE 2018, IN WHICH FULLY LITIGATED ELECTRIC CASE DID THE COMMISSION ISSUE AN ORDER WITH A STATED ROE?

A. The last noted fully-litigated electric rate case with an authorized ROE was in 2018, in Docket No. R-2017-2640058, where in the Commission issued an ROE to UGI Utilities, Inc. – Electric Division of 9.85 percent.[8] There has been no fully-litigated electric utility base rate case with a Commission-authorized ROE since this case.

(C) National Utility Industry ROE Trends

Q. IS THE COMPANY'S PROPOSED 10.80 PERCENT ROE SIGNIFICANTLY HIGHER THAN THE ROEs APPROVED BY OTHER UTILITY REGULATORY COMMISSIONS IN 2021, 2022, 2023, AND SO FAR IN 2024?

A. Yes. According to data from S&P Global Market Intelligence ("S&P Global"), a financial news and reporting company, the average of the 118 reported electric

[8] *See* Bureau of Technical Utility Services Report on the Quarterly Earnings of Jurisdictional Utilities for the Year Ended December 31, 2020, Docket No. M-2021-3025288 (May 6, 2021), Attachment C (referencing *Pennsylvania Public Utility Commission, et al. v. UGI Utilities, Inc. – Electric Division*, Docket No. R-2017-2640058, Opinion and Order (entered Oct. 25, 2018), p. 119).

utility rate case ROEs authorized by commissions to investor-owned utilities in 2021, 2022, 2023, and so far in 2024, is 9.50 percent.[9] The range of reported authorized ROEs for the period is 7.36 percent to 11.45 percent, and the median authorized ROE is 9.50 percent.[10] The average and median values are significantly below the Company's proposed ROE of 10.80 percent. As such, the Company's proposed 10.80 percent ROE is counter to broader electric industry trends.

Q. SEVERAL OF THE REPORTED AUTHORIZED ROEs ARE FOR VERTICALLY INTEGRATED UTILITIES. WHAT IS THE AVERAGE AUTHORIZED ROE IN THE REPORTED GROUP FOR DISTRIBUTION ONLY UTILITIES?

A. In the group reported by S&P Global, the average ROE for distribution only utilities authorized from 2021 through present is 9.13 percent.[11] The average ROE authorized for distribution only utilities in 2021 was 8.99 percent; in 2022, it was 9.11 percent; in 2023, it was 9.24 percent; and thus far in 2024, it is 9.60 percent.[12] As such, the Company's proposed 10.80 percent ROE is counter to broader electric industry trends and, in fact, as shown in Figure 1, would be the highest approved ROE (out of 34) for a distribution only utility from 2021 to present, if approved by the Commission.

[9] *See* Exhibit LVP-2.
[10] *See id.*
[11] *See id.*
[12] *See id.*

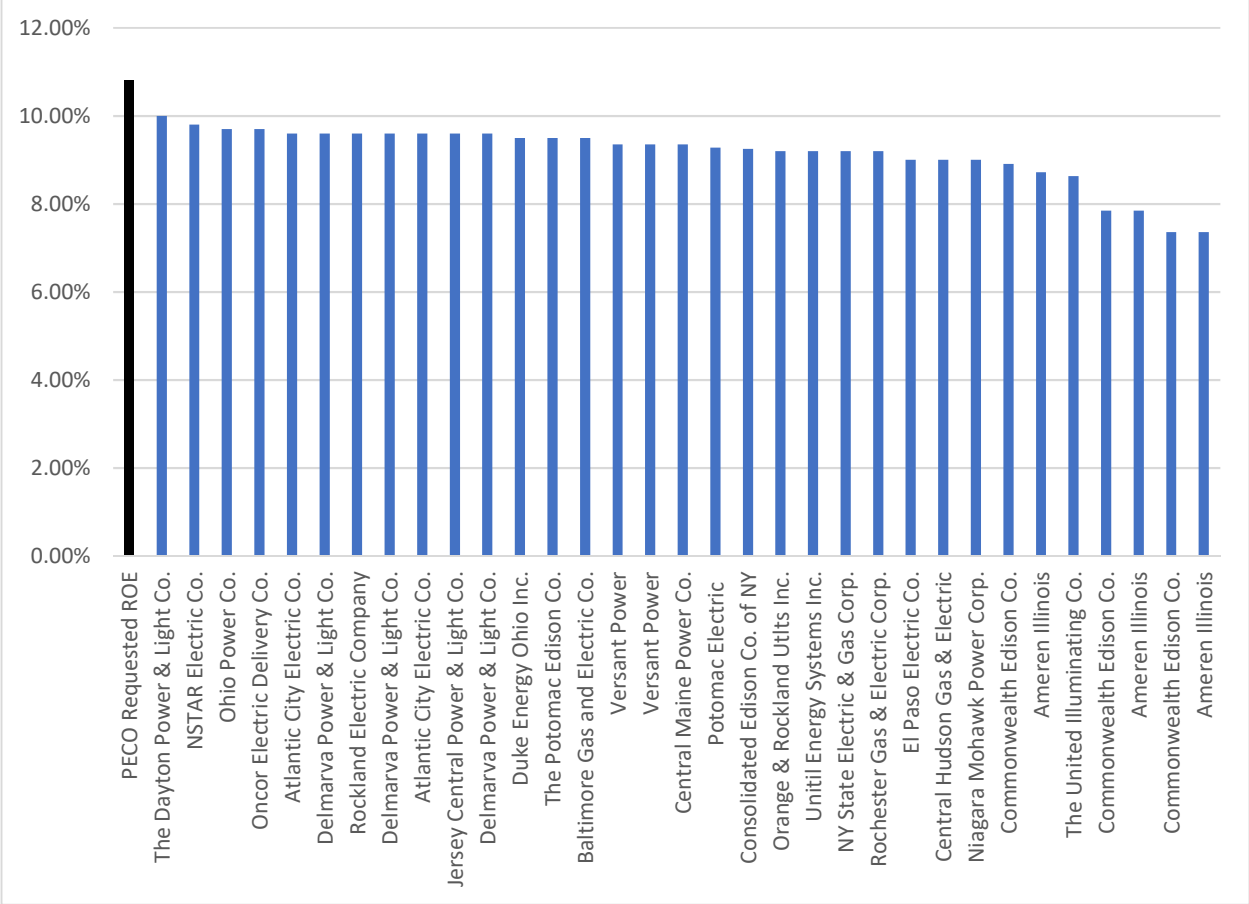


Figure 1. PECO's Proposed ROE Versus Authorized ROEs for Distribution Only Utilities, 2021 to present. Source: Exhibit LVP-2.

Q. WHAT IS THE REVENUE REQUIREMENT IMPACT WERE THE COMMISSION TO APPROVE AN ROE FOR THE COMPANY EQUIVALENT TO 9.13 PERCENT, THE AVERAGE AUTHORIZED ROE NATIONWIDE IN 2021, 2022, 2023, AND SO FAR IN 2024 FOR DISTRIBUTION ONLY UTILITIES?

A. If the Commission were to approve an ROE for the Company of 9.13 percent, versus the Company's proposal of 10.80 percent, it would result in a reduction in

the Company's proposed revenue requirement, inclusive of taxes, of $115.8 million, or 25.0 percent.[13]

Q. IS WALMART RECOMMENDING THAT THE COMMISSION BE BOUND BY ROEs AUTHORIZED BY OTHER STATE REGULATORY COMMISSIONS?

A. No. Decisions of other state regulatory commissions are not binding on the Commission. Additionally, each state regulatory commission considers the specific circumstances in each case in its determination of the proper ROE. Walmart is providing this information to illustrate a national customer perspective on industry trends in authorized ROEs.

(D) Performance Adder as Part of ROE

Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED PERFORMANCE ADDER.

A. It is my understanding that the Company is proposing a 15 basis point performance adder in order to recognize and encourage "exemplary performance."[14]

Q. DOES THE COMPANY PROPOSE ANY SPECIFIC MEASUREABLE OUTCOMES TO JUSTIFY THE ADDER?

A. No. The Company references testimonies from various witnesses, including Witness Levine, who discusses the Company's customer service technologies,

[13] *See* Exhibit LVP-3.
[14] *See* Moul Direct, p. 2, lines 4-7.

programs, and survey outcomes.[15] However, there is no clear, specific measure provided that justifies the 15 basis point performance adder.

Q. SHOULD AN INCREASE TO ROE DUE TO PERFORMANCE REQUIRE SPECIFIC MEASURABLE OUTCOMES?

A. Yes. If the Commission determines that a performance adder is appropriate in this docket, it should only reward specified and measurable outcomes incremental to current outcomes and customer expectations – the Company should not receive a bonus for what it is already required to do, and what it has already done with current incentives in place. Additionally, any approval of a performance adder should require that the adder be reduced in the event the Company fails to meet the specified and measurable outcomes.

Q. DOES WALMART HAVE ANY ADDITIONAL CONCERNS WITH THE PERFORMANCE ADDER?

A. Yes. The adder is essentially a non-cost factor proposed within the context of cost of service ratemaking. Traditionally, the purpose of an awarded ROE has been to compensate a company solely for its cost of capital, regardless of performance. That said, Walmart recognizes that the Commission has broad discretion over the constituent pieces of an appropriate ROE, including the extent to which performance should be rewarded or punished.

[15] *See* Moul Direct, p. 2, lines 15-17; *see also* PECO Statement No. 1, Direct Testimony of Nicole L. Levine ("Levine Direct"), pp. 25-32.

Q. WHAT IS THE IMPACT OF THE PERFORMANCE ADDER?

A. Adding the 15 basis point adder to the Company's proposed ROE increases costs to customers by roughly $7.05 million.[16] Each basis point of the performance adder adds approximately $693,644 to rates.[17]

Q. WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING THE COMPANY'S PROPOSED PERFORMANCE ADDER?

A. The Commission should reject the Company's proposed performance adder.

(E) Walmart's Recommendation

Q. WHAT IS YOUR RECOMMENDATION TO THE COMMISSION IN REGARD TO THE COMPANY'S PROPOSED ROE?

A. The Commission should thoroughly and carefully consider the impact on customers in setting the ROE, in addition to all other facets of this case, to ensure that any increase in the Company's rates reflects the minimum amount necessary to compensate the Company for adequate and reliable service, while also providing PECO an opportunity to earn a reasonable return for its shareholders.

Specifically, the Commission should closely examine the Company's proposed revenue requirement increase and the associated ROE in light of:

1) The customer impact of the resulting revenue requirement increase;

[16] *See* Exhibit LVP-3.
[17] *See id.*

2) The most recent ROE approved by this Commission in a fully litigated rate case and ROEs approved by other utility regulatory commissions nationwide, which do not support the Company's requested ROE; and

3) The use of an FPFTY, which reduces the risk due to regulatory lag based on the inclusion of the most current information in its rates when they will be in effect.

Additionally, the Commission should reject the proposed performance adder for the reasons stated above.

IV. Cost of Service, Revenue Allocation, and Rate Design

(A) Cost of Service

Q. GENERALLY, WHAT IS WALMART'S POSITION ON SETTING RATES BASED ON THE UTILITY'S COST OF SERVICE?

A. Walmart advocates that rates be set based on the utility's cost of service for each rate class. This produces equitable rates that reflect cost causation, sends proper price signals, and minimizes price distortions.

Q. DOES WALMART TAKE A POSITION ON THE COMPANY'S PROPOSED COST OF SERVICE METHODOLOGY AT THIS TIME?

A. No. However, to the extent that alternative cost of service methodologies or modifications to the Company's methodology are proposed by other parties, Walmart reserves the right to address any such changes in accordance with the Commission's procedures in this docket.

(B) Revenue Allocation

Q. HOW DOES THE COMPANY REPRESENT IF RATES FOR A CUSTOMER CLASS ACCURATELY REFLECT THE UNDERLYING COST CAUSATION?

A. The Company reflects this relationship in their cost-of-service results through the use of class-specific rates of return. These rates of return can be converted into a "relative rate of return" or "RROR," which is an indexed measure of the relationship of the rate of return for an individual customer class to the total system rate of return. An RROR greater than 1.0 means that the customer class is paying rates in excess of costs incurred by the Company to serve that class. Conversely, an RROR less than 1.0 means that the customer class is paying rates less than the costs incurred by the Company to serve that class. As such, those rate classes with an RROR greater than 1.0 are subsidizing the classes with an RROR less than 1.0.

Q. HAS THE COMPANY CALCULATED CLASS RRORs BASED ON ITS PROPOSED COST OF SERVICE RESULTS?

A. Yes, as shown in Table 1 below.

Table 1. Class Rates of Return and RRORs, Current Rates, PECO's Proposed Allocated Cost of Service Results.

Customer Class	Rate of Return	RROR
Residential (R)	5.14%	1.16
Residential Heating (RH)	2.58%	0.59
General Service (GS)	4.08%	0.92
Primary Distribution (PD)	3.36%	0.76
High Tension (HT)	3.93%	0.89
Electric Propulsion (EP)	2.51%	0.57
Lighting	5.86%	1.33
System Total	**4.41%**	**1.00**

Source: Ex. JAB-1, p. 1

Q. WHAT IS YOUR UNDERSTANDING OF THE COMPANY'S REVENUE ALLOCATION PROPOSAL?

A. I understand that the Company's proposal to distribute the rate increase among customer classes aims to align each class more closely with its cost of service while also limiting any single class's increase to no more than twice the system average, thereby preventing rate shock.[18] According to the Company's proposed revenue allocation, the RROR for each class would be as follows:

[18] *See* PECO Statement No. 7, Direct Testimony of Joseph A. Bisti ("Bisti Direct"), p. 4, lines 2-4 and lines 10-13.

Table 2. Class RRORs, Current Rates v. PECO Proposed.

Customer Class	Current RROR	Proposed RROR
Residential (R)	1.16	1.07
Residential Heating (RH)	0.59	0.82
General Service (GS)	0.92	0.96
Primary Distribution (PD)	0.76	0.90
High Tension (HT)	0.89	0.98
Electric Propulsion (EP)	0.57	0.73
Lighting	1.33	0.98
System Total	**1.00**	**1.00**

Source: Ex. JAB-1, p. 1

Q. DOES THE COMPANY'S PROPOSED REVENUE ALLOCATION BRING CUSTOMER CLASSES TO THEIR COST BASED LEVELS?

A. No, it does not. As shown in Table 2 above, although the Company's proposed revenue allocation brings each class closer to its cost of service level, all classes remain in either a subsidized or subsidizing position.

Q. WHAT IS WALMART'S REVENUE ALLOCATION RECOMMENDATION TO THE COMMISSION AT THE COMPANY'S PROPOSED REVENUE REQUIREMENT?

A. At the Company's proposed revenue requirement, Walmart does not oppose the Company's proposed revenue allocation.

Q. WHAT IS WALMART'S RECOMMENDATION TO THE COMMISSION IF THE COMMISSION DETERMINES THAT A LOWER REVENUE REQUIREMENT IS APPROPRIATE?

A. If the Commission determines that the appropriate revenue requirement is less than the revenue requirement proposed by the Company, then the Commission should

take steps to further reduce the interclass subsidies as reflected in Table 2. Starting with the revenue allocation proposed by the Company, the Commission should apply 50 percent of the overall revenue reduction to those rate classes with an RROR above 1.0, except that in no event should a subsidizing rate class (RROR above 1.0) be moved to a subsidized position (RROR below 1.0). The remaining 50 percent of the overall revenue reduction should be evenly applied to mitigate the proposed increases for all rate classes on an equal percentage basis.

V. Rate Design

(A) GS and HT Rates

Q. DOES THE COMPANY PROPOSE TO MAKE ANY STRUCTURAL CHANGES TO THE GS OR HT RATES?

A. No, it does not.[19]

Q. DOES WALMART TAKE A POSITION ON THE COMPANY'S PROPOSED RATE DESIGNS FOR THE GS AND HT RATES AT THIS TIME?

A. No. However, to the extent that an alternative rate design for the GS Rate or HT Rate or modifications to the Company's respective rate design is proposed by other parties, Walmart reserves the right to address any such changes in accordance with the Commission's procedures in this docket.

[19] *See id.* at Exhibit JAB-2, Tariff Electric Pa. P.U.C. No. 8, Original Page No. 57 and Original Page No. 60.

(B) Public EV Distribution Charging Rate

Q. DOES THE COMPANY CURRENTLY OFFER OR PROPOSE TO OFFER IN THIS DOCKET A DISTRIBUTION RATE SPECIFICALLY FOR EV CHARGING?

A. Yes, it does. Based on my understanding, the Commission approved a settlement agreement in the Company's 2018 general rate case that included a five-year EV charging pilot rider, known as the "EV-FC Pilot Rider," that is now scheduled to end on December 31, 2025, following an 18-month extension.[20] This Rider offers a demand credit to customers under Rates GS, PD, or HT who own publicly accessible Direct Current Fast Chargers ("DCFC").

Q. IS THE COMPANY PROPOSING IN THIS DOCKET TO EXTEND THE EV-FC PILOT RIDER BEYOND ITS CURRENTLY SCHEDULED SUNSET DATE OF DECEMBER 31, 2025?

A. Yes, it is. The Company is proposing to extend the EV-FC Pilot Rider to December 31, 2030.[21]

Q. IS THE COMPANY PROPOSING TO MAKE ANY REVISIONS THE CURRENTLY APPROVED EV-FC PILOT RIDER?

A. Yes, the Company is also proposing to revise the eligibility criteria, minimum demand requirements, and how the demand credit is calculated.[22] Specifically, the Company is proposing to:

[20] *See* PECO Statement No. 9, Direct Testimony of Steven J. DeMott ("DeMott Direct"), p. 19, line 21 to p. 20, line 2.
[21] *See* PECO Statement No. 8, Direct Testimony of Megan A. McDevitt ("McDevitt Direct"), p. 6, lines 11-13.
[22] *See id.* at 6, lines 11-16.

1) Broaden eligibility of the EV-FC Pilot Rider by removing the requirement for DCFCs to be publicly available;[23]

2) Require chargers to be at least 50 kW per charging port, separately metered, and at least one charger be permanently connected and installed after July 1, 2019;[24]

3) Reduce the minimum demand needed to receive a demand credit to (i) 30 percent of the maximum contract demand, or (ii) if there is no contract demand, 15 kW minimum demand;[25] and

4) Change the basis for the demand credit from a percentage of the combined maximum nameplate capacity rating of the DCFC to a percentage of the measured demand.[26]

Q. IS WALMART SUPPORTIVE OF THE EV-FC PILOT RIDER AND THE REVISIONS TO THE RIDER THAT ARE PROPOSED BY THE COMPANY IN THIS DOCKET?

A. Generally, yes. Walmart has long supported cost-based utility rates where costs are recovered from customers in the same manner in which they are incurred, including the recovery of demand costs through demand charges. However, public EV charging differs significantly from our stores and other building facilities, and presents unique operational and financial challenges that warrant exploration into alternative rate designs to create cost-based, usable, and enduring public EV

[23] *See* DeMott Direct, p. 21, lines 13-14.
[24] *See id.* at 21, lines 14-20.
[25] *See id.* at 23, lines 8-15.
[26] *See id.* at 24, lines 2-4.

charging rates that will help promote EV charger deployment and consumer EV adoption.

Q. DOES WALMART HAVE EXPERIENCE IN THE EV CHARGING SPACE?

A. Yes, Walmart has substantial experience with offering EV charging to its customers and is actively growing its presence in the EV charging space. Specifically, Walmart currently hosts more than 1,200 public DCFCs at 285 different locations across 43 states. As announced recently, Walmart intends to build its own EV fast-charging network at thousands of Walmart and Sam's Club locations across the U.S. over the next few years.[27] Walmart retail sites are ideally situated for EV charging stations because of their large parking lots, easy public access, and multi-site locations.

Q. WHY HAS WALMART DECIDED TO PARTICIPATE IN THE PUBLIC EV CHARGING SPACE?

A. As part of its renewable energy and carbon reduction efforts, Walmart is committed to supporting EV adoption by providing EV charging stations in thousands of locations that not only serve EV customers who reside and/or work nearby but that also advance the nationwide EV infrastructure. Further, Walmart is proud to offer EV charging as a convenience to its customers who currently own EVs and for future EV owners. Building an EV charging infrastructure that serves local communities, both large and small, as well as corridors located within states and

[27] Vishal Kapadia, *Leading the Charge: Walmart Announces Plan to Expand Electric Vehicle Charging Network*, Walmart (Apr. 6, 2023), https://corporate.walmart.com/newsroom/2023/04/06/leading-the-charge-walmart-announces-plan-to-expand-electric-vehicle-charging-network.

throughout the country, is critical as vehicle owners consider their options when purchasing a new vehicle.

Q. ARE ELECTRIC RATES A FACTOR THAT WALMART CONSIDERS WHEN INSTALLING OR SITING EV CHARGING INFRASTRUCTURE AT ITS FACILITIES?

A. Yes, Walmart seeks to balance the risks and costs of installing and maintaining a particular EV charging station, which is informed, in part, by the tariff under which the electricity is provided from the utility to the owner of the EV charger.

Q. WHAT IS WALMART'S RECOMMENDATION TO THE COMMISSION WITH REGARD TO THE COMPANY'S EV-FC PILOT RIDER, INCLUDING ITS PROPOSED EXTENSION AND REVISIONS?

A. Walmart recommends that the Commission approve the Company's proposed extension of the EV-FC Pilot Rider and takes no position on its proposed revisions to the Rider.

VI. PECO Customer Engagement – Key Account Management Team

Q. DOES THE COMPANY PROVIDE TESTIMONY ON ITS VIEW OF CUSTOMER SERVICE AND ENGAGEMENT?

A. Yes, it does. Company witness Levine discusses how the Company tracks its customer performance, implementation of recent customer service enhancements over the past few years, and additional steps the Company is taking to improve its customers' experience.[28]

[28] *See generally* Levine Direct, pp. 25-28.

Q. DOES THE COMPANY PROVIDE A CUSTOMER REPRESENTATIVE TO ENGAGE WITH ITS LARGER CUSTOMERS?

A. Yes, it does. The Company has a key account management team dedicated to engaging with and addressing the unique needs of its larger customers.

Q. WHAT BENEFITS TO LARGE CUSTOMERS COME FROM HAVING A DEDICATED ACCOUNT REPRESENTATIVE?

A. The account representative plays a vital role in the customer-utility relationship by providing a single point of contact at the utility for day-to-day operational and technical support, updates on rates and utility programs, support during emergencies such as hurricanes and winter storm events, and a conduit for customer-utility communications on broader strategic opportunities. For Walmart, in particular, which generally maintains multiple sites within a utility's service territory, it also ensures a single, consistent message applicable to all of its operations. A top-notch account representative is practically a member of the customer's energy management team and an advocate for the customer within the utility organization.

Q. ARE THERE BENEFITS TO OTHER UTILITY CUSTOMERS AND THE BROADER COMMUNITY?

A. Yes. Account representatives for large customers help those customers serve their communities, particularly during storms and other emergency events. For example, in the event of a power outage during a storm, customers need a knowledgeable and efficient point of contact to coordinate power restoration, advocate and direct action within the utility, and work to ensure business continuity. If one of our stores loses

power, knowing the estimated duration of the outage in a timely manner can help determine whether a mobile generator is needed to operate the entire facility or refrigerated trailers are needed to refrigerate perishables and how soon we can return to serving the community. Additionally, the process of installing a mobile generator requires utility engagement – utility crews are required to pull fuses on the distribution system in order to allow the generator to interconnect – and to execute on this process efficiently requires the attention and expertise of an account representative. Repeatedly calling a call center, providing identifying info (account number, service address, etc.), reviewing information already provided, and not knowing when and how the issue will be resolved is inefficient and frustrating for customers.

Q. WHAT IS WALMART'S RECOMMENDATION TO THE COMMISSION?

A. Walmart appreciates the Company's ongoing commitment to engaging with all its customers through continuous evaluation of their relationship and adapting processes as technology and customer needs evolve. In particular, Walmart values the Company's key account management program and supports the efforts of this team, as previously discussed. While not a specific recommendation, Walmart highlights this in its testimony to inform the Commission of the valuable service provided by the Company's key account management team.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company – Electric Division	:	

VERIFICATION

I, Lisa V. Perry, hereby state that the facts in my Direct Testimony, 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 any hearing held in this matter. I understand the statements herein are made subject to the penalties of 18 Pa. C.S. §4904 (relating to falsification to authorities).

Date: 6/17/2024

L.V. Perry

Lisa V. Perry
Walmart Inc.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company – Electric Division	:	

EXHIBITS OF

LISA V. PERRY

ON BEHALF OF

WALMART INC.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company – Electric Division	:	

EXHIBIT LVP-1 OF

LISA V. PERRY

ON BEHALF OF

WALMART INC.

Lisa V. Perry

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Business Address: 2608 SE J Street, Bentonville, Arkansas 72716
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EXPERIENCE

September 2023 – Present
Walmart Inc., Bentonville, AR
Director, Utility Partnerships - Regulatory

September 2019 – September 2023
Walmart Inc., Bentonville, AR
Senior Manager, Energy Services

November 2017 – September 2019
Oram & Houghton PLLC, Round Rock, TX
Of Counsel, Energy Law

February 2016 – November 2017
Ray Quinney & Nebeker, P.C., Salt Lake City, UT
Of Counsel, Energy Law

September 2007 – February 2016
Welborn, Sullivan, Meck & Tooley, P.C., Denver, CO
Partner, Energy Law

EDUCATION

2000	University of Florida Levin College of Law	LL.M., Taxation
1999	University of Florida Levin College of Law	J.D.
1996	University of South Florida	B.A., Criminology
1993	University of South Florida	B.A., Psychology

FILED TESTIMONY

2024

Pennsylvania Public Utility Commission Docket No. R-2024-3046523: Pennsylvania Public Utility Commission v. Duquesne Light Company
Issue: General Rate Case.

Public Service Commission of South Carolina Docket No. 2024-34-E: In re: Application of Dominion Energy South Carolina, Inc. for Authority to Adjust and Increase Its Retail Electric Rate Schedules, Tariffs, and Terms and Conditions
Issue: General Rate Case.

North Carolina Utilities Commission Docket No. E-100, Sub 190: In the Matter of Biennial Consolidated Carbon Plan and Integrated Resource Plans of Duke Energy Carolinas, LLC, and Duke Energy Progress LLC, Pursuant to N.C.G.S. § 62-110.1(c).
Issue: Carbon Plan and Integrated Resource Plan.

Public Utility Commission of Texas Docket No. 56165, SOAH Docket No. 473-24-12812: Application of AEP Texas Inc. for Authority to Change Rates.
Issue: General Rate Case.

Illinois Commerce Commission Docket Nos. 22-0487 and 23-0082 (cons.) (reopen.): Illinois Commerce Commission on its Own Motion vs. Ameren Illinois Company d/b/a Ameren Illinois and Order Requiring Ameren Illinois Company to file an Initial Multi-Year Integrated Grid Plan and Initiating Proceeding to Determine Whether the Plan is Reasonable and Complies with the Public Utilities Act and Ameren Illinois Company d/b/a Ameren Illinois Petition for Approval of a Multi-Year Rate Plan pursuant to 220 ILCS 5/16-108.18.
Issue: Refiled Multi-Year Integrated Grid Plan.

Public Service Commission of South Carolina Docket No. 2022-326-E: In re: Joint Application of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC for Approval of Customer Renewable Programs
Issue: Seeking approval of new voluntary renewable programs.

Iowa Utilities Board Docket No. RPU-2023-0002: In re: Interstate Power and Light Company
Issue: General rate case.

Public Service Commission of South Carolina Docket No. 2023-388-E: In re: Application of Duke Energy Carolinas, LLC for Increase in Electric Rates, Adjustments in Electric Rate Schedules and Tariffs, and Request for an Accounting Order
Issue: General rate case.

Florida Public Service Commission Docket No. 20230020-EI: In re: Petition for limited proceeding for recovery of incremental storm restoration costs related to Hurricanes Elsa, Eta, Isaias, Ian, Nicole, and Tropical Storm Fred, by Duke Energy Florida, LLC.
Issue: Seeking approval of cost recovery for storm costs resulting from the named Hurricanes and Tropical Storm.

Public Utility Commission of Texas Docket No. 55176, SOAH Docket No. 473-24-06013: Application of El Paso Electric Company to Implement a Voluntary Texas Business Solar Power Program.
Issue: Approval of a voluntary renewable energy program.

Florida Public Service Commission Docket No. 20230019-EI: In re: Petition for recovery of costs associated with named tropical systems during the 2019-2022 hurricane seasons and replenishment of storm reserve, by Tampa Electric Company.
Issue: Seeking approval of cost recovery for storm costs incurred during the 2019-2022 hurricane seasons.

Georgia Public Service Commission Docket No. 55378: In Re: Georgia Power Company's 2023 Integrated Resource Plan Update, Certification of the Power Purchase Agreement Between Georgia Power Company and Mississippi Power Company and Santa Rosa Energy Center LLC, and Amended Certification of the Residential Thermostat Demand Response Demand Side Management Program.
Issue: Approval of an updated Integrated Resource Plan.

Public Service Commission of South Carolina Docket No. 2023-369-E: In re: S.C. Code Ann. Section 58-37-60 Independent Study to Evaluate the Integration of Renewable Energy and Emerging Energy Technologies into the Electric Grid for the Public Interest.
Issue: Evaluation of integrating renewable generation and related technologies into the grid.

2023
Public Service Commission for the State of Maryland Case No. 9702: In the Matter of the Application of Potomac Electric Power Company for Adjustments to its Retail Rates for the Distribution of Electric Energy
Issue: General rate case.

Public Service Commission for the State of New York Case No. 23-E-0418: Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Central Hudson Gas & Electric Corporation for Electric Service; and Case No. 23-G-0419: Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Central Hudson Gas and Electric Corporation for Gas Service.
Issue: General rate cast for electric and gas service.

Indiana Utility Regulatory Commission Cause No. 45933: Petition of Indiana Michigan Power Company, an Indiana Corporation, for Authority to Increase its Rates and Charges for Electric Utility Service Through a Phase In Rate Adjustment; and for Approval of Related Relief Including: (1) Revised Depreciation Rates, Including Cost of Removal Less Salvage, and Updated Depreciation Expense; (2) Accounting Relief, Including Deferrals and Amortizations; (3) Inclusion of Capital Investment; (4) Rate Adjustment Mechanism Proposals, Including New Grant Projects Rider and Modified Tax Rider; (5) a Voluntary Residential Customer Powerpay Program; (6) Waiver of Declination of Jurisdiction with Respect to Certain Rules to Facilitate Implementation of the Powerpay Program; (7) Cost Recovery for Cook Plant Subsequent License Renewal Evaluation Project; and (8) New Schedules of Rates, Rules and Regulations.
Issue: General rate case.

Public Utilities Commission of Ohio Case No. 23-301-EL-SSO: In the Matter of the Application of Ohio Edison Company, the Cleveland Electric Illuminating Company, and the Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan.
Issue: Approval of the Company's proposed Electric Security Plan.

Louisiana Public Service Commission Docket No. U-36697: Application of Entergy Louisiana, LLC for Approval of an alternative market-based mechanism process seeking to secure up to 3,000 MW of solar resources, including certification of those resources, expansion of the Geaux Greem Option Rider, and approval of a new renewable tariff.
Issue: Approval of a voluntary renewable program backed by utility-owned solar assets.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2023-00101: Application of Virginia Electric and Power Company for a 2023 biennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia.
Issue: Biennial review of rates.

Commonwealth of Kentucky Public Service Commission Case No. 2023-00159: Electronic Application of Kentucky Power Company for (1) a General Adjustment of its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) a Securitization Financing Order; and (5) all other Required Approvals and Relief.
Issue: General rate case.

Louisiana Public Service Commission Docket No. U-36625: Application of Entergy Louisiana, LLC for Approval of the Entergy Future Ready Resilience Plan (Phase I)
Issue: Recovery of costs to upgrade transmission and distribution systems.

Colorado Public Utilities Commission Proceeding No. 23A-0242E: In the Matter of the Application of Public Service Company of Colorado for Approval of its 2024-2026 Transportation Electrification Plan.
Issue: Seeking approval of utility's second transportation electrification plan.

Public Service Commission of South Carolina Docket No. 2023-121-E: Identification of Regulatory Challenges and Opportunities Associated with Electrification of Transportation Sector Pursuant to S.C. Code Ann. Section 58-27-265.
Issue: Electrification of the transportation sector.

Indiana Utility Regulatory Commission Cause No. 45919: In the Matter of the Petition of Indiana Michigan Power Company for Approval of (1) an Electric Vehicle Fast Charging Rate and Tariff and (2) Deferred Accounting Treatment for the Costs of Certain Company-Owned Electric Vehicle Fast Charging Stations and the Revenue from the Electric Vehicle Fast Charging Tariff.
Issue: Approval of an EV charging tariff for utility-owned public EV chargers.

Oklahoma Corporation Commission Cause No. PUD 2023000038: In the Matter of the Application of Oklahoma Gas and Electric Company for Commission Preapproval of New Generation Capacity Pursuant to 17 O.S. Section 286(C).
Issue: Approval to construct two CT units and recovery of costs through a rider.

State Corporation Commission of the State of Kansas Docket No. 23-EKCE-775-RTS: In the Matter of the Joint Application of Evergy Kansas Central, In., Evergy Kansas South, Inc., and Evergy Metro, Inc. for Approval to Make Certain Changes in their Charges for Electric Service.
Issue: General rate case.

Michigan Public Service Commission Case No. U-21389: In the matter of the application of CONSUMERS ENERGY COMPANY for authority to increase its rates for the generation and distribution of electricity and for other relief.
Issue: General rate case.

Public Service Commission of Wyoming Docket No. 20000-633-ER-23 (Record No. 17252): In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Service Rates by Approximately $140.2 Million Per Year or 21.6 Percent and to Revise the Energy Cost Adjustment Mechanism.
Issue: General Rate Case.

Public Utility Commission of Texas Docket No. 54634, SOAH Docket No. 473-23-14020: Application of Southwestern Public Service Company for Authority to Change Rates.
Issue: General Rate Case.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2023-00002: Application of Appalachian Power Company for a 2023 triennial review of its base rates, terms and conditions pursuant to § 56-585.1 of the Code of Virginia.
Issue: Triennial review of rates.

Michigan Public Service Commission Case No. U-21297: In the matter of the Application of DTE ELECTRIC COMPANY for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.
Issue: General rate case.

Indiana Utility Regulatory Commission Cause No. 45816: Investigation of the Indiana Utility Regulatory Commission Regarding the Public Utility Regulatory Policies Act Section 111(d) Standards as Amended by the Infrastructure Investment and Jobs Act.
Issue: Electric vehicle charging programs and tariffs.

Illinois Commerce Commission Docket No. 23-0055: Commonwealth Edison Company Petition for Approval of a Multi-Year Rate Plan under Section 16-108.18 of the Public Utilities Act.
Issue: Multi-Year Rate Plan rate case.

Illinois Commerce Commission Docket No. 23-0082: Ameren Illinois Company d/b/a Ameren Illinois Petition for Approval of a Multi-Year Rate Plan pursuant to 220 ILCS 5/16-108.18.
Issue: Multi-Year Rate Plan rate case.

Illinois Commerce Commission Docket No. 23-0067: Ameren Illinois Company d/b/a Ameren Illinois Proposed General Increase in Rates and Revisions to Other Terms and Conditions of Service. (Tariff filed January 6, 2023).
Issue: Gas general rate case.

Illinois Commerce Commission Docket No. 23-0066: Northern Illinois Gas Company d/b/a Nicor Gas Company Proposed General Increase in Rates and Revisions to Other Terms and Conditions of Service. (Tariff filed January 3, 2023).
Issue: Gas general rate case.

Indiana Utility Regulatory Commission Cause No. 45843: Verified Petition of Indianapolis Power & Light Company d/b/a AES Indiana for Commission Approval of an Electric Vehicle Portfolio, Including: (1) A Public Use Electric Vehicle Pilot Program Pursuant to Ind. Code Ch. 8-1-43; and (2) Time-Varying and Other Alternative Pricing Structures and Tariffs Pursuant to Ind. Code §8-1-2.5-6(3); and for Approval of Associated Accounting and Ratemaking.
Issue: Electric vehicle charging programs and tariffs.

Arkansas Public Service Commission Docket No. 22-065-U: In the Matter of the Application of Southwestern Electric Power Company for a Certificate of Public Convenience and Necessity to Operate the John W. Turk, Jr. Power Plant to Supply a Public Service to its Arkansas Customers and for Approval of a Generation Cost Recovery Rider to Recover its Costs in Arkansas Rates.
Issue: Cost recovery from customers of an existing generation resource.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2022-00166: Petition of Appalachian Power Company for consideration of the appropriate framework for cost recovery, the allocation of costs net of benefits pursuant to Code § 56-585.5 F, and class and jurisdictional cost allocation.
Issue: Recovery methodology and cost allocation of VCEA-related costs.

Oklahoma Corporation Commission Cause No. PUD 202200093: Application of Public Service Company of Oklahoma, an Oklahoma Corporation, for an Adjustment in its Rates and Charges and the Electric Service Rules, Regulations and Conditions of Service for Electric Service in the State of Oklahoma and to Approve a Formula Base Rate Proposal.
Issue: General rate case.

Oklahoma Corporation Commission Cause No. PUD 202200121: Application of Public Service Company of Oklahoma (PSO) for Approval of the Cost Recovery of the Selected Wind and Solar Facilities (Renewable Resources); a Determination there is a Need for the Renewable Resources; Approval for Cost Recovery of Prudent Costs Incurred by PSO for the Renewable Resources; Approval of a Temporary Cost Recovery Rider; Approval of Certain Treatment of Federal Production Tax Credits; and Such Other Relief the Commission Deems PSO is Entitled.
Issue: Acquisition of renewable generation and recovery through a rider.

Arkansas Public Service Commission Docket No. 22-061-U: In the Matter of an Application into Potential Cost Shifting Associated with Net Metering.
Issue: Net metering tariff and any potential cost shifting between participating and non-participating customers.

2022

Commonwealth of Virginia State Corporation Commission Case No. PUR-2022-00124: Petition of Virginia Electric and Power Company for approval of its 2022 RPS Development Plan under § 56-585.5 D 4 of the Code of Virginia and related requests.
Issue: Approval of 2022 RPS Plan, new renewable projects, PPAs, and cost recovery mechanism, Rider CE, pursuant to the VCEA.

Public Service Commission of South Carolina Docket No. 2022-254-E: In re: Application of Duke Energy Progress, LLC for Increase in Electric Rates, Adjustments in Electric Rate Schedules and Tariffs, and Request for an Accounting Order.
Issue: General rate case.

Public Utility Commission of Texas Docket No. 53719, SOAH Docket No. 473-22-04394: Application of Entergy Texas, Inc. for Authority to Change Rates.
Issue: General rate case.

Louisiana Public Service Commission Docket No. U-36350: Application of Entergy Louisiana, LLC for Recovery in Rates of Costs Related to Hurricane Ida and Related Relief
Issue: Recovery costs related to Hurricane Ida.

Illinois Commerce Commission Docket Nos. 22-0432 and 22-0442 (cons.): Commonwealth Edison Company Petition for Approval of Beneficial Electrification Plan under the Electric Vehicle Act, 20 ILCS 627/45 and New EV Charging Delivery Classes under the Public Utilities Act, Article IX and Illinois Commerce Commission on its own Motion vs. Commonwealth Edison Company Investigation into Commonwealth Edison Company's Beneficial Electrification Plan Filing pursuant to 20 ILCS 627/45
Issue: Approval of Beneficial Electrification Plan.

Illinois Commerce Commission Docket Nos. 22-0431 and 22-0443 (cons.): Ameren Illinois Company d/b/a Ameren Illinois Petition for Approval of Beneficial Electrification Plan pursuant to Section 45 of the Electric Vehicle Act and Illinois Commerce Commission on its own Motion vs. Ameren Illinois Company d/b/a Ameren Illinois Investigation into Ameren Illinois Company's Beneficial Electrification Plan Filing pursuant to 20 ILCS 627/45
Issue: Approval of Beneficial Electrification Plan.

Florida Public Service Commission Docket No. 20220010-EI: In re: Storm protection plan cost recovery clause
Issue: Seeking approval of the cost allocation and recovery methodologies used for storm protection plan cost recovery clause.

Michigan Public Service Commission Case No. U-21224: In the matter of the application of CONSUMERS ENERGY COMPANY for authority to increase its rates for the generation and distribution of electricity and for other relief.
Issue: General rate case.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2021-00156: *Ex Parte*: Establishing a proceeding concerning the allocation of RPS-related costs and the determination of certain proxy values for Virginia Electric and Power Company.
Issue: Allocation methodology for VCEA-related costs and benefits.

Michigan Public Service Commission Case No. U-20836: In the matter of the Application of DTE Electric Company for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.
Issue: General rate case.

Oklahoma Corporation Commission Cause No. PUD 202100164: In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma.
Issue: General Rate Case.

Louisiana Public Service Commission Docket No. U-36190: Application of Entergy Louisiana, LLC for Certification and Approval of the 2021 Solar Portfolio, Rider Geaux Green Option, Cost Recovery and Related Relief.
Issue: Approval of a voluntary renewable program backed by utility-owned solar assets.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2021-00206: Petition of Appalachian Power Company For approval of its 2021 RPS Plan under § 56-585.5 of the Code of Virginia and related requests.
Issue: Seeking approval of RPS Plan and recovery mechanisms for related costs.

Commonwealth of Kentucky Public Service Commission Case No. 2021-00481: Electronic Joint Application of American Electric Power Company, Inc., Kentucky Power Company and Liberty Utilities Co. for Approval of the Transfer of Ownership and Control of Kentucky Power Company.
Issue: Acquisition of Kentucky Power Company by Liberty Utilities Company.

Arkansas Public Service Commission Docket No. 21-070-U: In the Matter of the Application of Southwestern Electric Power Company for Approval of a General Change in Rates and Tariffs.
Issue: General rate case.

Arkansas Public Service Commission Docket No. 21-087-U: In the Matter of Oklahoma Gas and Electric Company's Request to Extend its Formula Rate Plan Rider.
Issue: Seeking extension of formula rate plan.

Public Utility Commission of Texas Docket No. 52451, SOAH Docket No. 473-22-0816: Application of Southwestern Public Service Company for Approval of Advanced Metering System (AMS) Deployment Plan, AMS Surcharge, and Non-Standard Metering Service Fee.
Issue: Approval to implement AMS and recover costs through an additional surcharge.

2021

Louisiana Public Service Commission Docket No. U-36105: Application for Certification to Deploy Natural Gas-Fired Distributed Generation and Authorization to Implement Rider UODG.
Issue: Approval to implement a distributed generation program and rider recovery.

Public Utility Commission of Texas Docket No. 52389, SOAH Docket No. 473-22-0009: Application of Southwestern Electric Power Company for Advanced Metering System (AMS) Deployment Plan, AMS Surcharge, and Non-Standard Metering Service Fees.
Issue: Approval to implement AMS and recover costs through an additional surcharge.

Louisiana Public Service Commission Docket No. U-35991: Application of Entergy Louisiana, LLC for Recovery in Rates of Costs Related to Hurricanes Laura, Delta, Zeta and Winter Storm Uri and for Related Relief.
Issue: Securitization of system restoration costs due to extreme weather conditions.

Oklahoma Corporation Commission Cause No. PUD 202100076: Application of Public Service Company of Oklahoma ("PSO") for Approval of a Financing Order for the Collection of Increased Costs Caused by the Extreme Winter Weather and Contained in the Regulatory Asset Authorized by Order 717625, Including an Appropriate Carrying Cost, and Such Other Relief as the Commission Deems PSO is Entitled.
Issue: Securitization of excessive fuel costs due to extreme weather conditions.

Colorado Public Utilities Commission Proceeding No. 21A-0141E: In the Matter of the Application of Public Service Company of Colorado for Approval of its 2021 Electric Resource Plan and Clean Energy Plan.
Issue: Seeking approval of utility's plan to meet legislative renewable and carbon reduction goals.

Arkansas Public Service Commission Docket No. 21-054-TF: In the Matter of the Application of Entergy Arkansas, LLC for a Proposed Tariff Revision Regarding a Green Promise Tariff.
Issue: Seeking approval for a voluntary renewable energy tariff.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2021-00058: Application of Virginia Electric and Power Company for a 2021 triennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia.
Issue: General Rate Case.

Public Utility Commission of Texas Docket No. 52040, SOAH Docket No. 473-21-2607: Application of El Paso Electric Company for Advanced Metering System (AMS) Deployment Plan, AMS Surcharge, and Non-Standard Metering Service Fees.
Issue: Approval to implement AMS and recover costs through an additional surcharge.

Oklahoma Corporation Commission Cause No. PUD 202100072: In the Matter of the Application of Oklahoma Gas and Electric Company for a Financing Order Pursuant to the February 2021 Regulated Utility Consumer Protection Act Approving Securitization of Costs Arising from the Winter Weather Event of February 2021.
Issue: Securitization of excessive fuel costs due to extreme weather conditions.

Public Utility Commission of Texas Docket No. 51802, SOAH Docket No. 473-21-1892: Application of Southwestern Public Service Company for Authority to Change Rates.
Issue: General rate case.

Oklahoma Corporation Commission Cause No. PUD 202100055: Application of Public Service Company of Oklahoma, an Oklahoma Corporation, for an Adjustment in its Rates and Charges and the Electric Service Rules, Regulations and Conditions of Service for Electric Service in the State of Oklahoma.
Issue: General rate case.

Louisiana Public Service Commission Docket No. U-35441: Application of Southwestern Power Company (SWEPCO) for Approval of a Change in Rates, Extension of Formula Rate Plan and Other Related Relief.
Issue: General rate case and extension of formula rate plan.

Michigan Public Service Commission Case No. U-20963: In the matter of the application of Consumers Energy Company for authority to increase its rates for the generation and distribution of electricity and for other relief.
Issue: General rate case.

Florida Public Service Commission Docket No. 20210010-EI: In re: Storm protection plan cost recovery clause
Issue: Seeking approval of the cost allocation and recovery methodologies used for storm protection plan cost recovery clause.

Arkansas Public Service Commission Docket No. 19-008-U: In the Matter of the Application of Southwestern Electric Power Company for Approval of a General Change in Rates and Tariffs.
Issue: Seeking approval for amortization period and carrying costs for extraordinary fuel costs related to Winter Storm Uri.

Public Utility Regulatory Authority of Connecticut Docket No. 17-12-03RE11: PURA Investigation into Distribution System Planning of the Electric Distribution Companies – New Rate Designs and Rates Review.
Issue: Investigation into low-income rates and economic development rates.

Public Utility Commission of Texas Docket No. 51415, SOAH Docket No. 473-21-0538: Application of Southwestern Electric Power Company for Authority to Change Rates.
Issue: General rate case.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2020-00170: Petition of Virginia Electric and Power Company for approval of a rate adjustment clause, designated Rider RPS, under § 56-585.1 A 5 d of the Code of Virginia.
Issue: Seeking approval of a Rider RPS to recover costs associated with REC purchases made to comply with the Virginia Clean Economy Act.

Commonwealth of Kentucky Public Service Commission Case No. 2020-00350: Electronic Application of Louisville Gas and Electric Company for an Adjustment of its Electric and Gas Rates, a Certificate of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit.
Issue: General rate case.

Commonwealth of Kentucky Public Service Commission Case No. 2020-00349: Electronic Application of Kentucky Utilities Company for an Adjustment of its Electric Rates, a Certificate of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit.
Issue: General rate case.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2020-00164: *Ex Parte*: Allocating RPS costs to certain customers of Virginia Electric and Power Company.
Issue: Determining which costs and benefits of Virginia Clean Economy Act-related assets should be allocated to non-utility customers and seeking approval of a Rider NBC to recover/credit some of those costs and/or benefits.

Oklahoma Corporation Commission Cause No. PUD 202000097: Application of Public Service Company of Oklahoma ("PSO") for Approval of the Cost Recovery of Facilities to be Located at Ft. Sill; a Determination there is a Need for the Facilities; Approval for Future Inclusion in Base Rates for Cost Recovery of Prudent Costs Incurred by PSO for the Facilities; Approval of a Temporary Cost Recovery Rider; and Such Other Relief the Commission Deems PSO is Entitled.
Issue: Seeking approval to acquire a solar facility and gas facility sited at Fort Sill.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2020-00134: *Ex Parte*: Establishing 2020 RPS Proceeding for Virginia Electric and Power Company.
Issue: Seeking approval of a Renewable Portfolio Standard Plan and rider pursuant to the Virginia Clean Economy Act (VCEA).

2020
Commonwealth of Virginia State Corporation Commission Case No. PUR-2020-00135: *Ex Parte*: Establishing 2020 RPS Proceeding for Appalachian Power Company.
Issue: Seeking approval of a Renewable Portfolio Standard Plan pursuant to the Virginia Clean Economy Act (VCEA).

Public Service Commission of South Carolina Docket No. 2019-209-E: In re: South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to Dominion Energy South Carolina, Incorporated and S.C. Code Ann. Section 58-41-30 Related to Electrical Utilities and Their Current Voluntary Renewable Energy Program, and Such Other Proceedings Required By the Commission.
Issue: Seeking approval of a Voluntary Renewable Energy Rider.

Public Service Commission of South Carolina Docket No. 2020-125-E: In re: Application of Dominion Energy South Carolina, Incorporated for Adjustment of Rates and Charges.
Issue: General rate case.

Arkansas Public Service Commission Docket No. 16-036-FR: In the Matter of Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U.
Issue: Seeking five-year extension of Formula Rate Plan.

Commonwealth of Kentucky Public Service Commission Case No. 2020-00174: Electronic Application of Kentucky Power Company for (1) a General Adjustment of its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Public Convenience and Necessity; and (5) All Other Required Approvals and Relief.
Issue: General rate case.

Colorado Public Utilities Commission Proceeding No. 20A-0204E: In the Matter of the Application of Public Service Company of Colorado for Approval of its 2021-2023 Transportation Electrification Plan.
Issue: Seeking approval of utility's plan to encourage EV adoption in its service territory.

Oklahoma Corporation Commission Cause No. PUD 202000021: In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Approving a Recovery Mechanism for Expenditures Related to the Oklahoma Grid Enhancement Plan.
Issue: Seeking approval of a rider that allows for interim recovery of costs associated with expenditures made to enhance the grid.

Arkansas Public Service Commission Docket No. 20-027-U: In the Matter of the Application of Walmart Inc. for Approval to Bid Demand Response into Wholesale Electricity Markets Through an Aggregator of Retail Customers.
Issue: Seeking approval to bid demand response into MISO through a third-party aggregator.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2020-00015: Application of Appalachian Power Company For a 2020 Triennial Review of the Rates, Terms and Conditions for the Provision of Generation, Distribution and Transmission Services Pursuant to § 56-585.1 A of the Code of Virginia.
Issue: General Rate Case.

Michigan Public Service Commission Case No. U-20697: In the matter of the application of Consumers Energy Company for authority to increase its rates for the generation and distribution of electricity and for other relief.
Issue: General rate case.

Florida Public Service Commission Consolidated Docket Nos. 20200067-EI, 20200069-EI, 20200070-EI, 20200071-EI: In re: Review of 2020-2029 Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Tampa Electric Company *et al.*
Issue: Seeking approval of Storm Protection Plans submitted by Tampa Electric Company, Duke Energy Florida, LLC, Gulf Power Company, and Florida Power & Light Company.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2019-00201: Application of Virginia Electric and Power Company for approval of its 2019 DSM Update pursuant to § 56-585.1 A 5 of the Code of Virginia.
Issue: Seek approval to implement eleven new demand-side management programs, to extend existing programs - some with updated parameters and cost/benefit results, and to continue three rate adjustment clauses.

Public Utility Commission of Texas Docket No. 49737, SOAH Docket No. 473-19-6862: Application of Southwestern Electric Power Company for Certificate of Convenience and Necessity Authorization and Related Relief for the Acquisition of Wind Generation Facilities.
Issue: Seeking approval to acquire a wind generation facility located in Oklahoma.

Louisiana Public Service Commission Docket No. U-35324: Application of Southwestern Power Company (SWEPCO) for Certification and Approval of the Acquisition of Certain Renewable Resources in Accordance with the MBM Order and the 1983 and 1994 General Orders.
Issue: Seeking approval to acquire a wind generation facility located in Oklahoma.

2019

Commonwealth of Virginia State Corporation Commission Case No. PUR-2019-00154: Petition of Virginia Electric and Power Company for approval of a plan for electric distribution grid transformation projects pursuant to § 56-585.1 A 6 of the Code of Virginia, and for approval of an addition to the terms and condition applicable to electric service.
Issue: Seeking approval of certain expenditures relating to grid improvement and grid hardening.

Commonwealth of Virginia State Corporation Commission Case No. PUR-2019-00094: Application of Virginia Electric and Power Company for Approval of a 100 Percent Renewable Energy Tariff, Designated Rider TRG, Pursuant to §§ 56-577 A 5 and 56-234 of the Code of Virginia.
Issue: Seek approval of a 100 percent renewable energy tariff.

Public Service Commission of South Carolina Docket No. 2019-239-E: In re: Dominion Energy South Carolina, Incorporated's Request for Approval of an Expanded Portfolio of Demand Side Management Programs, and a Modified Demand Side Management Rate Rider.
Issue: Seeking approval of an expanded Demand Side Management Plan and modified Demand Side Management Rate Rider.

Oklahoma Corporation Commission Cause No. PUD 201900048: Application of Public Service Company of Oklahoma for Approval of the Cost Recovery of the Selected Wind Facilities; A Determination there is a Need for the SWFs; Approval for Future Inclusion in Base Rates Cost Recovery of Prudent Costs Incurred by PSO for the SWFs; Approval of a Temporary Cost Recovery Rider; Approval of Certain Accounting Procedures Regarding Federal Production Tax Credits; and Such Other Relief the Commission Deems PSO in Entitled.
Issue: Seeking approval to acquire a wind generation facility located in Oklahoma and Wind Facility Asset Rider.

Arkansas Public Service Commission Docket No. 19-035-U: In the Matter of the Application of Southwestern Electric Power Company for Approval to Acquire Wind Generating Facilities Pursuant to the Arkansas Clean Energy Development Act.
Issue: Seeking approval to acquire a wind generation facility located in Oklahoma and Wind Facility Asset Rider.

COMMISSION DOCKETS (Appearing as Attorney of Record)
2019
Public Utility Commission of Texas Docket No. 49421: Application of CenterPoint Energy Houston Electric, LLC for Authority to Change Rates.
Issue: General rate case

Public Utility Commission of Texas Docket No. 49494: Application of AEP Texas Inc. for Authority to Change Rates.
Issue: General rate case

Public Utility Commission of Colorado Docket No. 19AL-0268E: In the Matter of Advice Letter No. 1797 Filed by Public Service Company of Colorado to Reset the Currently Effective General Rate Schedule Adjustment ("GRSA") as Applied to Base Rates for all Electric Rate Schedules as well as Implement a Base Rate kWh Charge, General Rate Schedule Adjustment-Energy ("GRSA-E") to Become Effective June 20, 2019.
Issue: General rate case, Phase I

2018

Public Utility Commission of Texas Docket No. 48371: Entergy Texas, Inc.'s Statement of Intent and Application for Authority to Change Rates.
Issue: General rate case

Public Utility Commission of Colorado Docket No. 18M-0074EG: In the Matter of the Commission's Consideration of the Impact of the Federal Tax Cuts and Jobs Act of 2017 on the Rates of Colorado Investor-Owned Electric and Natural Gas Utilities.
Issue: Commenced by the Commission to consider the impacts of the Tax Cut and Jobs Act of 2017 on the revenue requirements and rates of all Colorado investor-owned electric and natural gas utilities.

2017

Public Utility Commission of Texas Docket No. 47461: Application of Southwestern Electric Power Company for Certificate of Convenience and Necessity Authorization and Related Relief for the Wind Catcher Energy Connection Project in Oklahoma.
Issue: Purchase of a wind generation facility and generation tie line.

Public Utility Commission of Texas Docket No. 47527: Application of Southwestern Public Service Company for Authority to Change Rates.
Issue: General rate case

Public Utility Commission of Colorado Docket No. 17A-0462EG: In the Matter of the Application of Public Service Company of Colorado for Approval of a Number of Strategic Issues Relating to its Electric and Gas Demand-Side Management Plan.
Issue: Seek Commission re-examination and approval of the overall objectives and structure of Public Service's DSM initiatives to guide the Company in designing future DSM plans.

Public Utility Commission of Colorado Docket No. 17AL-0649E: In the Matter of Advice Letter No. 1748-Electric Filed by Public Service Company of Colorado to Revise its PUC No. 8-Electric Tariff to Implement a General Rate Schedule Adjustment and Other Rate Changes Effective on Thirty Days' Notice.
Issue: General rate case, Phase I

Arkansas Public Service Commission Docket No. 17-038-U: In the Matter of the Application of Southwestern Electric Power Company for Approval to Acquire a Wind Generating Facility and to Construct a Dedicated Generation Tie Line.
Issue: Purchase of a wind generation facility and generation tie line.

Louisiana Public Service Commission Docket No. U-34619: Application for Expedited Certification and Approval of the Acquisition of Certain Renewable Resources and the Construction of a Generation Tie Pursuant to the 1983 and/or 1994 General Orders.
Issue: Purchase of a wind generation facility and generation tie line.

2016

Public Utility Commission of Colorado Docket No. 16AL-0048E: In the Matter of Advice Letter No. 1712-Electric Filed by Public Service Company of Colorado to Replace Colorado PUC No. 7-Electric Tariff with Colorado PUC No. 8-Electric Tariff.
Issue: General rate case, Phase II

Public Utility Commission of Colorado Docket No. 16A-0055E: In the Matter of the Application of Public Service Company of Colorado for Approval of its Solar*Connect Program.
Issue: Implement a voluntary solar program offering participating customers the ability to offset their current supply of energy from the Public Service system with solar energy produced at a dedicated facility or facilities.

New Mexico Public Regulation Commission Docket No. 16-00276-UT: In the Matter of the Application of Public Service Company of New Mexico for Revision of its Retail Electric Rates Pursuant to Advice Notice No. 533.
Issue: General rate case

INDUSTRY TRAINING

- 2020 Practical Regulatory Training for the Electric Industry, Center for Public Utilities, New Mexico State University College of Business
- 2020 IPU Accounting and Ratemaking Course, Michigan State University
- 2016 and 2022 Western NARUC Utility Rate School
- EUCI Courses on the utility industry, cost allocation, and rate design.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company – Electric Division	:	

EXHIBIT LVP-2 OF

LISA V. PERRY

ON BEHALF OF

WALMART INC.

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2021 to Present

State	Utility	Parent Company Ticker	Docket	Requested ROE	Order Date	Vertically Integrated (V) / Distribution Only (D)	Approved ROE	Difference	ROE Fully Litigated or Settled	Approved WACC	Approved Equity Ratio	Equity Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (8) - (5)	(11)	(12)	(13)	(14) (8) X (13)
Kentucky	Kentucky Power Co.	AEP	C-2020-00174	10.00%	1/13/2021	V	9.30%	(70)	Fully Litigated	6.19%	43.25%	4.02%
North Carolina	Duke Energy Carolinas LLC	DUK	D-E-7, Sub 1214	10.50% µ	3/31/2021	V	9.60%	(90)	Settled	7.04%	52.00%	4.99%
North Carolina	Duke Energy Progress LLC	DUK	D-E-2, Sub 1219	10.50% µ	4/16/2021	V	9.60%	(90)	Settled	6.92%	52.00%	4.99%
Florida	Duke Energy Florida LLC	DUK	D-20210016-EI	9.85%	5/4/2021	V	9.85%	-	Settled	N/A	N/A	N/A
Wyoming	PacifiCorp	BRK.A	20000-578-ER-20	9.80%	5/18/2021	V	9.50%	(30)	Fully Litigated	7.19%	51.00%	4.85%
District of Columbia	Potomac Electric	EXC	FC-1156	9.70%	6/4/2021	D	9.28%	(42)	Fully Litigated	7.17%	50.68%	4.70%
Maryland	Potomac Electric Power Co.	EXC	C-9655	10.20%	6/23/2021	V	9.55%	(65)	Fully Litigated	7.21%	50.50%	4.82%
New Mexico	El Paso Electric Co.		C-20-00104-UT	10.30%	6/28/2021	D	9.00%	(130)	Fully Litigated	7.18%	49.21%	4.43%
Kentucky	Kentucky Utilities Co.	PPL	C-2020-00349	10.00%	6/30/2021	V	9.43%	(57)	Settled	N/A	N/A	N/A
Kentucky	Louisville Gas & Electric Co.	PPL	C-2020-00350 (elec.)	10.00%	6/30/2021	V	9.43%	(57)	Settled	N/A	N/A	N/A
New Jersey	Atlantic City Electric Co.	EXC	D-ER20120746	10.30%	7/14/2021	D	9.60%	(70)	Settled	6.99%	50.21%	4.82%
South Carolina	Dominion Energy South Carolina	D	D-2020-125-E	10.25%	7/21/2021	V	9.50%	(75)	Settled	N/A	51.62%	4.90%
Delaware	Delmarva Power & Light Co.	EXC	D-20-0149	10.30%	8/5/2021	D	9.60%	(70)	Fully Litigated	6.80%	N/A	N/A
North Dakota	Northern States Power Co.	XEL	C-PU-20-441	10.20%	8/18/2021	V	9.50%	(70)	Settled	6.97%	52.50%	4.99%
Vermont	Green Mountain Power Corp.		21-1963-TF	8.57%	8/31/2021	V	8.57%	-	Fully Litigated	6.67%	50.42%	4.32%
Idaho	Avista Corp.	AVA	C-AVU-E-21-01	9.90%	9/1/2021	V	9.40%	(50)	Settled	7.05%	50.00%	4.70%
Washington	Avista Corp.	AVA	D-UE-200900	9.90%	9/27/2021	V	9.40%	(50)	Settled	7.12%	48.50%	4.56%
Florida	Tampa Electric Co.	EMA	D-20210034-EI	10.75%	10/21/2021	V	9.95%	(80)	Settled	6.26%	45.07%	4.48%
Florida	Florida Power & Light Co.	NEE	D-20210015-EI	11.50%	10/26/2021	V	10.60%	(90)	Settled	N/A	N/A	N/A
Maine	Versant Power		D-2020-00316	9.35%	10/28/2021	D	9.35%	-	NA	6.57%	49.00%	4.58%
Arizona	Arizona Public Service Co.	PNW	D-E-01345A-19-0236	10.00%	11/2/2021	V	8.70%	(130)	Settled	6.62^%	54.67%	4.76%
Miinnesota	Otter Tail Power Co.	OTTR	D-E-017/GR-20-719	10.20%	11/4/2021	V	9.48%	(72)	Fully Litigated	7.18%	52.50%	4.98%
Ohio	Ohio Power Co.	AEP	C-20-0585-EL-AIR	10.15%	11/17/2021	D	9.70%	(45)	Settled	7.28%	43.43%	4.21%
New York	Central Hudson Gas & Electric	FTS	C-20-E-0428	9.10%	11/18/2021	D	9.00%	(10)	Settled	6.48%	50.00%	4.50%
Texas	Southwestern Electric Power Co	AEP	D-51415	10.35%	11/18/2021	V	9.25%	(110)	Fully Litigated	6.69%	49.37%	4.57%
Virginia	Virginia Electric & Power Co.	D	C-PUR-2021-00058	10.80%	11/18/2021	V	9.35%	(145)	Settled	6.92%	51.92%	4.85%
Wisconsin	Madison Gas and Electric Co.	MGEE	D-3270-UR-124 (Elec)	9.80%	11/23/2021	V	9.80%	-	Settled	7.18%	55.00%	5.39%
Wisconsin	Northern States Power Co.	XEL	D-4220-UR-125 (Elec)	10.00%	11/18/2021	V	10.00%	-	Settled	7.31%	52.50%	5.25%
Wisconsin	Wisconsin Power and Light Co	LNT	D-6680-UR-123 (Elec)	10.00%	11/18/2021	V	10.00%	-	Settled	7.48%	52.50%	5.25%
Illinois	Commonwealth Edison Co.	EXC	D-21-0367	7.36%	12/1/2021	D	7.36%	-	Fully Litigated	5.72%	48.70%	3.58%
Illinois	Ameren Illinois	AEE	D-21-0365	7.36%	12/13/2021	D	7.36%	-	Fully Litigated	5.78%	51.00%	3.75%
New Jersey	Rockland Electric Company	ED	D-ER21050823	10.00%	12/15/2021	D	9.60%	(40)	Settled	7.08%	48.51%	4.66%
Michigan	Consumers Energy Co.	CMS	C-U-20963	10.50%	12/22/2021	V	9.90%	(60)	Fully Litigated	5.62%	41.84%	4.14%
Oklahoma	Public Service Co. of OK	AEP	Ca-PUD202100055	10.00%	12/28/2021	V	9.40%	(60)	Settled	6.74%	N/A	N/A
New York	Niagara Mohawk Power Corp.	NG.	C-20-E-0380	9.50%	1/20/2022	D	9.00%	(50)	Settled	6.08%	48.00%	4.32%
New Mexico	Southwestern Public Service Co	XEL	C-20-00238-UT	10.35%	2/16/2022	V	9.35%	(100)	Settled	7.07%	54.72%	5.12%
Indiana	Indiana Michigan Power Co.	AEP	Ca-45576	10.00%	2/23/2022	V	9.70%	(30)	Settled	5.78%	40.70%	3.95%
Colorado	Public Service Co. of CO	XEL	D-21AL-0317E	10.00%	3/16/2022	V	9.30%	(70)	Settled	6.82%	55.69%	5.18%
New York	Orange & Rockland Utlts Inc.	ED	C-21-E-0074	9.50%	4/14/2022	D	9.20%	(30)	Settled	6.77%	48.00%	4.42%

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2021 to Present

State	Utility	Parent Company Ticker	Docket	Requested ROE	Order Date	Vertically Integrated (V) / Distribution Only (D)	Approved ROE	Difference	ROE Fully Litigated or Settled	Approved WACC	Approved Equity Ratio	Equity Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (8) - (5)	(11)	(12)	(13)	(14) (8) X (13)
New Hampshire	Unitil Energy Systems Inc.	UTL	D-DE-21-030	10.00%	5/12/2022	D	9.20%	(80)	Settled	7.42%	50.00%	4.60%
Oregon	Portland General Electric Co.	POR	D-UE-394	9.50%	4/25/2022	V	9.50%	-	Settled	6.81%	52.00%	4.94%
Arkansas	Southwestern Electric Power Co	AEP	D-21-070-U	10.35%	5/23/2022	V	9.50%	(85)	Fully Litigated	4.74%	44.54%	4.23%
Texas	El Paso Electric Co.		D-52195	10.30%	9/15/2022	V	9.35%	(95)	Settled	7.50%	51.00%	4.77%
Vermont	Green Mountain Power Corp.		C-22-0175-TF	8.57%	8/31/2022	V	8.57%	-	Fully Litigated	6.30%	49.98%	4.28%
Oklahoma	Oklahoma Gas and Electric Co.	OGE	Ca-PUD202100164	10.20%	9/8/2022	V	9.50%	(70)	Settled	N/A	53.37%	5.07%
Tennessee	Kingsport Power Company	AEP	D-21-00107	10.20%	10/25/2022	V	9.50%	(70)	Settled	6.02%	48.90%	4.65%
Illinois	Commonwealth Edison Co.	EXC	D-22-0302	7.85%	11/17/2022	D	7.85%	-	Fully Litigated	5.94%	49.45%	3.88%
Michigan	DTE Electric Co.	DTE	C-U-20836	10.25%	11/18/2022	V	9.90%	(35)	Fully Litigated	5.42%	39.62%	3.92%
Massachusetts	NSTAR Electric Co.	ES	DPU 22-22	10.50%	11/30/2022	D	9.80%	(70)	Fully Litigated	7.06%	53.21%	5.21%
Illinois	Ameren Illinois	AEE	D-22-0297	7.85%	12/1/2022	D	7.85%	-	Fully Litigated	5.90%	50.00%	3.93%
Maryland	Delmarva Power & Light Co.	EXC	C-9681	10.25%	12/14/2022	D	9.60%	(65)	Settled	6.62%	50.50%	4.85%
Ohio	Duke Energy Ohio Inc.	DUK	C-21-0887-EL-AIR	10.30%	12/14/2022	D	9.50%	(80)	Settled	6.86%	50.50%	4.80%
Ohio	The Dayton Power & Light Co.	AES	C-20-1651-EL-AIR	10.50%	12/14/2022	D	10.00%	(50)	Fully Litigated	7.43%	53.87%	5.39%
California	Pacific Gas and Electric Co.	PCG	A-22-04-008	11.00%	12/15/2022	V	10.00%	(100)	Fully Litigated	7.27%	52.00%	5.20%
California	San Diego Gas & Electric Co.	SRE	A-22-04-012	10.55%	12/15/2022	V	9.95%	(60)	Fully Litigated	7.18%	52.00%	5.17%
California	Southern California Edison Co.	EIX	A-22-04-009	10.53%	12/15/2022	V	10.05%	(48)	Fully Litigated	7.44%	52.00%	5.23%
Oregon	PacifiCorp	BRK.A	D-UE-399	9.80%	12/16/2022	V	9.50%	(30)	Settled	7.11%	50.00%	4.75%
Georgia	Georgia Power Co.	SO	D-44280	11.00%	12/20/2022	V	10.50%	(50)	Settled	NA	56.00%	5.88%
Wisconsin	Wisconsin Public Service Corp.	WEC	D-6690-UR-127 (Elec)	10.00%	12/22/2022	V	9.80%	(20)	Fully Litigated	N/A	53.00%	5.19%
Washington	Puget Sound Energy Inc.		D-UE-220066	9.90%	12/22/2022	V	9.40%	(50)	Settled	7.16%	49.00%	4.61%
Nevada	Sierra Pacific Power Co.	BRK.A	D-22-06014	10.10% λ	12/27/2022	V	9.50% λ	(60)	Fully Litigated	6.98%	52.40%	4.98%
Wisconsin	Wisconsin Electric Power Co.	WEC	D-5-UR-110 (WEP-Elec)	10.00%	12/29/2022	V	9.80%	(20)	Fully Litigated	N/A	53.00%	5.19%
Oklahoma	Empire District Electric Co.	AQN	Ca-PUD202100163	10.00%	12/29/2022	V	9.30%	(70)	Settled	N/A	N/A	N/A
Michigan	Consumers Energy Co.	CMS	C-U-21224	10.25%	1/19/2023	V	9.90%	(35)	Settled	N/A	N/A	N/A
Minnesota	Minnesota Power Entrprs Inc.	ALE	D-E-015/GR-21-335	10.25%	1/23/2023	V	9.65%	(60)	Fully Litigated	7.12%	52.50%	5.07%
Wyoming	Cheyenne Light Fuel Power Co.	BKH	D-20003-214-ER-22	10.30%	1/26/2023	V	9.75%	(55)	Settled	7.48%	52.00%	5.07%
South Carolina	Duke Energy Progress LLC	DUK	D-2022-254-E	10.20%	2/9/2023	V	9.60%	(60)	Settled	6.83%	52.43%	5.03%
Louisiana	Southwestern Electric Power Co	AEP	D-U-35441	10.35%	2/17/2023	V	9.50%	(85)	Settled	N/A	N/A	N/A
Texas	Oncor Electric Delivery Co.	SRE	D-53601	10.30%	3/9/2023	D	9.70%	(60)	Fully Litigated	6.65%	42.50%	4.12%
Michigan	Upper Peninsula Power Co.		C-U-21286	10.80%	3/24/2023	V	9.90%	(90)	Settled	N/A	N/A	N/A
California	Liberty Utilities (CalPeco Ele	AQN	A-21-05-017	10.50%	4/27/2023	V	10.00%	(50)	Settled	N/A	52.50%	N/A
Maine	Versant Power		D-2022-00255	9.35%	5/31/2023	D	9.35%	-	Settled	5.69%	49.00%	4.58%
Minnesota	Northern States Power Co.	XEL	D-E-002/GR-21-630	10.20%	6/1/2023	V	9.25%	(95)	NA	NA	52.50%	4.86%
Maine	Central Maine Power Co.	IBE	D-2022-00152	10.20%	6/6/2023	D	9.35%	(85)	Withdrawn/Reject	NA	50.00%	4.68%
North Dakota	MDU Resources Group	MDU	C-PU-22-194	10.50%	6/6/2023	V	9.75%	(75)	Settled	7.13%	50.81%	4.95%
New York	Consolidated Edison Co. of NY	ED	C-22-E-0064	10.00%	7/20/2023	D	9.25%	(75)	Settled	6.75%	48.00%	4.44%
Indiana	Northern IN Public Svc. Co. LLC	NI	45772	10.40%	8/2/2023	V	9.80%	(60)	Settled	6.80%	51.63%	5.06%
Texas	Entergy Texas Inc.	ETR	D-53719	10.80%	8/3/2023	V	9.57%	(123)	Settled	6.61%	51.21%	4.90%

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2021 to Present

State	Utility	Parent Company Ticker	Docket	Requested ROE	Order Date	Vertically Integrated (V) / Distribution Only (D)	Approved ROE	Difference	ROE Fully Litigated or Settled	Approved WACC	Approved Equity Ratio	Equity Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (8) - (5)	(11)	(12)	(13)	(14) (8) X (13)
North Carolina	Duke Energy Progress LLC	DUK	D-E-2 Sub 1300	10.40%	8/18/2023	V	9.80%	(60)	Settled	7.07%	53.00%	5.19%
Connecticut	The United Illuminating Co.	IBE	D-22-08-08	10.20%	8/25/2023	D	8.63%	(157)	Fully Litigated	6.48%	50.00%	4.32%
Arizona	Tucson Electric Power Co.	FTS	D-E-01933A-22-0107	9.75%	8/25/2023	V	9.55%	(20)	NA	6.93%	54.32%	5.19%
Vermont	Green Mountain Power Corp.		C-23-1852-TF	9.58%	8/23/2023	V	9.58%	-	Fully Litigated	6.88%	49.88%	4.78%
Idaho	Avista Corp.	AVA	C-AVU-E-23-01	10.25%	8/31/2023	V	9.40%	(85)	Settled	7.19%	50.00%	4.70%
Alaska	Alaska Electric Light Power	AVA	D-U-22-078	13.45%	8/31/2023	V	11.45%	(200)	Fully Litigated	8.79%	60.70%	6.95%
Colorado	Public Service Co. of CO	XEL	D-22AL-0530E	10.25%	9/6/2023	V	9.30%	(95)	Settled	6.95%	55.69%	5.18%
Montana	MDU Resources Group	MDU	D-2022-11-099	10.50%	9/21/2023	V	9.65%	(85)	Settled	7.53%	50.30%	4.85%
Kentucky	Duke Energy Kentucky Inc.	DUK	C-2022-00372	10.35%	10/12/2023	V	9.75%	(60)	Fully Litigated	NA	52.15%	5.08%
New York	NY State Electric & Gas Corp.	IBE	C-22-E-0317	10.20%	10/12/2023	D	9.20%	(100)	Settled	6.40%	48.00%	4.42%
New York	Rochester Gas & Electric Corp.	IBE	C-22-E-0319	10.20%	10/12/2023	D	9.20%	(100)	Settled	6.67%	48.00%	4.42%
Maryland	The Potomac Edison Co.	FE	C-9695	10.60%	10/18/2023	D	9.50%	(110)	Fully Litigated	6.92%	53.00%	5.04%
New Mexico	Southwestern Public Svc Co.	XEL	C-22-00286-UT	10.75%	10/19/2023	V	9.50%	(125)	Settled	7.17%	54.70%	5.20%
Montana	NorthWestern Energy Group	NWE	D-2022-7-78 (elec)	10.54%	10/25/2023	V	9.65%	(89)	Settled	6.72%	48.02%	4.63%
Oklahoma	Public Service Co. of OK	AEP	Ca-PUD2022-000093	10.40%	11/3/2023	V	9.30%	(110)	NA	6.69%	52.00%	4.84%
Wisconsin	Madison Gas and Electric Co.	MGEE	D-3270-UR-125 (Elec)	9.80%	11/3/2023	V	9.70%	(10)	Fully Litigated	NA	55.00%	5.34%
Wisconsin	Northern States Power Co.	XEL	D-4220-UR-126 (Elec)	10.25%	11/9/2023	V	9.80%	(45)	Fully Litigated	NA	52.50%	5.15%
Wisconsin	Wisconsin Power and Light Co	LNT	D-6680-UR-124 (Elec)	10.00%	11/9/2023	V	9.80%	(20)	Fully Litigated	NA	54.00%	5.29%
New Jersey	Atlantic City Electric Co.	EXC	D-ER23020091	10.50%	11/17/2023	D	9.60%	(90)	Settled	6.58%	50.20%	4.82%
Wyoming	PacifiCorp	BRK.A	D-200000-633-ER-23	10.00%	11/28/2023	V	9.35%	(65)	Fully Litigated	7.13%	48.99%	4.58%
Michigan	DTE Electric Co.	DTE	C-U-21297	10.25%	12/1/2023	V	9.90%	(35)	Fully Litigated	5.56%	NA	NA
California	PacifiCorp	BRK.A	A-22-05-006	10.50%	12/14/2023	V	10.00%	(50)	Fully Litigated	7.34%	52.25%	5.23%
Illinois	Ameren Illinois	AEE	D-23-0082	10.50%	12/14/2023	D	8.72%	(178)	Fully Litigated	6.59%	50.00%	4.36%
Illinois	Commonwealth Edison Co.	EXC	D-23-0055	10.65%	12/14/2023	D	8.91%	(174)	Fully Litigated	6.70%	50.00%	4.46%
Maryland	Baltimore Gas and Electric Co.	EXC	C-9692	10.40%	12/14/2023	D	9.50%	(90)	Fully Litigated	6.77%	52.00%	4.94%
North Carolina	Duke Energy Carolinas LLC	DUK	D-E-7 Sub 1276	10.40%	12/15/2023	V	10.10%	(30)	Fully Litigated	7.50%	53.00%	5.35%
Oregon	Portland General Electric Co.	POR	D-UE-416	9.80%	12/18/2023	V	9.50%	(30)	Settled	6.99%	50.00%	4.75%
Nevada	Nevada Power Co.	BRK.A	D-23-06007	10.26%	12/26/2023	V	9.52%	(74)	Fully Litigated	7.44%	52.72%	5.02%
Idaho	Idaho Power Co.	IDA	C-IPC-E-23-11	10.40%	12/28/2023	V	9.60%	(80)	Settled	7.25%	NA	NA
New Mexico	Public Service Co. of NM	PNM	C-22-00270-UT	10.25%	1/3/2024	V	9.25%	(100)	Fully Litigated	6.47%	49.61%	4.59%
Kentucky	Kingsport Power Company	AEP	C-2023-00159	9.90%	1/19/2024	V	9.75%	(15)	Settled	NA	41.25%	4.02%
Arizona	UNS Electric Inc.	FTS	D-E-04204A-22-0251	9.95%	1/31/2024	V	9.75%	(20)	Fully Litigated	7.18%	53.72%	5.24%
New Jersey	Jersey Central Power & Light Co.	FE	D-ER23030144	10.40%	2/14/2024	D	9.60%	(80)	Settled	7.18%	51.90%	4.98%
Virginia	Virginia Electric & Power Co.	D	C-PUR-2023-00101	9.70%	2/28/2024	V	9.70%	-	Settled	7.05%	NA	NA
Michigan	Consumers Energy Co.	CMS	C-U-21389	10.25%	3/1/2024	V	9.90%	(35)	Fully Litigated	5.86%	41.13%	4.07%
Arizona	Arizona Public Service Co.	PNW	D-E-01345A-22-0144	10.25%	3/5/2024	V	9.55%	(70)	Fully Litigated	6.81%	51.93%	4.96%
West Virginia	Monongahela Power Co.	FE	C-23-0460-E-42T	10.85%	3/26/2024	V	9.80%	(105)	Settled	NA	NA	NA
Indiana	AES Indiana	AES	45911	10.60%	4/17/2024	V	9.90%	(70)	Settled	6.58%	44.36%	4.39%
Delaware	Delmarva Power & Light Co.	EXC	D-22-0897	10.50%	4/18/2024	D	9.60%	(90)	Settled	6.97%	50.50%	4.85%

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2021 to Present

State	Utility	Parent Company Ticker	Docket	Requested ROE	Order Date	Vertically Integrated (V) / Distribution Only (D)	Approved ROE	Difference	ROE Fully Litigated or Settled	Approved WACC	Approved Equity Ratio	Equity Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (8) - (5)	(11)	(12)	(13)	(14) (8) X (13)
Indiana	Indiana Michigan Power Co.	AEP	45933	10.50%	5/8/2024	V	9.85%	(65)	Settled	NA	NA	NA
Entire Period												
# of Decisions			**118**									
Average	**(All Utilities)**			**10.13%**			**9.50%**	**(62)**		**6.81%**	**50.50%**	**4.77%**
Average	**(Distribution Only)**			**9.82%**			**9.13%**	**(69)**		**6.67%**	**49.61%**	**4.50%**
Average	**(Vertically Integrated Only)**			**10.25%**			**9.62%**	**(62)**		**6.88%**	**50.90%**	**4.92%**
Median	**(All Utilities)**			**10.25%**			**9.50%**			**6.92%**	**50.81%**	**4.83%**
Maximum	**(All Utilities)**			**13.45%**			**11.45%**			**8.79%**	**60.70%**	**6.95%**
Minimum	**(All Utilities)**			**7.36%**			**7.36%**			**4.74%**	**39.62%**	**3.58%**
Pennsylvania			**0**	**NA**			**NA**	**NA**		**NA**	**NA**	**NA**
Settled				**10.21%**			**9.55%**	**(66)**		**6.89%**	**50.42%**	**4.82%**
Fully Litigated				**10.02%**			**9.38%**	**(64)**		**6.71%**	**50.47%**	**4.74%**
2021												
# of Decisions			**34**									
Average	**(All Utilities)**			**9.93%**			**9.38%**	**(55)**		**6.81%**	**49.93%**	**4.64%**
Average	**(Distribution Only)**			**9.39%**			**8.99%**	**(41)**		**6.71%**	**48.97%**	**4.36%**
Average	**(Distribution Only, exc. IL FRP)**			**9.90%**			**9.39%**	**(51)**		**6.94%**	**48.72%**	**4.56%**
Average	**(Vertically Integrated Only)**			**10.15%**			**9.54%**	**(60)**		**6.87%**	**50.38%**	**4.78%**
2022												
# of Decisions			**29**									
Average	**(All Utilities)**			**9.96%**			**9.45%**	**(51)**		**6.65%**	**50.48%**	**4.77%**
Average	**(Distribution Only)**			**9.58%**			**9.11%**	**(47)**		**6.68%**	**50.39%**	**4.60%**
Average	**(Distribution Only, exc. IL FRP)**			**10.08%**			**9.47%**	**(61)**		**6.89%**	**50.58%**	**4.80%**
Average	**(Vertically Integrated Only)**			**10.13%**			**9.60%**	**(53)**		**6.64%**	**50.52%**	**4.86%**
2023												
# of Decisions			**44**									
Average	**(All Utilities)**			**10.35%**			**9.59%**	**(77)**		**6.92%**	**51.42%**	**4.92%**
Average	**(Distribution Only)**			**10.26%**			**9.24%**	**(102)**		**6.56%**	**49.23%**	**4.55%**
Average	**(Distribution Only, exc. IL FRP)**			**10.20%**			**9.33%**	**(87)**		**6.55%**	**49.07%**	**4.58%**
Average	**(Vertically Integrated Only)**			**10.39%**			**9.71%**	**(67)**		**7.09%**	**52.40%**	**5.09%**
2024												
# of Decisions			**11**									
Average	**(All Utilities)**			**10.29%**			**9.70%**	**(59)**		**6.76%**	**48.05%**	**4.64%**

Reported Authorized Returns on Equity, Electric Utility Rate Cases Completed, 2021 to Present

State	Utility	Parent Company Ticker	Docket	Requested ROE	Order Date	Vertically Integrated (V) / Distribution Only (D)	Approved ROE	Difference	ROE Fully Litigated or Settled	Approved WACC	Approved Equity Ratio	Equity Contribution
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (8) - (5)	(11)	(12)	(13)	(14) (8) X (13)
Average	(Distribution Only)			10.45%			9.60%	(85)		7.08%	51.20%	4.92%
Average	(Distribution Only, exc. IL FRP)			10.45%			9.60%	(85)		7.08%	51.20%	4.92%
Average	(Vertically Integrated Only)			10.25%			9.72%	(53)		6.66%	47.00%	4.55%

Source: S&P Global Market Intelligence

Last Updated: 5/12/2024

λ S&P incorrectly reports the ROE ask as 10.26% and the authorized ROE as 9.56%

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3046931
	:	
PECO Energy Company – Electric Division	:	

EXHIBIT LVP-3 OF

LISA V. PERRY

ON BEHALF OF

WALMART INC.

Impact of PECO's Proposed Increase in Return on Equity
Vs. National Average for Distribution Only Utilities, 2021 to Present

		National Average ROE for Distribution Only Utilities, 2021 to Present (9.13%)				
		Capital Component	**Ratio**	**Cost**		**Weighted Cost**
(1)	Moul Direct, pp. 20 and 22 and Ex. PRM-1, p. 1	Long Term Debt	46.60%	4.58%		2.13%
(2)	Moul Direct, p. 20 and Ex. PRM-1, p. 1	Common Equity	53.40%	9.13%		4.88%
			100.00%			
(3)	(1) + (2)	**WACC at National Average ROE (9.13%)**				**7.01%**
(4)	Ex. TJJ-1, p. 1, line 23	Total Rate Base			$	8,800,537,000
(5)	(3) x (4)	Net Opertaing Income, National Average ROE			$	616,891,242
		Proposed ROE - without Performance Adder (10.80%)				
		Capital Component	**Ratio**	**Cost**		**Weighted Cost**
(6)	Moul Direct, pp. 20 and 22 and Ex. PRM-1, p. 1	Long Term Debt	46.60%	4.58%		2.13%
(7)	Moul Direct, p. 20 and Ex. PRM-1, p. 1	Common Equity	53.40%	10.80%		5.77%
			100.00%			
(8)	(6) + (7)	**WACC at Proposed ROE - without Performance Adder (10.80%)**				**7.90%**
(9)	Ex. TJJ-1, p. 1, line 23	Total Rate Base			$	8,800,537,000
(10)	(8) x (9)	Net Operating Income, Proposed ROE - without Performance Adder			$	695,372,671
		Increase in Revenue Requirement from Increase in ROE - without Performance Adder				
(11)	(10) - (5)	Difference in Net Operating Income			$	78,481,429
(12)	Ex. MJT-1, p. 1, line 42	Gross Revenue Conversion Factor				1.47600
(13)	(11) x (12)	**Increase Related to Increase in ROE - without Performance Adder**			**$**	**115,838,589**
(14)	Ex. MJT-1, p. 1, line 44	Proposed Revenue Requirement Increase			$	463,632,000
(15)	(13)/(14)	**Percent Increase Related to Increase in ROE - without Performance Adder**				**25.0%**

		Proposed ROE - with Performance Adder (10.95%)				
		Capital Component	**Ratio**	**Cost**		**Weighted Cost**
(16)	Moul Direct, pp. 20 and 22 and Ex. PRM-1, p. 1	Long Term Debt	46.60%	4.58%		2.13%
(17)	Moul Direct, p. 20 and Ex. PRM-1, p. 1	Common Equity	53.40%	10.95%		5.85%
			100.00%			
(18)	(16) + (17)	**WACC at Proposed ROE - with Performance Adder (10.95%)**				**7.98%**
(19)	Ex. TJJ-1, p. 1, line 23	Total Rate Base			$	8,800,537,000
(20)	(18) x (19)	Net Operating Income, Proposed ROE - with Performance Adder			$	702,421,901
		Incremental Increase in Revenue Requirement from Performance Adder				
(21)	(20) - (10)	**Difference in Net Operating Income - without v. with Performance Adder**			**$**	**7,049,230**
(22)	Ex. MJT-1, p. 1, line 42	Gross Revenue Conversion Factor				1.47600
(23)	(21) x (22)	Difference in Revenue Requirement			$	10,404,664
(24)	Moul Direct, p. 2	Performance Adder Basis Points				15
(25)	(23) / (24)	**Value of One Basis Point**			**$**	**693,644**