BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537349, *et al.*
v.	:	
Metropolitan Edison Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537352, *et al.*
v.	:	
Pennsylvania Electric Company	:	
Pennsylvania Public Utility Commission, *et. at.*	:	R-2016-2537355, *et. al.*
v.	:	
Pennsylvania Power Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537359, *et al.*
v.	:	
West Penn Power Company	:	

DIRECT TESTIMONY

OF

JAMES S. GARREN

ON BEHALF OF
OFFICE OF CONSUMER ADVOCATE

JULY 22, 2016

DIRECT TESTIMONY AND EXHIBITS

OF JAMES S. GARREN

INTRODUCTION

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

A. My name is James S. Garren. I am an analyst with the economic consulting firm of Snavely King Garren & Associates, Inc. ("Snavely King").

Q. HAVE YOU PREPARED A SUMMARY OF YOUR QUALIFICATIONS AND EXPERIENCE?

A. Yes. Appendices A and B provide a summary of my qualifications and experience.

Q. PLEASE DESCRIBE YOUR BACKGROUND IN UTILITY DEPRECIATION.

A. Since my employment at Snavely King in 2010, I have participated as an analyst in approximately 30 separate depreciation studies of electric, gas and water utilities on behalf of the firm's clients, most of which are state commissions or state-funded consumer advocate agencies. In that role, I have worked closely with the firm's principals in performing life and net salvage analyses, calculation of depreciation rates, and preparation of testimony. Additionally, I am familiar with the Company's proprietary depreciation software, the Snavely Comprehensive Investment Analysis

System ("**SCIAS**"). I am also recognized as a Certified Depreciation Professional by the Society of Depreciation Professionals.[1]

Q. FOR WHOM ARE YOU APPEARING IN THIS PROCEEDING?

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

Q. PLEASE IDENTIFY THE INFORMATION YOU REVIEWED IN PREPARATION FOR THIS TESTIMONY.

A. I reviewed Mr. Spanos' testimonies and exhibits. I prepared numerous data requests that the OCA propounded to the Companies. I have reviewed the responses to these data requests.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania, Power Company, and West Penn Power Company (the Companies) filed Mr. John Spanos testimony and exhibits to support significant depreciation expense increases. The sole driver of these increases is change from the traditional average service life (ASL)

---

[1] [1] "The Society of Depreciation Professionals was organized in 1987 to recognize the professional field of depreciation analysis and individuals contributing to this field; to promote the professional development and professional ethics of practitioners in the field of depreciation analysis; to collect and exchange information about depreciation analysis; and to provide a national forum of programs and publications concerning depreciation." http://www.depr.org/?page=AboutUs . For certification, an applicant must have at least 5 years of full time professional depreciation experience, at least 2 years of which must be in the area of depreciation administration. Among other requirements, the applicant must pass a two part (Technical and Ethics) closed book examination which includes questions about, *inter alia*, Plant and Reserve Accounting, Life Analysis Concepts, Life Analysis Using Actuarial Models, Life Analysis Using Simulation Models, Salvage and Cost of Retiring Analysis, Technology Forecasting and Depreciation Calculations. http://www.depr.org/?page=Certification

procedure to the equal life group (ELG) procedure to calculate remaining lives. ELG uses the same data and assumptions as the ASL procedure but the resulting ELG remaining lives are shorter than the equivalent ASL remaining lives. Because shorter remaining lives produce higher depreciation rates, Mr. Spanos' ELG rates are higher than the equivalent ASL rates. As a result, ratepayers would pay higher service rates caused by an arbitrary change to a long-standing approach to depreciation calculations. OCA asked my firm to investigate the Companies' depreciation proposals.

Q. DO YOUR RECOMMENDATIONS IN THIS TESTIMONY APPLY TO ALL FOUR COMPANIES REFERENCED ABOVE?

A. Yes. As shown in my exhibits, I have applied my proposals to each of the four Companies.

Q. CAN YOU EXPLAIN THE PURPOSE OF DEPRECIATION?

A. Yes. The revenue requirement model is intended to ensure that utilities receive a return *of* and a return *on* their investment in utility plant. Depreciation itself is primarily intended to address the return *of* the Company's plant investment. To that end, the original cost of plant in service is allocated over the useful life of current plant in service. Determining the useful life of plant in service is done by conducting a depreciation study to determine first the total average service life of each account, and then the remaining life of plant that has not already been depreciated. As will be discussed below, the primary issue in this case is the means of estimating the remaining life period for each account.

In addition, depreciation is intended to allow the Company to collect the cost of removing plant in service. In Pennsylvania, this is done through an amortization based on the Company's five-year average of experience cost of removal. Neither the Company or myself are proposing any changes to this methodology.

Q. CAN YOU EXPLAIN THE SIGNIFICANCE OF DEPRECIATION IN THE CONTEXT OF A RATE CASE?

A. Depreciation is important in the ratemaking context because it involves a direct pass-through of cash from the customers to the utility that the utility retains for non-utility purposes. Rate base/rate of return ratemaking assumes that the utilities' investors make the investment in plant and equipment, and customers provide a return on, and return of, the capital over the service life of the plant or equipment.

In practice, this means that depreciation expense provides a company with a source of free cash flow. This can incentivize a company to overcharge for depreciation by understating the depreciation period. In theory, depreciation mechanics should correct these kinds of overcharges over the life of a utility's plant investment. However, because utilities have constantly growing plant in service, these forms of accelerated depreciation essentially never even out and utilities generally overcharge current customers for current plant in service.

Q. ARE YOU SPONSORING ANY EXHIBITS IN CONJUNCTION WITH THIS TESTIMONY?

A. Yes, I am sponsoring two exhibits.

Exhibit JSG-1: Summary of Current Depreciation Rates

Exhibit JSG-2: Comparison of Companies' to OCA Depreciation Rates and Accruals

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE COMPANIES' DEPRECIATION PROPOSALS?

A. I conclude the Companies should continue to use the ASL procedure until they conduct new depreciation studies including new life analyses. The Companies should apply ELG only to new vintages of plant in those new studies. In other words, ASL plant would continue to be depreciated using ASL. To do otherwise would create a fictitious depreciation reserve deficiency for the ASL vintages and the result is to penalize current ratepayers for the fictitious deficiency.

Q. WOULD YOU PLEASE SUMMARIZE THE TOTAL IMPACT OF THE COMPANIES' PROPOSALS?

A. Yes. Compared to the depreciation rates currently approved for accounting purposes, that I support as the reasonable levels of depreciation that should be adopted in this proceeding, Mr. Spanos' proposals produce the substantial depreciation expense increases shown below.

TABLE 1
Spanos Proposed Depreciation Increase [2]
($000,000)

Company	Amount
Metropolitan Edison Company	$15.2
Pennsylvania Electric Company	$17.6
Pennsylvania Power Company	$16.5
West Penn Power Company	$11.6

Q. WHAT IS THE IMPACT OF YOUR PROPOSALS?

A. The following table provides a comparison of Spanos' proposed depreciation expense against my own proposed expense.

TABLE 2
Comparison of Depreciation Expense Proposals
($000,000)

Company	Spanos Proposed	OCA Proposed	Difference
Metropolitan Edison Company	$71.3	56.1	15.1
Pennsylvania Electric Company	$79.4	61.8	17.6
Pennsylvania Power Company	$21.8	16.5	5.4
West Penn Power Company	$69.7	58.1	11.6

Q. WOULD YOU PLEASE DESCRIBE THE PROCESS AND PROCEDURES OF ACTUARIAL ANALYSIS?

A. Yes. The retirement rate method is an actuarial technique used to study plant lives, much like the actuarial techniques used in the insurance industry to study human lives. It

[2] Exhibit JSG-2

requires a record of the dates of placement (birth) and retirement (death) for each asset unit studied. It is the most sophisticated of the statistical life analysis methods because it relies on the most refined level of data. Aged retirements and exposures data from a company's records are used to construct an observed or original life table ("**OLT**"). Importantly, the OLT represents the life of a single average vintage. The analysis smoothes and extends the OLT by fitting a family of 31 standardized survivor curves ("**Iowa Curves**"). The curve-fitting uses the least squared differences approach to find a best fit life for each curve.[3] Numerous interactive calculations are required for a retirement rate analysis. In the end, the analysis produces a life and Iowa curve best fit for a single average vintage. This is same analysis that PG&E performed for its life analysis.

Q. WHAT ARE IOWA CURVES?

A. An Iowa curve is a surrogate or standardized OLT based on a specific pattern of retirements around an average service life. The Iowa curves were devised over 60 years ago at Iowa State University. The curves provide a set of standard patterns of retirement dispersion. Retirement dispersion merely recognizes that accounts are comprised of individual assets or units having different lives. Retirement dispersion is the scattering of retirements by age for the individual assets around the average service life for the entire

[3] Sum of least squared difference is a common means of fitting curves (in this case the Iowa curves) to a set of data (in this case the OLT data). The idea is essentially that the difference between each point of data and a point on a line is squared, and the square of all of those differences is summed to provide the total difference between the set of data and the line. The line that produces the least difference from the set of data is considered the "best fit." The purpose of squaring the difference is to make sure that negative differences contribute to the overall difference, rather than canceling out positive differences.

group assets. If one thinks in terms of a "bell shaped" curve, dispersion represents the scattering of events around the average.

There are left-skewed, symmetrical and right-skewed curves known, respectively, as the "L curves," "S curves" and "R curves." There is also a set of Origin Modal ("**O**") curves which are essentially negative exponential curves. A number identifies the range of dispersion. A low number represents a wide pattern and a high number a narrow pattern. The combination of one letter and one number (e.g. S0 curve shape) defines a dispersion pattern. The combination of an average service life with an Iowa curve provides a survivor curve depicting a reasonable expectation of how a group of assets will survive, or conversely be retired, over the average service life.

The table below contains curves with a 5 year life, S0 shape, and 10 year life, S0 shape. I have included these two combinations to illustrate different iterations with the same curve. The percent surviving represents the amount surviving at each age interval shown in the first column. The 5S0 life and curve sums to the five-year average service life, while the 10S0 life and curve sums to a ten-year average service life.

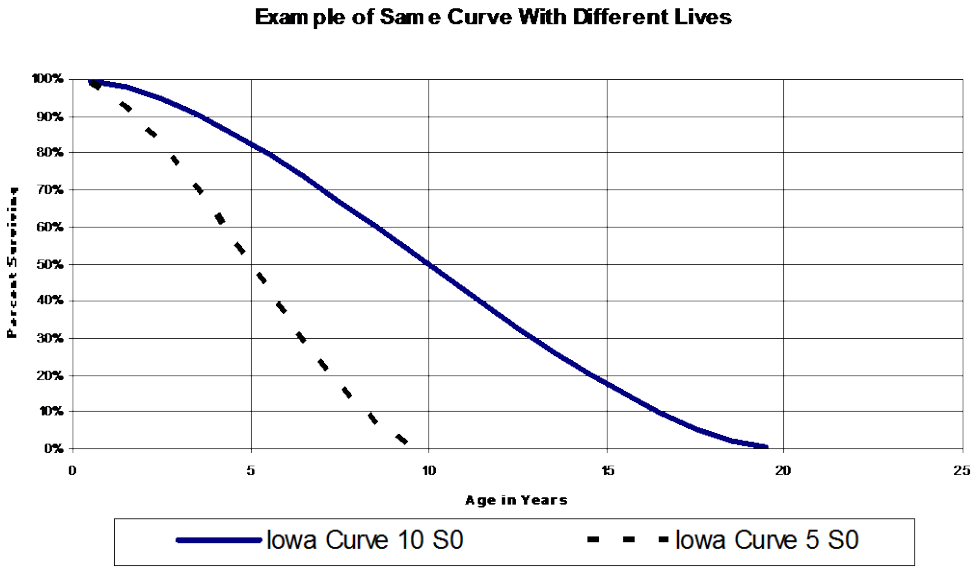
Table 2

Survivor Curves

Age	5 S0 Curve Percent Surviving	10 S0 Curve Percent Surviving
0.5	0.99	1.00
1.5	0.92	0.98
2.5	0.83	0.94
3.5	0.70	0.90
4.5	0.57	0.85
5.5	0.43	0.80
6.5	0.30	0.74
7.5	0.17	0.67
8.5	0.08	0.60
9.5	0.01	0.53
10.5		0.47
11.5		0.40
12.5		0.33
13.5		0.26
14.5		0.20
15.5		0.15
16.5		0.10
17.5		0.06
18.5		0.02
19.5		0.00
Total	**5.00**	**10.00**

These are called "curves" because when plotted on charts with the x-axis representing "age" and the y-axis representing "percent surviving" they appear as shown below in Graph

Graph 1



Q. CAN YOU SUM UP WHY IOWA CURVES ARE IMPORTANT TO DEPRECIATION ANALYSIS?

A. Yes. Simply put, Iowa curves are how we express the expected patterns of retirement for a given account. They are an important factor in calculating the remaining life for each account. For example, depending on the surviving vintage balances using a L5 dispersion curve as opposed to a R5 dispersion curve can make a difference of several years to the remaining life of the account. Ultimately, depreciation accruals for plant investment are calculated from remaining lives, so it is important, in addition to selecting the correct average service life, to select the correct Iowa curve.

EQUAL LIFE GROUP REMAINING LIFE CALCULATIONS

Q. CAN YOU DISCUSS THE RELATIVE MERITS OF ASL V. ELG?

A. Yes, public utility depreciation rates use averages. The total additions to a

plant account in a given year (a vintage) consist of many dollars of investment. The dollars in the vintage will have an average life; some will be shorter and some will be longer than the average life. First Energy used the ASL procedure to calculate its currently approved depreciation rates.

The ASL procedure develops a single average depreciation rate applicable without change over the entire life of a vintage. For example, assume the ASL service life for Poles is thirty years. The ASL procedure results in a 3.33 percent depreciation rate (1/30) designed to recover the entire investment in Poles, i.e., dollars retired prior to the attainment of the thirty-year average service life and dollars retired beyond the thirty-year average service life.

The ELG procedure statistically disaggregates the anticipated retirements within a vintage and then effectively establishes separate depreciation rates for each of the dollars within the vintage group. In the Poles example, ELG would effectively establish separate non-transparent annual depreciation rates for the retirements anticipated in the Iowa curve retirement pattern estimated for the account. ELG is a refined application of traditional ratemaking depreciation practices.

Q. FROM A PRACTICAL STANDPOINT IS ELG MORE SUSCEPTIBLE TO ERROR THAN ASL?

A. Yes, ELG is more susceptible to error than ASL.

Q. WHY IS ELG MORE SUSCEPTIBLE TO ERROR THAN ASL?

A. First, ELG requires annual depreciation rate changes at the vintage level whereas ASL does not. Furthermore, due to its precision, ELG is more susceptible to error resulting from forecasting inaccuracies. This is obvious since it is virtually

impossible to forecast the individual lives of individuals dollar invested in a plant account in a single year and in all years.

Q. WOULD YOU SUMMARIZE THE PROS AND CONS REGARDING ELG AND ASL?

A. Yes, from a theoretical standpoint ELG provides a refined single-dollar cost allocation assuming perfect foresight. On the other hand, ELG requires annual depreciation rate changes at the vintage and gross plant level and produces precisely the wrong answer because of forecasting inaccuracies. ASL has the benefit of a constant depreciation rate and a higher probability of producing a correct overall result notwithstanding forecasting inaccuracies.

Q. IS ELG NECESSARY?

A. ELG is not necessary. Outside of Pennsylvania, ASL remaining life calculations are used in nearly all cases, and are perfectly sufficient to allow recovery of the Company's plant investment in a reasonable timeframe.

Q. ARE THERE OTHER PROBLEMS WITH MR. SPANOS USE OF ELG?

A. Yes, Mr. Spanos' implementation proposal is problematic. He proposes to retroactively apply ELG to all prior vintages of plant in a composite calculation, and then use the resulting ELG-based composite remaining life to calculate remaining life depreciation rates. The shorter ELG remaining life is one cause of the resulting abrupt depreciation expense increase, but another cause is that FirstEnergy did not use ELG in the past. Had FirstEnergy always used ELG, its recorded book reserve would now be substantially higher than it is. That is because ELG produces a pattern of depreciation rates that are very similar in nature to accelerated depreciation, the double-declining balance method

for example.

The depreciation reserve level is a critical element in the calculation of remaining life depreciation rates: the higher the reserve, the lower the rate; conversely, the lower the reserve, the higher the rate. Mr. Spanos' retroactive application of ELG to all prior vintages produces a composite remaining life for those vintages which is inconsistent with actual past depreciation practices. The practical consequence is that Mr. Spanos' implementation proposal creates a significant depreciation reserve deficiency resulting merely from an arbitrary change in the depreciation grouping procedure. This is the reasons that ELG is generally only applied prospectively, rather than retroactively.

Q. IS IT TRUE THAT USING REMAINING LIFE DEPRECIATION, ONLY THE NET BOOK VALUE IS RECOVERED AND THEREFORE THE SIZE OF THE RESERVE DERFICIENCY DOES NOT MATTER?

A. The size of the reserve deficiency does matter. Remaining life depreciation recovers the net book value. However, the creation of such a huge reserve deficiency by merely changing a procedure penalizes today's ratepayers because the deficiency increases rates. ASL remaining life deprecation recovers the same amount as ELG remaining life depreciation, but it does not spike the revenue requirement.

Worse, because for most utilities, plant in service is constantly being replaced and growing, this accelerated generational inequity never balances out. This growing plant with perpetually accelerated depreciation means that future ratepayers will be equally disadvantaged as current ratepayers.

Q. DO YOU RECOMMEND ELG FOR THESE FIRSTENERGY COMPANIES?

A. No, I do not think it is the best interest of ratepayers for FirstEnergy to use ELG. As discussed above, ELG has theoretical merit; however, it has negative aspects as well. Furthermore, it is not necessary.

Q. IF THE COMMISSION DECIDES TO APPROVE ELG, WHAT DO YOU RECOMMEND?

A. If the Commission approves ELG, it should order the Companies to file new complete depreciation studies using actual data as of December 31, 2017. The first ELG vintage would be 2017 without any retroactive application thereof.

RECOMMENDED DEPRECIATION RATES

Q. WHAT DEPRECIATION RATES DO YOU PROPOSE FOR THIS RATE PROCEEDING?

A. I recommend the current depreciation rates that the Commission approved for accounting purposes.[4] Exhibits JSG-1 and JSG-2 provide those rates.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

[4] See Response to OCA Set VIII, No. 10, Attachment E, included in Exhibit-JSG-1.

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537349, *et al.*
v.	:	
Metropolitan Edison Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537352, *et al.*
v.	:	
Pennsylvania Electric Company	:	
Pennsylvania Public Utility Commission, *et. at.*	:	R-2016-2537355, *et. al.*
v.	:	
Pennsylvania Power Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537359, *et al.*
v.	:	
West Penn Power Company	:	

APPENDICES ACCOMPANYING THE

DIRECT TESTIMONY

OF

JAMES S. GARREN

ON BEHALF OF
OFFICE OF CONSUMER ADVOCATE

JULY 22, 2016

James S. Garren

Experience

Snavely, King, Majoros, and Associates, Inc.

Consultant (2010-Present)

Mr. Garren provides expert witness testimony to clients, specializing in the area of depreciation. Mr. Garren also provides analytical support to SK clients and principals including quantitative and qualitative analysis, preparation of client presentations, and case management. Mr. Garren works primarily in the areas of depreciation but has also prepared exhibits for use in the revenue requirement, cost-allocation, rate design, and rate of return aspects of regulatory proceedings.

Mr. Garren is a member of, and has been made a Certified Depreciation Professional, by the Society of Depreciation Professionals.

Issue Advocacy Organization

State Policies Assistant 2009

Assisted with a wide variety of tasks including, but not limited to research, updating organization website with current news, extensive member/supporter communication, and database maintenance.

Binder and Binder, LLC

Client Advocate/Non-Attorney Representative 2007-2008

Mr. Garren's primary duties at Binder were legal writing; producing client and ALJ correspondence, case memoranda, expert witness interrogatories, and arguments in favor of appeal. From July 2007 acted as the company president's primary legal writer. In June of 2007, Mr. Garren became certified as a non-attorney representative. From that time, responsibilities included performing three to five Social Security Disability hearings per week.

Mr. Garren was also responsible for thoroughly developing medical and vocational evidence from the initial filing phase, through Administrative hearing.

Education

Marlboro College, Marlboro, Vermont, B.A. - Literature and Philosophy

Mr. Garren fulfilled Marlboro College's graduation requirement with a thesis on ethical issues in the works of Dostoevsky and Nietzsche. Exploring early post-modern ethical thinking in literature and philosophy.

James Shay Garren

PROJECTS AND APPEARANCES

Testified

In the Matter of: Georgia Power Company's 2013 Rate Case - Docket No. 36989

In the matter of the verified petition of Rockland Electric Company for approval of changes in electric rates, its tariff for electric service, and its depreciation rate. - BPU Docket No. ER13111135

Rule 42T Tariff Filing to Increase Rates and Charges and Proposed Charges in Depreciation Rates. West Virginia Case No. 15-0048-G-D.

Case No. 9355: In the Matter of the Application of Baltimore Gas and Electric Company for Adjustments to its Electric and Gas Base Rates

In the Matter of Application of Maryland-American Water Company for Authority to Adjust its Existing Schedule Tariffs and Rates.

Assisted with Analysis and Testimony

Appalachian Power Company and Wheeling Power Company: Application to Change Depreciation Rates. West Virginia Case No. 14-1151-E-D.

Monongahela Power Company and The Potomac Edison Company Application to Change in Depreciation Rates. West Virginia Case No 14-0701-E-D.

Sandpiper Energy, Inc.-Application to Revise the Depreciation Rates and the Level of Depreciation Reserve, MD Case No. 9350.

In the Matter of Enmax Power Company's 2014 Distribution Tariff Application and 2014-2015 Transmission General Tariff. Appication NO.: 1609784 Proceeding ID NO.: 2739

Pacific Gas and Electric Company (PG&E) submits for filing, for Federal Energy Regulatory Commission (FERC or Commission) acceptance, proposed rate changes for wholesale and retail electric transmission rates shown in Appendices I, II and III of PG&E's Transmission Owner (TO) Tariff, FERC Electric Tariff Volume No. 5. ER13-2022

Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service. Case 13-E-0030, Case 13-G-0031 & Case 13-S-0032

In the matter of the Application of Rocky Mountain Power for an Order authorizing a change in depreciation rates applicable to its depreciable electric property. Docket No. 20000-427-EA-13.

In the Matter of the *Alberta Utilities Commission Act,* S.A. 2007, c. A-37.2 and in the Matter of

James Shay Garren

ATCO Pipelines 2013-2014 General Rate Application Application 1609158; Proceeding ID 2322

Ameren Illinois Company Proposed Increase in Transmission Distribution Rates Docket Nos. ER13-312

Application of Kentucky Utilities Company for an Adjustment of its electric rates. Case No. 2012-00221

Application of Louisville Gas and Electric Company for an Adjustment of its electric and Gas rats, a certificant of public convenience and necessity, approval of ownership of gas service lines and risers, and a gas line surcharge. Case No. 2012-00222

In the matter of application of Michigan Consolidated Gas Company for approval of depreciation accrual rates proposed rates and charges for gas utility plant. Case No. U-16769

Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts, pursuant to General Laws Chapter 164, § 94, and 220 C.M.R. §§5.00 et seq. D.P.U. 12-25

In the Matter of The Investigation Into The Reasonableness of Washington Gas Light Company's Existing Rates and Charges For Gas Service Formal Case No. 1093

New Jersey American Water Company - 2011 RATE CASE
BPU Docket No. WR11070460

In The Matter Of The Application Of Artesian Water Company, INC. For a Revision Of Rates PSC Docket No. 11-207

Pacific Gas and Electric Company Type of Filing Code 80: Compliance Filing to Revise Rates Pursuant to Order Accepting and Suspending Proposed Tariff Changes PG&E FERC Electric Tariff Volume Docket No. 5 ER12-2701-000

PENNSYLVANIA PUBLIC UTILITY COMMISSION v. CITY OF LANCASTER WATER FUND Docket No. R-2010-2179103

IN THE MATTER OF THE PETITION OF SOUTH JERSEY GAS COMPANY FOR APPROVAL OF INCREASED BASE TARIFF RATES AND CHARGES FOR GAS SERVICE AND OTHER TARIFF REVISIONS BPU DOCKET NO. GR10010035

In the Matter of the Application of Hawaii Electric Light Company, Inc. For approval of Changes in its Depreciation Rates, its CAIC Amortization Period and Approval of Vintage Amortization Accounting. Dock No. 2009-0321.

In the Matter of the Application Maui Electric Company, Limited. For approval of Changes in its Depreciation Rates, its CAIC Amortization Period and Approval of Vintage Amortization Accounting. Dock No. 2009-0286.

James Shay Garren

In the Matter of the Application of KAUAI ISLAND UTILITY COOPERATIVE For Approval of Rate Changes and Increases, Revised Rate Schedules and Rules, and Other Ratemaking Matters. Docket No. 2009-0050.

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537349, *et al.*
v.	:	
Metropolitan Edison Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537352, *et al.*
v.	:	
Pennsylvania Electric Company	:	
Pennsylvania Public Utility Commission, *et. at.*	:	R-2016-2537355, *et. al.*
v.	:	
Pennsylvania Power Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537359, *et al.*
v.	:	
West Penn Power Company	:	

EXHIBITS ACCOMPANYING THE

DIRECT TESTIMONY

OF

JAMES S. GARREN

ON BEHALF OF
OFFICE OF CONSUMER ADVOCATE

JULY 22, 2016

METROPOLITAN EDISON COMPANY
PENNSYLVANIA ELECTRIC COMPANY
PENNSYLVANIA POWER COMPANY
WEST PENN POWER COMPANY

DOCKET NOS. R-2016-2537349, R-2016-2537352, R-2016-2537355, R-2016-2537359

Office of Consumer Advocate Set VIII, No. DR 9

"Provide, by account and sub-account, the Company's current depreciation rates, including all service life, curve and net salvage parameters and methods of calculation underlying those rates."

RESPONSE:

These data are provided in response to OCA Set VIII, No. 9, Attachment A.

Exhibit JJS(G-1)

METROPOLITAN EDISON COMPANY

SUMMARY OF CURRENT ESTIMATED SURVIVOR CURVES, NET SALVAGE AND DEPRECIATION RATES

	ACCOUNT (1)	SURVIVOR CURVE (2)		NET SALVAGE (3)		CURRENT RATE (4)
	ELECTRIC PLANT					
	INTANGIBLE PLANT					
303	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - OTHER	7-SQ		0		7.23
303.3	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - PROJECT ENTERPRISE	7-SQ		0	**	-
303.6	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - PROJECT EVOLUTION	7-SQ		0	**	-
303.9	MISCELLANEOUS INTANGIBLE PLANT - SMART METER SOFTWARE	7-SQ		0	***	14.29
	TRANSMISSION PLANT					
350.2	LAND RIGHTS	75-R4		0		1.70
352	STRUCTURES AND IMPROVEMENTS	65-R4		0		1.62
353	STATION EQUIPMENT	56-R1.5		0		1.53
354	TOWERS AND FIXTURES	75-R4		0		0.84
355	POLES AND FIXTURES	60-R2		0		1.43
356	OVERHEAD CONDUCTORS AND DEVICES	65-R2.5		0		1.28
356.1	CLEARING COSTS AND RIGHTS OF WAY	75-R3		0		1.29
358	UNDERGROUND CONDUCTORS AND DEVICES	40-R2		0		2.57
359	ROADS AND TRAILS	75-R4		0		0.73
	DISTRIBUTION PLANT					
360.2	LAND RIGHTS	70-R4		0		1.20
361	STRUCTURES AND IMPROVEMENTS	65-R4		0		1.25
362	STATION EQUIPMENT	60-R2		0		1.44
364	POLES, TOWERS AND FIXTURES	60-R1.5		0		1.53
365	OVERHEAD CONDUCTORS AND DEVICES	55-R0.5		0		1.68
365.1	CLEARING COSTS AND RIGHTS OF WAY	70-R4		0		1.37
366	UNDERGROUND CONDUIT	60-R2		0		1.67
367	UNDERGROUND CONDUCTORS AND DEVICES	45-R2.5		0		1.91
368	LINE TRANSFORMERS	38-R2		0		2.55
369	OVERHEAD SERVICES	42-R1		0		2.32
369.1	UNDERGROUND SERVICES	52-R3		0		1.58
370	METERS	23-L0		0	***	4.61
370.1	METERS - SMART GRID	15-S2.5		0	***	7.92
370.2	METERS - SMART GRID 10 YEAR LIFE	10-S2.5		0	***	10.53
371	INSTALLATIONS ON CUSTOMER PREMISES - DUSK TO DAWN LIGHTS	34-R0.5		0		1.79
371.21	INSTALLATIONS ON CUSTOMER PREMISES - METER SOCKET DEVICES	25-S1.5		0		2.25
371.23	INSTALLATIONS ON CUSTOMER PREMISES - SURGE SUPPRESSION	15-S2		0		6.25
373	STREET LIGHTING AND SIGNAL SYSTEMS	29-R0.5		0		3.53
	GENERAL PLANT					
389.2	LAND RIGHTS	65-R2.5		0		0.49
390.1	STRUCTURES AND IMPROVEMENTS					
	MISCELLANEOUS IMPROVEMENTS - ALL OTHER LOCATIONS	40-R1.5		0		2.04
	CORPORATE HEADQUARTERS - READING	60-R2	*	0		2.25
	LEBANON SERVICE CENTER	60-R2	*	0		4.34
	EASTON SERVICE CENTER	60-R2	*	0		3.87
	YORK SERVICE CENTER	60-R2	*	0		3.10
390.2	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING					
	MISCELLANEOUS IMPROVEMENTS - ALL OTHER LOCATIONS	25-R1		0		3.04
	CORPORATE HEADQUARTERS - READING	65-R4	*	0		2.52
	LEBANON SERVICE CENTER	65-R4	*	0		2.37
	EASTON SERVICE CENTER	65-R4	*	0		8.56
	YORK SERVICE CENTER	65-R4	*	0		2.58

Exhibit (JSG-1)

METROPOLITAN EDISON COMPANY

SUMMARY OF CURRENT ESTIMATED SURVIVOR CURVES, NET SALVAGE AND DEPRECIATION RATES

	ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)		CURRENT RATE (4)
391	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	20-SQ	0		1.26
391.2	OFFICE FURNITURE AND EQUIPMENT - OFFICE MACHINES	15-SQ	0		-
391.3	OFFICE FURNITURE AND EQUIPMENT - PERSONAL COMPUTERS	5-SQ	0		13.43
391.4	OFFICE FURNITURE AND EQUIPMENT - INFORMATION SYSTEMS	10-SQ	0		15.40
391.5	OFFICE FURNITURE AND EQUIPMENT - DATA PROCESSING - SMART METERS	5-SQ	0	***	14.21
392.3	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	12-L4	0		6.37
392.4	TRANSPORTATION EQUIPMENT - POLE TRAILERS	29-S2	0		2.88
392.5	TRANSPORTATION EQUIPMENT - VAN TRAILERS	25-S2	0		0.88
393	STORES EQUIPMENT	25-SQ	0		0.02
394	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ	0		2.96
395	LABORATORY EQUIPMENT	20-SQ	0		-
396	POWER OPERATED EQUIPMENT	30-R0.5	0		0.63
397	COMMUNICATION EQUIPMENT	27-R1	0		1.69
398	MISCELLANEOUS EQUIPMENT	20-SQ	0		0.17

* LIFE SPAN PROCEDURE USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
** THE COMPANY APPLIES A WEIGHTED RATE.
*** THE COMPANY APPLIES A STRAIGHT LINE RATE BASED UPON THE LIFE ESTIMATE.

Exhibit ___ (JSG-1)

PENNSYLVANIA ELECTRIC COMPANY

SUMMARY OF CURRENT ESTIMATED SURVIVOR CURVES, NET SALVAGE AND DEPRECIATION RATES

	ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	CURRENT RATE (4)
	ELECTRIC PLANT			
	INTANGIBLE PLANT			
303	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - OTHER	7-SQ	0	8.86
303.3	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - PROJECT EVOLUTION	7-SQ	0	-
303.6	MISCELLANEOUS INTANGIBLE PLANT - SMART METER SOFTWARE	7-SQ	0 ***	14.29
	TRANSMISSION PLANT			
350.2	LAND RIGHTS	75-R4	0	1.84
352	STRUCTURES AND IMPROVEMENTS	65-R3	0	1.06
353	STATION EQUIPMENT	57-R2	0	1.38
354	TOWERS AND FIXTURES	75-R3	0	0.78
355	POLES AND FIXTURES	60-R1.5	0	1.51
356	OVERHEAD CONDUCTORS AND DEVICES	65-R2.5	0	1.24
356.1	CLEARING COSTS AND RIGHTS OF WAY	75-R4	0	1.28
358	UNDERGROUND CONDUCTORS AND DEVICES	35-S2	0	3.29
	DISTRIBUTION PLANT			
360.2	LAND RIGHTS	75-R4	0	0.85
361	STRUCTURES AND IMPROVEMENTS	65-R2.5	0	0.85
362	STATION EQUIPMENT	60-R1.5	0	1.33
364	POLES, TOWERS AND FIXTURES	60-R1.5	0	1.46
365	OVERHEAD CONDUCTORS AND DEVICES	58-R1	0	1.66
365.1	CLEARING COSTS AND RIGHTS OF WAY	70-R4	0	1.36
366	UNDERGROUND CONDUIT	65-R2.5	0	1.23
367	UNDERGROUND CONDUCTORS AND DEVICES	43-R2.5	0	1.95
368	LINE TRANSFORMERS	41-R1	0	2.01
369	OVERHEAD SERVICES	55-R1.5	0	1.44
369.1	UNDERGROUND SERVICES	55-R1.5	0	0.99
370	METERS	25-L0	0 ***	4.29
370.1	METERS - SMART GRID 15 YEAR LIFE	15-S2.5	0 ***	6.74
370.2	METERS - SMART GRID 10 YEAR LIFE	10-S2.5	0 ***	10.00
371	INSTALLATIONS ON CUSTOMER PREMISES - DUSK TO DAWN LIGHTS	30-R0.5	0	1.50
371.21	INSTALLATIONS ON CUSTOMER PREMISES - METER SOCKET DEVICES	25-R2	0	2.45
371.23	INSTALLATIONS ON CUSTOMER PREMISES - SURGE SUPPRESSION	20-S3	0	-
372	LEASED PROPERTY ON CUSTOMER PREMISES	40-R2.5	0	0.09
373	STREET LIGHTING AND SIGNAL SYSTEMS	24-R1	0	4.53
	GENERAL PLANT			
389.2	LAND RIGHTS	65-R2.5	0	1.25
390.1	STRUCTURES AND IMPROVEMENTS			
	MISCELLANEOUS IMPROVEMENTS - ALL OTHER LOCATIONS	45-S0	0	1.67
	RICHLAND OPERATING CENTER	80-S0 *	0	2.15
	ERIE OPERATING CENTER	80-S0 *	0	2.14
	ALTOONA OPERATING CENTER	80-S0 *	0	2.90

Exhibit ___ (JJG-1)

PENNSYLVANIA ELECTRIC COMPANY

SUMMARY OF CURRENT ESTIMATED SURVIVOR CURVES, NET SALVAGE AND DEPRECIATION RATES

	ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	CURRENT RATE (4)
390.2	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING			
	MISCELLANEOUS IMPROVEMENTS - ALL OTHER LOCATIONS	35-R0.5	0	1.01
	RICHLAND OPERATING CENTER	SQUARE *	0	2.52
	ERIE OPERATING CENTER	SQUARE *	0	1.85
	ALTOONA OPERATING CENTER	SQUARE *	0	1.24
391	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	20-SQ	0 **	0.03
391.2	OFFICE FURNITURE AND EQUIPMENT - OFFICE MACHINES	10-SQ	0	-
391.25	OFFICE FURNITURE AND EQUIPMENT - DATA PROCESSING SMART METERS	5-SQ	0 ***	20.01
391.3	OFFICE FURNITURE AND EQUIPMENT - PERSONAL COMPUTERS	5-SQ	0	24.20
392.3	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	13-L3	0	2.87
392.4	TRANSPORTATION EQUIPMENT - POLE TRAILERS	28-L2	0	3.41
393	STORES EQUIPMENT	25-SQ	0	-
394	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ	0	4.62
395	LABORATORY EQUIPMENT	20-SQ	0	-
396	POWER OPERATED EQUIPMENT	33-R1	0	0.30
397	COMMUNICATION EQUIPMENT	15-SQ	0	2.77
398	MISCELLANEOUS EQUIPMENT	20-SQ	0	0.46

* LIFE SPAN PROCEDURE USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
** THE COMPANY APPLIES A WEIGHTED RATE.
*** THE COMPANY APPLIES A STRAIGHT LINE RATE BASED UPON THE LIFE ESTIMATE.

PENNSYLVANIA POWER COMPANY

SUMMARY OF CURRENT ESTIMATED SURVIVOR CURVES, NET SALVAGE AND DEPRECIATION RATES

	ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)		CURRENT RATE (4)
	ELECTRIC PLANT				
	INTANGIBLE PLANT				
303	MISCELLANEOUS INTANGIBLE PLANT	7-SQ	0	*	4.30
303.1	MISCELLANEOUS INTANGIBLE PLANT - SMART METER SOFTWARE	7-SQ	0	**	14.29
	TRANSMISSION PLANT				
352.1	STRUCTURES AND IMPROVEMENTS	65-R4	0	*	0.71
352.2	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING	65-R4	0	*	1.27
353	STATION EQUIPMENT	58-R2	0		0.69
354	TOWERS AND FIXTURES	70-R4	0		-
355	POLES AND FIXTURES	62-R1.5	0		1.37
356.1	OVERHEAD CONDUCTORS AND DEVICES	62-R2	0		1.15
356.2	OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND GRADING	62-R2	0		1.68
357	UNDERGROUND CONDUIT	45-S2.5	0		1.59
358	UNDERGROUND CONDUCTORS AND DEVICES	40-S1.5	0		1.73
359	ROADS AND TRAILS	55-S2.5	0		1.14
	DISTRIBUTION PLANT				
361.1	STRUCTURES AND IMPROVEMENTS	65-R3	0	*	1.03
361.2	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING	65-R3	0	*	1.21
362	STATION EQUIPMENT	50-R0.5	0		1.67
364	POLES, TOWERS AND FIXTURES	55-R2	0		1.66
365	OVERHEAD CONDUCTORS AND DEVICES	60-R1	0		1.55
365.1	OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND GRADING	60-R1	0		1.59
366	UNDERGROUND CONDUIT	60-R2.5	0		1.55
367	UNDERGROUND CONDUCTORS AND DEVICES	50-R2.5	0		1.76
368	LINE TRANSFORMERS	44-R1.5	0		1.94
369	SERVICES	55-R4	0		1.20
370.1	METERS - SMART GRID	15-S0.5	0	**	6.81
371	INSTALLATIONS ON CUSTOMERS' PREMISES	33-R2	0		1.83
373.1	STREET LIGHTING AND SIGNAL SYSTEMS	27-R2	0	*	1.94
373.2	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	27-R2	0	*	3.54
	GENERAL PLANT				
390.1	STRUCTURES AND IMPROVEMENTS	50-R2.5	0	*	1.08
390.2	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING	50-R2.5	0	*	1.87
391.1	OFFICE FURNITURE AND EQUIPMENT	20-SQ	0		7.70
391.2	DATA PROCESSING EQUIPMENT	5-SQ	0		47.36
391.25	DATA PROCESSING EQUIPMENT - SMART GRID	5-SQ	0	**	20.09
392	TRANSPORTATION EQUIPMENT	10-L2	0		5.01
393	STORES EQUIPMENT	30-SQ	0		6.56
394	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ	0		10.65
395	LABORATORY EQUIPMENT	20-SQ	0		8.25
396	POWER OPERATED EQUIPMENT	18-S1.5	0		5.13
397	COMMUNICATION EQUIPMENT	15-SQ	0		7.99
398	MISCELLANEOUS EQUIPMENT	20-SQ	0		28.72

* Penn Power applies a weighted average rate to subaccounts within the account.
** Penn Power applies a straight line rate rate based on the life estimate.

Exhibit ___ (JJS-1)

WEST PENN POWER COMPANY

SUMMARY OF CURRENT ESTIMATED SURVIVOR CURVES, NET SALVAGE AND DEPRECIATION RATES

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	ACCRUAL RATE (4)
INTANGIBLE PLANT			
303.00 MISCELLANEOUS INTANGIBLE PLANT - 5 YEAR LIFE	5-SQ	0	20.00 **
303.10 MISCELLANEOUS INTANGIBLE PLANT - 7 YEAR LIFE	7-SQ	0	14.29
303.11 MISCELLANEOUS INTANGIBLE PLANT - SMART METER SOFTWARE	10-SQ	0	10.00
303.20 MISCELLANEOUS INTANGIBLE PLANT - 10 YEAR LIFE	10-SQ	0	10.00
TRANSMISSION PLANT			
350.20 LAND RIGHTS	75-R4	0	1.58
352.00 STRUCTURES AND IMPROVEMENTS	65-S2	0	1.30
353.10 STATION EQUIPMENT	56-R1.5	0	1.34
353.40 STATION EQUIPMENT - SCADA	30-R2.5	0	0.06
354.00 TOWERS AND FIXTURES	80-R4	0	0.86
355.00 POLES AND FIXTURES	55-R3	0	1.36
356.10 OVERHEAD CONDUCTORS AND DEVICES	63-R4	0	0.80
356.20 OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND DAMAGES	75-R4	0	1.38
358.00 UNDERGROUND CONDUCTORS AND DEVICES	40-S2	0	2.55
DISTRIBUTION PLANT			
360.20 LAND RIGHTS	75-R3	0	1.51
361.00 STRUCTURES AND IMPROVEMENTS	70-R3	0	1.17
362.10 STATION EQUIPMENT	56-R1.5	0	1.20
362.40 STATION EQUIPMENT - SCADA	30-R2.5	0	0.53
364.00 POLES, TOWERS AND FIXTURES	55-R2	0	1.42
365.10 OVERHEAD CONDUCTORS AND DEVICES	60-R1	0	1.36
365.20 OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND DAMAGES	75-R4	0	1.37
366.00 UNDERGROUND CONDUIT	55-R2.5	0	2.11
367.00 UNDERGROUND CONDUCTORS AND DEVICES	45-R3	0	1.99
368.00 LINE TRANSFORMERS	44-R2	0	2.00
369.00 SERVICES	46-R2.5	0	1.99
370.30 SMART METERS	15-S2.5	0	6.41 ***
371.00 INSTALLATIONS ON CUSTOMERS' PREMISES	30-R1	0	4.14
372.00 LEASED PROPERTY	27-R1.5	0	1.63
373.00 STREET LIGHTING AND SIGNAL SYSTEMS	31-O1	0	1.96
GENERAL PLANT			
389.20 LAND RIGHTS	75-R4	0	1.27
390.10 STRUCTURES AND IMPROVEMENTS			
ARNOLD SERVICE CENTER	55-S0.5 *	0	3.78
BOYCE SERVICE CENTER	55-S0.5 *	0	3.30
BUTLER SERVICE CENTER	55-S0.5 *	0	1.89
CHARLEROI SERVICE CENTER	55-S0.5 *	0	7.39
CLARION SERVICE CENTER AND POLE YARD	55-S0.5 *	0	6.02
CONNELLSVILLE CONFERENCE CENTER	55-S0.5 *	0	5.54
CONNELLSVILLE HAZARDOUS MATERIAL	55-S0.5 *	0	2.50
CONNELLSVILLE METER LAB AND STOREHOUSE	55-S0.5 *	0	8.17
CONNELLSVILLE COVERED STORAGE AND OFFICE	55-S0.5 *	0	6.41
CONNELLSVILLE QUONSET STOREHOUSE	55-S0.5 *	0	5.10
CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	55-S0.5 *	0	14.30
CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	55-S0.5 *	0	-
CONNELLSVILLE GARAGE	55-S0.5 *	0	1.76
CONNELLSVILLE WEST SIDE COMPLEX	55-S0.5 *	0	0.78
DUNBAR STORAGE FACILITY	55-S0.5 *	0	4.88
GREENSBURG CORP CENTER A WING	55-S0.5 *	0	5.18
GREENSBURG CORP CENTER B WING	55-S0.5 *	0	4.08
GREENSBURG CORP CENTER C WING	55-S0.5 *	0	2.25
GREENSBURG CORP CENTER MAIN BUILDING	55-S0.5 *	0	1.96

	GREENSBURG CORP CENTER PARKING GARAGE	55-S0.5	*	0	0.47
	JEANETTE SERVICE CENTER	55-S0.5	*	0	1.50
	JEANETTE SERVICE CENTER GARAGE	55-S0.5	*	0	2.12
	JEFFERSON SERVICE CENTER	55-S0.5	*	0	5.11
	KITTANNING SERVICE CENTER	55-S0.5	*	0	1.26
	KITTANNING SERVICE CENTER GARAGE	55-S0.5	*	0	1.87
	LATROBE SERVICE CENTER	55-S0.5	*	0	0.85
	MCCONNELLSBURG SERVICE CENTER	55-S0.5	*	0	2.67
	PLEASANT VALLEY SERVICE CENTER	55-S0.5	*	0	6.22
	ST. MARYS SERVICE CENTER	55-S0.5	*	0	4.92
	ST. MARYS SERVICE CENTER GARAGE	55-S0.5	*	0	2.99
	STATE COLLEGE SERVICE CENTER GARAGE	55-S0.5	*	0	2.05
	WASHINGTON SERVICE CENTER	55-S0.5	*	0	4.59
	WAYNESBORO SERVICE CENTER	55-S0.5	*	0	4.24
	WAYNESBORO SERVICE CENTER GARAGE	55-S0.5	*	0	2.15
	MINOR STRUCTURES	45-R3		0	2.94
391.10	OFFICE FURNITURE	16-SQ		0	4.84
391.20	INFORMATION SYSTEMS	7-SQ		0	10.78
391.30	DATA HANDLING EQUIPMENT	16-SQ		0	12.81
391.40	COMPUTERS	5-SQ		0	-
391.50	SMART METERS HARDWARE	7-SQ		0	12.14 ***
392.10	TRANSPORTATION EQUIPMENT - AUTOS	8-S2		0	15.37
392.20	TRANSPORTATION EQUIPMENT - LIGHT TRUCKS	11-L2.5		0	5.59
392.30	TRANSPORTATION EQUIPMENT - MEDIUM AND HEAVY TRUCKS	12-L4		0	6.88
392.40	TRANSPORTATION EQUIPMENT - TRAILERS	23-S1		0	-
392.60	TRANSPORTATION EQUIPMENT - ALL TERRAIN VEHICLES	10-S2.5		0	10.85
393.00	STORES EQUIPMENT	25-SQ		0	4.17
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	15-SQ		0	6.48
395.00	LABORATORY EQUIPMENT	23-SQ		0	4.05
396.00	POWER OPERATED EQUIPMENT	20-S0.5		0	2.09
397.00	COMMUNICATION EQUIPMENT	12-SQ		0	7.95
398.00	MISCELLANEOUS EQUIPMENT	14-SQ		0	7.81

* LIFE SPAN PROCEDURE USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
** THE COMPANY APPLIES A WEIGHTED RATE.
*** THE COMPANY APPLIES A STRAIGHT LINE RATE BASED UPON THE LIFE ESTIMATE.

METROPOLITAN EDISON COMPANY
PENNSYLVANIA ELECTRIC COMPANY
PENNSYLVANIA POWER COMPANY
WEST PENN POWER COMPANY

DOCKET NOS. R-2016-2537349, R-2016-2537352, R-2016-2537355, R-2016-2537359

Office of Consumer Advocate Set VIII, No. DR 10

"Provide the Company's last depreciation study and all Orders, Decisions and Stipulations relating to that study."

RESPONSE:

See OCA Set VIII, No. DR 10, Attachment A for Met-Ed's last depreciation study.

See OCA Set VIII, No. DR 10, Attachment B for Penelec's last depreciation study.

See OCA Set VIII, No. DR 10, Attachment C for Penn Power's last depreciation study.

See OCA Set VIII, No. DR 10, Attachment D for West Penn's last depreciation study.

See OCA Set VIII, No. DR 10, Attachment E for the Pennsylvania Public Utility Commission's secretarial letter approving these deprecation rates.

PENNSYLVANIA PUC
PUBLIC UTILITY COMMISSION

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P.O. BOX 3265, HARRISBURG, PA 17105-3265

December 24, 2015

IN REPLY PLEASE REFER TO OUR FILE

M-2015-2501728
M-2015-2501746
M-2015-2501756
M-2015-2501762

RICHARD A. D'ANGELO
MANAGER - RATES & REGULATORY AFFAIRS
FIRSTENERGY CORPORATION
2800 POTTSVILLE PIKE
PO BOX 16001
READING, PA 19612-6001

Re: FirstEnergy Companies' Annual Depreciation Reports and updated Service Life Studies

Dear Mr. D'Angelo:

On August 31, 2015, the FirstEnergy Companies (Met-Ed, Penelec, West Penn, and Penn Power) filed their required Annual Depreciation Reports (ADRs) and Service Life Studies (SLS). In their filings, FirstEnergy noted that they had updated the depreciation rates for accounting purposes for all companies based on the SLSs. FirstEnergy requested approval of the new depreciation rates and the ADRs and SLSs for accounting purposes.

Upon review of the FirstEnergy Companies' filings, they appear to be in accordance with the requirements of 52 Pa. Code § 73 (annual depreciation reports, service life studies and capital investment plans). Therefore, the FirstEnergy Companies' ADRs, SLSs, and updated depreciation rates are approved for accounting purposes only.

In addition, this approval will apply only to the matter and parties specifically and clearly defined under the instant filings.

If you are dissatisfied with the resolution of this matter, you may, as set forth in 52 Pa. Code §5.44, file a petition with the Commission within 10 days of the date of this letter.

Sincerely,

Rosemary Chiavetta
Secretary

cc Daniel Searfoorce, TUS
Darren Gill, TUS

Metropolitan Edison Company
Comparison of Depreciation Expense at Proposed Rates

Exhibit JSG-2
Page 1 of 4
Docket No. R-2016-2537349

Fully Projected Future Test Year Ended 12/31/2017
(Thousands of Dollars)

Line No.	Acct No		Adjusted Depreciable Base	Accrual Rate ELG Ave Remaining Life Basis Per Met-Ed	Accrual Expense Amount Per Met-Ed	Accrual Rate ASL Ave Remaining Life Basis Per OCA	Composite	Accrual Expense Amount Per OCA	OCA Adjustment
			(A)	(B)	(C)	(D)		(E)	(F)
		INTANGIBLE PLANT							
1	303	Miscellaneous Intangible Plant	$ 44,806,363	14.29%	$ 6,402,829	7.23%		$ 3,239,500	$ (3,163,329)
2	303	Smart Meters	$ 23,165,207	14.29%	$ 3,310,308	14.29%		$ 3,310,308	$ -
3		TOTAL INTANGIBLE PLANT	$ 67,971,571		$ 9,713,137			$ 6,549,808	$ (3,163,329)
		TRANSMISSION PLANT							
4	350.12	Land Rights- subs	$ -	1.79%	$ -	1.70%		$ -	$ -
5	350.22	Land Rights- lines	$ -	1.79%	-	1.70%		$ -	$ -
6	352.1	Structures	$ -	1.48%	-	1.62%		$ -	$ -
7	353	Station Equipment	$ 1,640,121	3.17%	51,992	1.53%		$ 25,094	$ (26,898)
8	354	Towers and Fixtures	$ 38,208	0.91%	348	0.84%		$ 321	$ (27)
9	355	Poles and Fixtures	$ 697,440	1.64%	11,438	1.43%		$ 9,973	$ (1,465)
1.28	356.1	Overhead Conductors	$ 802,917	1.29%	10,358	1.28%		$ 10,277	$ (81)
11	356.2	Clearing Costs	$ 117,475	1.26%	1,480	1.29%		$ 1,515	$ 35
12	358	Underground Conductors	$ 77,417	3.22%	2,493	2.57%		$ 1,990	$ (503)
13	359	Roads & Trails	$ 11,908	0.00%	-	0.73%		$ 87	$ 87
14		TOTAL TRANSMISSION PLANT	$ 3,385,486		$ 78,109			$ 49,257	$ (28,852)
		DISTRIBUTION PLANT							
15	360.12	Land Rights-subs	$ 611,087	1.29%	$ 7,883	1.20%		$ 7,333	$ (550)
16	360.22	Land Rights-lines	$ 28,320,720	1.29%	$ 365,337	1.20%		$ 339,849	$ (25,488)
17	361.1	Structures	$ 13,984,932	1.35%	$ 188,797	1.25%		$ 174,812	$ (13,985)
18	362	Station Equipment	$ 245,399,538	1.82%	$ 4,466,272	1.44%		$ 3,533,753	$ (932,519)
19	364	Poles, Towers and Fixtures	$ 391,305,882	1.99%	$ 7,786,987	1.53%		$ 5,986,980	$ (1,800,007)
20	365	Overhead Conductors	$ 437,614,128	2.55%	$ 11,159,160	1.68%		$ 7,351,917	$ (3,807,243)
21	365.1	Clearing Costs	$ 145,832,621	1.44%	$ 2,099,990	1.37%		$ 1,997,907	$ (102,083)
22	366	Underground Conduit	$ 31,093,126	1.93%	$ 600,097	1.67%		$ 519,255	$ (80,842)
23	367	Underground Conductors	$ 250,703,860	2.36%	$ 5,916,611	1.91%		$ 4,788,444	$ (1,128,167)
24	368	Line Transformers	$ 417,848,180	3.01%	$ 12,577,230	2.55%		$ 10,655,129	$ (1,922,101)
25	369	Overhead Services	$ 81,507,792	2.88%	$ 2,347,424	2.32%		$ 1,890,981	$ (456,443)
26	369.1	Underground Services	$ 106,007,311	1.77%	$ 1,876,329	1.58%		$ 1,674,916	$ (201,413)
27	370	Meters	$ -	0.00%	$ -	4.61%		$ -	$ -
28	370.1	Smart Meters non classified	$ 60,408,815	6.67%	$ 4,029,268	7.92%		$ 4,784,378	$ 755,110
29	370.1	Smart Meters Residencial	$ 5,733,775	6.67%	$ 382,443	7.92%		$ 454,115	$ 71,672
30	370.1	Smart Meters Industrial	$ 1,672	6.67%	$ 112	7.92%		$ 132	$ 20
31	370.1	Smart Meters Commercial	$ 2,049,546	6.67%	$ 136,705	7.92%		$ 162,324	$ 25,619
32	370.1	Smart Meters Infra Structure	$ 10,438	6.67%	$ 696	7.92%		$ 827	$ 131
33	370.2	Smart Grid Meters 10 yr	$ 774,772	10.00%	$ 77,477	10.53%		$ 81,583	$ 4,106
34	371	Installed on Customer Premises	$ 4,600,102	2.49%	$ 114,543	1.79%		$ 82,342	$ (32,201)
35	373	Street Lighting & Signal Systems	$ 14,721,760	4.57%	$ 672,784	3.53%		$ 519,678	$ (153,106)
36		TOTAL DISTRIBUTION PLANT	$ 2,238,530,056		$ 54,806,145			$ 45,006,655	$ (9,799,490)
		GENERAL PLANT							
37	389.1	Land Rights	$ 15,064	0.53%	$ 80	0.49%		$ 74	$ (6)
38	390.1	Structures	$ 75,180,666	2.52%	$ 1,894,553	2.48%	X	$ 1,864,481	$ (30,072)
39	390.2	Clearing	$ 10,385,225	3.10%	$ 321,942	3.36%	X	$ 348,944	$ 27,002
40	390.3	Structures and Improvements LH	$ 13,961	0.00%	$ -	0.00%		$ -	$ -
41	391.1	Office Furn., Mech. Equip.	$ 12,989,700	4.24%	$ 550,763	1.26%		$ 163,670	$ (387,093)
42	391.2	Office Machines	$ 4,933,663	0.00%	$ -	0.00%		$ -	$ -
43	391.3	Computers	$ 3,793,122	39.11%	$ 1,483,490	13.43%		$ 509,416	$ (974,074)
44	391.4	Information System	$ 0	0.00%	$ -	15.40%		$ -	$ -
45	391.5	Data Proc Smart Meters	$ 6,987,711	20.34%	$ 1,421,300	14.21%		$ 992,954	$ (428,346)
46	392	Transportation Equipment	$ 939,907	3.90%	$ 36,656	3.47%	X	$ 32,615	$ (4,041)
47	393	Stores Equipment	$ 1,143,110	0.06%	$ 686	0.02%		$ 229	$ (457)
48	394	Tools, Shop, & Garage Equipment	$ 9,645,532	4.42%	$ 426,333	2.94%		$ 283,579	$ (142,754)
49	395	Laboratory Equipment	$ 2,383,668	0.00%	$ -	0.00%		$ -	$ -
50	396	Power Operated Equipment	$ 615,801	0.85%	$ 5,234	0.63%		$ 3,880	$ (1,354)
51	397	Communications Equipment	$ 19,047,195	2.88%	$ 548,559	1.69%		$ 321,898	$ (226,661)
52	398	Miscellaneous Equipment	$ 1,995,467	1.13%	$ 22,549	0.17%		$ 3,392	$ (19,157)
53		TOTAL GENERAL PLANT	$ 150,069,790		$ 6,712,145			$ 4,525,132	$ (2,187,013)
54		**GRAND TOTAL**	$ 2,459,956,903		$ 71,309,536			$ 56,130,852	$ (15,178,684)

Notes and Source

Cols A-C: Amounts from Met-Ed Exhibit RAD-53
Cols. D-F: OCA proposed depreciation rates

		Account 390.1			Account 390.2		
		Dec. 31, 2015	Current Rate	Current Accrual	Dec. 31, 2015	Current Rat	Current Accrual
390.1	Structures						
	Misc All Other Locations	18,937,879	2.04%	386,333	4340628	3.04%	131,955
	Corp Hdqtrs Reading	53,939,398	2.25%	1,213,636	3887251	2.52%	97,959
	Lenanon Serv Center	5,162,858	4.34%	224,068	1009739	2.37%	23,931
	Easton Serv Center	4,902,023	3.87%	189,708	1369573	8.56%	117,235
	York Serv Center	7,245,748	3.10%	224,618	1855578	2.58%	47,874
		90,187,906	2.48%	2,238,364	12,462,769	3.36%	418,954
392	Transportation Equipment						
	Heavy Trucks	239,384	6.37%	15,249			
	Pole Trailers	801,311	2.88%	23,078			
	Van Trailers	87,237	0.88%	768			
		1,127,932	3.47%	39,094			

Pennsylvania Electric Company
Comparison of Depreciation Expense at Proposed Rates

Exhibit JSG-2
Page 2 of 4
Docket No. R-2016-2537352

Fully Projected Future Test Year Ended 12/31/2017
(Thousands of Dollars)

Line No.	Acct No	Description	Adjusted Depreciable Base	Accrual Rate ELG Ave Remaining Life Basis Per Penelec	Accrual Expense Amount Per Penelec	Accrual Rate ASL Ave Remaining Life Basis Per OCA	Composited	Accrual Expense Amount Per OCA	OCA Adjustment
			(A)	(B)	(C)	(D)		(E)	(F)
		INTANGIBLE PLANT							
1	303	Miscellaneous Intangible Plant	$ 45,927,531	14.29%	$ 6,563,044	8.86%		$ 4,069,179	$ (2,493,865)
2	303	Smart Meters	$ 22,214,396	14.29%	$ 3,174,437	14.29%		$ 3,174,437	$ -
3		TOTAL INTANGIBLE PLANT	$ 68,141,927		$ 9,737,481			$ 7,243,616	$ (2,493,865)
		TRANSMISSION PLANT							
4	350.12	Land Rights - subs	$ -	1.84%	$ -	1.84%		$ -	$ -
5	350.22	Land Rights-lines	$ -	1.84%	$ -	1.84%		$ -	$ -
6	352	Structures	$ 11,320	0.48%	$ 54	1.06%		$ 120	$ 66
7	352.2	Clearing Costs	$ 1,072,913	0.48%	$ 5,150	1.06%		$ 11,373	$ 6,223
8	353	Station Equipment	$ -	2.67%	$ -	1.38%		$ -	$ -
9	354	Towers and Fixtures	$ 129,938	0.00%	$ -	0.78%		$ 1,014	$ 1,014
10	355	Poles and Fixtures	$ 284,737	1.95%	$ 5,552	1.51%		$ 4,300	$ (1,252)
11	356	Overhead Conductors	$ (412,746)	2.08%	$ (8,585)	1.24%		$ (5,118)	$ 3,467
12	356.1	Clearing Costs	$ 14,919	1.43%	$ 213	1.28%		$ 191	$ (22)
13	358	Underground Conductors	$ -	3.17%	$ -	3.29%		$ -	$ -
14		TOTAL TRANSMISSION PLANT	$ 1,101,082		$ 2,384			$ 11,880	$ 9,496
		DISTRIBUTION PLANT							
15	360.12	Land Rights - subs	$ -	0.90%	$ -	0.85%		$ -	$ -
16	360.22	Land Rights-lines	$ 15,554,713	0.90%	$ 139,992	0.85%		$ 132,215	$ (7,777)
17	361.1	Structures	$ 15,230,142	1.04%	$ 158,393	1.04%		$ 158,393	$ -
18	362	Station Equipment	$ 268,119,836	1.77%	$ 4,745,721	1.33%		$ 3,565,994	$ (1,179,727)
19	364	Poles, Towers and Fixtures	$ 544,086,308	1.99%	$ 10,827,318	1.46%		$ 7,943,660	$ (2,883,658)
20	365	Overhead Conductors	$ 747,282,945	2.30%	$ 17,187,508	1.66%		$ 12,404,897	$ (4,782,611)
21	365.1	Clearing Costs	$ 158,546,829	1.48%	$ 2,346,493	1.36%		$ 2,156,237	$ (190,256)
22	366	Underground Conduit	$ 36,985,677	1.43%	$ 528,895	1.23%		$ 454,924	$ (73,971)
23	367	Underground Conductors	$ 179,326,995	2.38%	$ 4,267,982	1.95%		$ 3,496,876	$ (771,106)
24	368	Line Transformers	$ 394,487,521	2.71%	$ 10,690,612	2.01%		$ 7,929,199	$ (2,761,413)
25	369	Overhead Services	$ 77,569,085	1.74%	$ 1,349,702	1.44%		$ 1,116,995	$ (232,707)
26	369.1	Underground Services	$ 47,907,050	1.28%	$ 613,210	0.99%		$ 474,280	$ (138,930)
27	370	Meters	$ -	0.00%	$ -	4.29%		$ -	$ -
28	370	Smart Grid Meters 10 yr	$ 65,507	10.00%	$ 6,551	10.00%		$ 6,551	$ -
29	370	Smart Meters non classified 15 yr	$ 88,543,614	6.67%	$ 5,905,859	6.74%		$ 5,967,840	$ 61,981
30	370	Smart Meters Com 15 yr	$ 2,948,433	6.67%	$ 196,661	6.74%		$ 198,724	$ 2,063
31	370	Smart Meters Ind 15 yr	$ 2,561	6.67%	$ 171	6.74%		$ 173	$ 2
32	370	Smart Meters Residencial 15 yr	$ 8,359,984	6.67%	$ 557,611	6.74%		$ 563,463	$ 5,852
33	370	Smart Meters Infra St	$ 686,914	6.67%	$ 45,817	6.74%		$ 46,298	$ 481
34	371	Installed on Customer Premises	$ 29,143,314	1.75%	$ 510,008	1.50%	X	$ 437,150	$ (72,858)
35	372	Leased Property Customer Premisise	$ 198,655	0.11%	$ 219	0.09%		$ 179	$ (40)
36	373	Street Lighting & Signal Systems	$ 51,420,969	5.27%	$ 2,709,885	4.53%		$ 2,329,370	$ (380,515)
37		TOTAL DISTRIBUTION PLANT	$ 2,666,467,052		$ 62,788,608			$ 49,383,418	$ (13,405,190)
		GENERAL PLANT							
38	389.1	Land Rights	$ 17,209	1.39%	$ 239	1.25%		$ 215	$ (24)
39	390.1	Structures	$ 48,606,906	2.80%	$ 1,360,993	2.08%	X	$ 1,011,024	$ (349,969)
40	390.2	Clearing	$ 5,859,182	1.85%	$ 108,395	1.46%	X	$ 85,544	$ (22,851)
41	390.3	Struct Impr LH	$ 14,771	0.00%	$ -	0.00%		$ -	$ -
42	391.1	Office Furniture & Equipment	$ 4,430,253	0.31%	$ 13,734	0.03%		$ 1,329	$ (12,405)
43	391.15	Office Machines	$ 1,383,093	0.00%	$ -	0.00%		$ -	$ -
44	391.3	Personal Computers	$ 2,189,452	26.92%	$ 589,401	24.20%		$ 529,847	$ (59,554)
45	391.25	Data Processing Smart Meters	$ 11,891,717	20.00%	$ 2,378,343	20.01%		$ 2,379,533	$ 1,190
46	392	Transportation	$ 2,772,700	3.10%	$ 85,954	3.31%	X	$ 91,776	$ 5,822
47	393	Stores Equipment	$ 1,194,527	0.01%	$ 119	0.00%		$ -	$ (119)
48	394	Tools, Shop, & Garage Equipment	$ 10,713,819	5.13%	$ 549,619	4.62%		$ 494,978	$ (54,641)
49	395	Laboratory Equipment	$ 4,588,559	0.00%	$ -	0.00%		$ -	$ -
50	396	Power Operated Equipment	$ 4,038,264	0.69%	$ 27,864	0.30%		$ 12,115	$ (15,749)
51	397	Communications Equipment	$ 18,791,147	8.89%	$ 1,670,533	2.77%		$ 520,515	$ (1,150,018)
52	398	Miscellaneous Equipment	$ 2,836,597	2.63%	$ 74,602	0.46%		$ 13,048	$ (61,554)
53		TOTAL GENERAL PLANT	$ 119,328,195		$ 6,859,796			$ 5,139,924	$ (1,719,872)
54		**GRAND TOTAL**	$ 2,855,038,255		$ 79,388,269			$ 61,778,838	$ (17,609,431)

Notes and Source
Cols A-C: Amounts from Penelec Exhibit RAD-53
Cols. D-F: OCA proposed depreciation rates

		371					
		Dec. 31, 2015	Current Rate	Current Accrual			
371	Installed on Customer Premises Dusk to dawn	28,771,879	1.50%	431,578			
371.21	Meter Socket Devices	223,738	2.45%	5,482			
371.23	Surge Suppression	147,696	0.00%	0			
		29,143,313	1.50%	437,060			
		390.1			390.2		
390.1	Structures						
	Misc all other locations	24,657,756	1.67%	411,785	3,749,917	1.01%	37,874
	Richland	8,659,080	2.15%	186,170	1,416,598	2.52%	35,698
	Erie	11,416,001	2.14%	244,302	1,010,021	1.85%	18,685
	Altoona	10,885,405	2.90%	315,677	1,101,951	1.24%	13,664
		55,618,242	2.08%	1,157,934	7,278,487	1.46%	105,922
392	Transportation						
	Heavy Trucks	664,425	2.87%	19,069			
	Pole Trailers	2,907,714	3.41%	99,153			
		3,572,139	3.31%	118,222			

Pennsylvania Power Company
Comparison of Depreciation Expense at Proposed Rates

Exhibit JSG-2
Page 3 of 4
Docket No. R-2016-2537355

Fully Projected Future Test Year Ended 12/31/2017
(Thousands of Dollars)

Line No.	Acct No	Description	Adjusted Depreciable Base	Accrual Rate ELG Ave Remaining Life Basis Per Penn Power	Accrual Expense Amount Per Penn Power	Accrual Rate ASL Ave Remaining Life Basis Per OCA	Composited	Accrual Expense Amount Per OCA	OCA Adjustment
			(A)	(B)	(C)	(D)		(E)	(F)
		INTANGIBLE PLANT							
1	303	Miscellaneous Intangible Plant	$ 12,799,670	14.29%	$ 1,829,073	4.30%		$ 550,386	#########
2	303	Smart Meters	$ 6,083,519	14.29%	$ 869,335	14.29%		$ 869,335	$ -
3		TOTAL INTANGIBLE PLANT	$ 18,883,189		$ 2,698,408			$ 1,419,721	#########
		TRANSMISSION PLANT							
4	350.12	Land Rights-subs	$ 0	0.00%	$ -	0.00%		$ -	$ -
5	350.22	Land Rights - lines	$ 0	0.00%	$ -	0.00%		$ -	$ -
6	352.1	Structures	$ 764,598	0.80%	$ 6,117	0.71%		$ 5,429	$ (688)
7	352.2	Clearing Costs	$ 195,216	1.35%	$ 2,635	1.27%		$ 2,479	$ (156)
8	353	Station Equipment	$ 6,417,734	0.80%	$ 51,342	0.69%		$ 44,282	$ (7,060)
9	354	Towers and Fixtures	$ 7,576	0.05%	$ 4	0.00%		$ -	$ (4)
10	355	Poles and Fixtures	$ 2,825,553	1.77%	$ 50,012	1.37%		$ 38,710	$ (11,302)
11	356.1	Overhead Conductors	$ 2,591,159	1.57%	$ 40,681	1.15%		$ 29,798	$ (10,883)
12	356.2	Clearing Costs	$ 130,852	1.57%	$ 2,054	1.68%		$ 2,198	$ 144
13	357	Underground Conduit	$ 64,654	1.47%	$ 950	1.59%		$ 1,028	$ 78
14	358	Underground Conductors	$ 36,071	1.57%	$ 566	1.73%		$ 624	$ (29,871)
15	359	Roads & Trails	$ 6,324	1.17%	$ 74	1.14%		$ 72	$ (2)
16		TOTAL TRANSMISSION PLANT	$ 13,039,737		$ 154,435			$ 124,620	$ (59,744)
		DISTRIBUTION PLANT							
17	360.12	Land Rights-subs	$ 10,977	0.00%	$ -	0.00%		$ -	$ -
18	360.22	Land Rights-lines	$ 5,791,894	0.00%	$ -	0.00%		$ -	$ -
19	361.1	Structures	$ 1,327,843	1.31%	$ 17,395	1.03%		$ 13,677	$ (3,718)
20	361.2	Clearing Costs	$ 448,649	1.37%	$ 6,146	1.21%		$ 5,429	$ (717)
21	362	Station Equipment	$ 56,320,534	2.76%	$ 1,554,447	1.67%		$ 940,553	$ (613,894)
22	364	Poles, Towers and Fixtures	$ 120,242,928	2.24%	$ 2,693,442	1.66%		$ 1,996,033	$ (697,409)
23	365	Overhead Conductors	$ 129,141,372	2.40%	$ 3,099,393	1.55%		$ 2,001,691	#########
24	365.1	Clearing Costs	$ 48,591,447	2.33%	$ 1,132,181	1.59%		$ 772,604	$ (359,577)
25	366	Underground Conduit	$ 7,699,286	1.85%	$ 142,437	1.55%		$ 119,339	$ (23,098)
26	367	Underground Conductors	$ 70,996,721	2.23%	$ 1,583,227	1.76%		$ 1,249,542	$ (333,685)
27	368	Line Transformers	$ 112,735,325	2.66%	$ 2,998,760	1.94%		$ 2,187,065	$ (811,695)
28	369	Overhead Services	$ 39,459,842	1.35%	$ 532,708	1.20%		$ 473,518	$ (59,190)
29	369.1	Underground Services	$ -	0.00%	$ -	0.00%		$ -	$ -
30	370	Meters	$ -	0.00%	$ -	0.00%		$ -	$ -
31	370	Smart Grid - 10yr Life	$ 145,735	10.00%	$ 14,573	6.81%		$ 9,925	$ (4,648)
32	370	Smart Meters non classified - 15yr Life	$ 15,248,339	6.67%	$ 1,017,064	6.81%		$ 1,038,412	$ 21,348
33	370	Smart Meter Commercial - 15yr Life	$ 2,971,079	6.67%	$ 198,171	6.81%		$ 202,330	$ 4,159
34	370	Smart Meter Industrial - 15yr Life	$ 80	6.67%	$ 5	6.81%		$ 5	$ -
35	370	Smart Meter Infrastructure-15yr L	$ 2,414,213	6.67%	$ 161,028	6.81%		$ 164,408	$ 3,380
36	370	Smart Meter Residential - 15yr Life	$ 17,924,425	6.67%	$ 1,195,559	6.81%		$ 1,220,653	$ 25,094
37	371	Inst. On Cust. Prem.	$ 3,792,738	2.04%	$ 77,372	1.83%		$ 69,407	$ (7,965)
38	373	Street Lighting and Signal Systems	$ 12,358,996	2.88%	$ 355,939	1.95%	X	$ 241,000	$ (114,939)
			647,622,422		16,779,847			12,705,591	#########
		GENERAL PLANT							
39	389.1	Land Rights	$ 311	0.00%	$ -	0.00%		$ -	$ -
40	390.1	Structures	$ 5,745,477	1.79%	$ 102,844	1.08%		$ 62,051	$ (40,793)
41	390.2	Clearing	$ 41,299	2.22%	$ 917	1.87%		$ 772	$ (145)
42	390.3	Structure LH	$ 407,069	0.00%	$ -	0.00%		$ -	$ -
43	391.1	Office Furniture & Equipment	$ 739,893	24.10%	$ 178,314	7.70%		$ 56,972	$ (121,342)
44	391.2	Data processing Equip	$ 1,878,444	35.63%	$ 669,290	47.36%		$ 889,631	$ 220,341
45	391.2	Project Evolution	$ 13,028	35.63%	$ 4,642	20.09%		$ 2,617	$ (2,025)
46	391.2	Data Processing Smart Meters	$ 3,372,007	20.00%	$ 674,401	20.09%		$ 677,436	$ 3,035
47	392	Transportation	$ 594,878	10.04%	$ 59,726	5.01%		$ 29,803	$ (29,923)
48	393	Stores Equipment	$ 171,743	11.10%	$ 19,063	6.56%		$ 11,266	$ (7,797)
49	394	Tools, Shop, & Garage Equipment	$ 2,433,042	8.50%	$ 206,809	10.65%		$ 259,119	$ 52,310
50	395	Laboratory Equipment	$ 72,968	6.93%	$ 5,057	8.25%		$ 6,020	$ 963
51	396	Power Operated Equipment	$ 461,035	5.56%	$ 25,634	5.13%		$ 23,651	$ (1,983)
52	397	Communications Equipment	$ 2,502,973	9.01%	$ 225,518	7.99%		$ 199,988	$ (25,530)
53	398	Miscellaneous Equipment	$ 63,790	6.42%	$ 4,095	28.72%		$ 18,320	$ 14,225
54		TOTAL GENERAL PLANT	$ 18,497,957		$ 2,176,310			$ 2,237,646	$ 61,336
55		**GRAND TOTAL**	$ 698,043,305		$ 21,809,000			$ 16,487,578	#########

Notes and Source
Cols A-C: Amounts from Penn Power Exhibit RAD-53
Cols. D-F: OCA proposed depreciation rates

		373		
		Dec. 31, 2015	Rate	Accrual
373	Street Lighting and Signal Systems			
373.1	Street Lighting and Signal Systems	7,618,561	1.94%	147,800
373.2	Street Lighting and Signal Systems ESIP	25,000	3.54%	885
		7,643,561	1.95%	148,685

:d

Fully Projected Future Test Year Ended 12/31/2017
(Thousands of Dollars)

Line No.	Acct No	Description	Adjusted Depreciable Base	Accrual Rate ELG Ave Remaining Life Basis Per West Penn	Accrual Expense Amount Per West Penn	Accrual Rate ASL Ave Remaining Life Basis Per OCA	Composited	Accrual Expense Amount Per OCA	OCA Adjustment
			(A)	(B)	(C)	(D)		(E)	(F)
		INTANGIBLE PLANT							
1	303	Software misc 5 yr	$ 1,024,243	20.00%	$ 204,849	20.00%		$ 204,849	$ -
2	303	Software misc 7 yr	$ 31,999,420	14.29%	$ 4,572,717	14.29%		$ 4,572,717	$ -
10	303	Software Smart Meters 7 yr	$ 24,847,998	14.29%	$ 3,550,779	10.00%		$ 2,484,800	$ (1,065,979)
4	303.1	Software Smart Meters 10 yr	$ 26,332,200	10.00%	$ 2,633,220	10.00%		$ 2,633,220	$ -
5		TOTAL INTANGIBLE PLANT	$ 84,203,861		$ 10,961,565			$ 9,895,586	$ (1,065,979)
		TRANSMISSION PLANT							
6	350.11	Land Rights-subs	$ 0	1.68%	$ -	1.68%		$ -	$ -
7	350.11	Land Rights-lines	$ 0	1.68%	$ -	1.68%		$ -	$ -
8	352	Structures	$ -	1.70%	$ -	1.30%		$ -	$ -
9	353	Station Equipment	$ 246,226	1.50%	$ 3,693	1.16%	X	$ 2,856	$ (837)
10	354	Towers and Fixtures	$ -	0.93%	$ -	0.86%		$ -	$ -
11	355	Poles and Fixtures	$ 768,369	1.84%	$ 14,138	1.36%		$ 10,450	$ (3,688)
12	356	Overhead Conductors	$ 544,947	0.88%	$ 4,796	0.80%		$ 4,360	$ (436)
13	356.1	Clearing Costs	$ 7,730,183	1.47%	$ 113,634	1.38%		$ 106,677	$ (6,957)
14	358	Underground Conductors	$ 26,748	2.89%	$ 773	2.55%		$ 682	$ (91)
15	359	Roads & Trails	$ -	2.89%	$ -	2.55%		$ -	$ -
16		TOTAL TRANSMISSION PLANT	$ 9,316,473		$ 137,034			$ 125,025	$ (12,009)
		DISTRIBUTION PLANT							
17	360.12	Land Rights-subs	$ 10,258,899	1.66%	$ 170,298	1.51%		$ 154,909	$ (15,389)
18	360.12	Land Rights-lines	570,689	1.66%	9,473	1.51%		$ 8,617	$ (856)
19	361	Structures	22,002,299	1.34%	294,831	1.17%		$ 257,427	$ (37,404)
20	361.2	Clearing and Grading	26,475	1.34%	355	1.17%		$ 310	$ (45)
21	362	Station Equipment	324,142,557	1.58%	5,121,452	1.19%	X	$ 3,857,296	$ (1,264,156)
22	364	Poles, Towers and Fixtures	390,614,113	1.88%	7,343,545	1.43%		$ 5,585,782	$ (1,757,763)
23	365	Overhead Conductors	379,066,869	2.09%	7,922,498	1.36%		$ 5,155,309	$ (2,767,189)
24	365.1	Clearing Costs	180,658,966	1.45%	2,619,555	1.37%		$ 2,475,028	$ (144,527)
25	366	Underground Conduit	21,394,810	2.39%	511,336	2.11%		$ 451,430	$ (59,906)
26	367	Underground Conductors	163,956,897	2.40%	3,934,966	1.99%		$ 3,262,742	$ (672,224)
27	368	Line Transformers	405,397,508	2.49%	10,094,398	2.00%		$ 8,107,950	$ (1,986,448)
28	369	Overhead Services	115,249,743	2.40%	2,765,994	1.99%		$ 2,293,470	$ (472,524)
30	370	Meters	-	0.00%	-	0.00%		$ -	$ -
32	370.3	Smart Meters non classified 15 yr Life	2,299,491	6.67%	153,376	6.41%		$ 147,397	$ (5,979)
33	370.3	Smart Meter Commercial - 15yr Life	2,854,646	6.67%	190,405	6.41%		$ 182,983	$ (7,422)
34	370.3	Smart Meter Industrial - 15yr Life	14,722	6.67%	982	6.41%		$ 944	$ (38)
35	370.3	Smart Meter Infrastructure-15yr L	774,598	6.67%	51,666	6.41%		$ 49,652	$ (2,014)
36	370.3	Smart Meter Residential - 15yr Life	75,375,206	6.67%	5,027,526	6.41%		$ 4,831,551	$ (195,975)
37	371	Installed on Customer Premises	8,895,132	3.87%	344,242	4.14%		$ 368,258	$ 24,016
38	372	Installed on Customer Premises LH	296,547	1.63%	4,834	1.63%		$ 4,834	$ -
39	373	Street Lighting & Signal Systems	39,363,381	3.49%	1,373,782	1.96%		$ 771,522	$ (602,260)
40		TOTAL DISTRIBUTION PLANT	$ 2,143,213,545		$ 47,935,514			$ 37,967,411	$ (9,968,103)
		GENERAL PLANT							
41	389.1	Land Rights	$ 251,614	1.37%	$ 3,447	1.27%		$ 3,195	$ (252)
42	390.1	Structures	99,938,537	3.42%	3,417,898	3.48%	X	$ 3,477,861	$ 59,963
43	390.3	Lease Holds	1,532,162	0.00%	0	0.00%		$ -	$ -
44	391.1	Office Furniture & Equipment	8,367,727	6.70%	560,638	4.84%		$ 404,998	$ (155,640)
45	391.2	Office Machines	503,836	14.77%	74,417	10.78%		$ 54,314	$ (20,103)
46	391.3	Data Processing	18,460,811	9.86%	1,820,236	12.81%		$ 2,364,830	$ 544,594
47	391.4	Computers	1,328,213	0.00%	0	0.00%		$ -	$ -
48	391.5	Data Processing Smart Meters	10,004,521	20.00%	2,000,904	12.14%		$ 1,214,549	$ (786,355)
49	392	Transportation	3,708,165	7.48%	277,371	5.74%	X	$ 212,849	$ (64,522)
50	393	Stores Equipment	663,901	5.02%	33,328	4.17%		$ 27,685	$ (5,643)
51	394	Tools, Shop, & Garage Equipment	11,935,573	6.91%	824,748	6.48%		$ 773,425	$ (51,323)
52	395	Laboratory Equipment	1,505,271	5.07%	76,317	4.05%		$ 60,963	$ (15,354)
53	396	Power Operated Equipment	179,568	1.98%	3,555	2.09%		$ 3,753	$ 198
54	397	Communications Equipment	17,090,925	8.34%	1,425,383	7.95%		$ 1,358,729	$ (66,654)
55	398	Miscellaneous Equipment	2,063,094	8.09%	166,904	7.81%		$ 161,128	$ (5,776)
56		TOTAL GENERAL PLANT	$ 177,533,917		$ 10,685,146			$ 10,118,279	$ (566,867)
57		**GRAND TOTAL**	$ 2,414,267,796		$ 69,719,259			$ 58,106,301	$ (11,612,958)

Notes and Source
Cols A-C: Amounts from West Penn Exhibit RAD-53
Cols. D-F: OCA proposed depreciation rates

West Penn Compositing Calculations - Curret rates at 12/31/15

		Account 353			Account 362		
		Dec.31,2015	Rate	Accrual	Dec.31,2015	Rate	Accrual
353.1	Station Equipment	116,301,678	1.34%	1,558,442	309,274,376	1.20%	3,711,293
353.4	Scada	19,562,322	0.06%	11,737	4,907,582	0.53%	26,010
		135,864,000	1.16%	1,570,180	314,181,958	1.19%	3,737,303

		Account 390.1		
390.1	Structures	Dec.31,2015	Rate	Accrual
	Arnold	2,196,373	3.78%	83,023
	Boyce	1,958,420	3.30%	64,628
	Butler	1,533,524	1.89%	28,984
	Chaleroi	4,262,595	7.39%	315,006
	Clarion	829,652	6.02%	49,945
	Con Conference	1,450,053	5.54%	80,333
	Con Hazardous	705,609	2.50%	17,640
	Con Meter	828,030	8.17%	67,650
	Con Covered	5,912,061	6.41%	378,963
	Con Quonset	206,511	5.10%	10,532
	Con general	1,068,850	14.30%	152,846
	Con Oil	527,203	0.00%	0
	Con Garage	3,033,240	1.76%	53,385
	Con West Side	2,108,025	0.78%	16,443
	Dunbar	3,342,954	4.88%	163,136
	Green A	2,673,463	5.18%	138,485
	Green B	23,152,987	4.08%	944,642
	Green C	6,238,137	2.25%	140,358
	Green Corp	20,411,557	1.96%	400,067
	Green Corp Garage	2,507,023	0.43%	10,780
	Jeanette	5,859,133	1.50%	87,887
	Jeanette Garage	818,201	2.12%	17,346
	Jefferson	1,998,321	5.11%	102,114
	Kittanning	2,139,005	1.26%	26,951
	Kittanning garage	819,832	1.87%	15,331
	Latrobe	2,011,991	0.85%	17,102
	McConnelsburg	1,411,719	2.67%	37,693
	Pleasant Valley	2,381,361	6.22%	148,121
	St Mary's	2,608,810	4.92%	128,353
	St Mary's Garage	1,533,547	2.99%	45,853
	State College	1,444,015	2.05%	29,602
	Washington	1,531,975	4.59%	70,318
	Waynesboro	1,278,664	4.24%	54,215
	Waynesboro Garage	881,566	2.15%	18,954
	Minor Structures	4,773,350	2.94%	140,336
		116,437,757	3.48%	4,057,022

		Account 392		
392	Transportation	Dec.31,2015	Rate	Accrual
392.1	Autos	4,040	15.37%	621
392.2	Light Trucks	1,873,813	5.59%	104,746
392.3	Medium & Heavy Trucks	1,739,167	6.88%	119,655
392.4	Trailers	490,769	0.00%	0
392.6	All Terrain	212,568	10.85%	23,064
		4,320,357	5.74%	248,085

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537349, *et al.*
v.	:	
Metropolitan Edison Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537352, *et al.*
v.	:	
Pennsylvania Electric Company	:	
Pennsylvania Public Utility Commission, *et. at.*	:	R-2016-2537355, *et. al.*
v.	:	
Pennsylvania Power Company	:	
Pennsylvania Public Utility Commission, *et. al.*	:	R-2016-2537359, *et al.*
v.	:	
West Penn Power Company	:	

VERIFICATION

I, James S. Garren, hereby state that the facts above set forth in my Direct Testimony, OCA Statement No. 5, are true and correct 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).

Signature: _____
James S. Garren

Consultant Address: Snavely King Majoros & Associates, Inc.
PO Box 727
Millersville, MD 21108

DATED: July 22, 2016