

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF
JOHN J. SPANOS

ON BEHALF OF
PPL ELECTRIC UTILITIES CORPORATION

REGARDING DEPRECIATION

DOCKET NO. R-2010-2161694

MARCH 2010

DIRECT TESTIMONY OF JOHN J. SPANOS

1 **Q. Please state your name and address.**

2 A. John J. Spanos. My business address is 207 Senate Avenue, Camp Hill,
3 Pennsylvania.

4 **Q. With what firm are you associated?**

5 A. I am associated with the firm of Gannett Fleming, Inc.

6 **Q How long have you been associated with Gannett Fleming, Inc.?**

7 A. I have been associated with the firm since June 1986, following graduation from
8 college.

9 **Q. What is your position in the firm?**

10 A. I am a Vice President.

11 **Q. What is your educational background?**

12 A. I have Bachelor of Science degrees in Industrial Management and Mathematics
13 from Carnegie-Mellon University and a Master of Business Administration from
14 York College of Pennsylvania.

15 **Q. Are you a member of any professional societies?**

16 A. Yes. I am a member of the Society of Depreciation Professionals and the
17 American Gas Association/Edison Electric Institute Industry Accounting
18 Committee.

19

20

21

1 **Q. Have you taken the certification examination for depreciation**
2 **professionals?**

3 A. Yes, I passed the certification examination of the Society of Depreciation
4 Professionals in September 1997 and was recertified in August 2003 and
5 February 2008.

6 **Q. Will you outline your experience in the field of depreciation?**

7 A. In June 1986, I was employed by Gannett Fleming Valuation and Rate
8 Consultants, Inc. as a Depreciation Analyst. During the period from June 1986
9 to December 1995, I took part in the preparation of numerous depreciation and
10 original cost studies for utility companies in various industries. Depreciation
11 studies of telephone companies were performed for United Telephone of
12 Pennsylvania, United Telephone of New Jersey and Anchorage Telephone
13 Utility. My work in the railroad industry included depreciation studies for Union
14 Pacific Railroad, Burlington Northern Railroad and Wisconsin Central
15 Transportation Corporation.

16 Assignments in the electric industry included depreciation studies for
17 Chugach Electric Association, The Cincinnati Gas and Electric Company, The
18 Union Light, Heat & Power Company, Northwest Territories Power Corporation
19 and the City of Calgary - Electric System. Pipeline industry assignments
20 included studies for TransCanada Pipelines Limited, Trans Mountain Pipe Line
21 Company Ltd., Interprovincial Pipe Line Inc., Nova Gas Transmission Limited
22 and Lakehead Pipeline Company.

23 My work for the gas industry included depreciation studies for Columbia
24 Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural Gas

1 Company, T. W. Phillips Gas & Oil Company, The Cincinnati Gas and Electric
2 Company, The Union Light, Heat & Power Company, Lawrenceburg Gas
3 Company and Penn Fuel Gas, Inc. Assignments in the water industry included
4 depreciation studies for Indiana-American Water Company, Consumers
5 Pennsylvania Water Company and The York Water Company; and depreciation
6 and original cost studies for Philadelphia Suburban Water Company and
7 Pennsylvania-American Water Company.

8 My participation in each of the above studies included assembly and
9 analysis of historical and simulated data, field reviews, the development of
10 preliminary estimates of service life and net salvage, calculations of annual
11 depreciation, and the preparation of reports for submission to state or provincial
12 public utility commissions or federal regulatory agencies. I performed these
13 studies under the general direction of William M. Stout, P.E., the President of
14 Gannett Fleming Valuation and Rate Consultants, Inc.

15 In January 1996, I was assigned to the position of Supervisor of
16 Depreciation Studies. In July 1999, I was promoted to the position of Manager,
17 Depreciation and Valuation Studies. In December 2000, I was promoted to my
18 current position as Vice President of Gannett Fleming Valuation and Rate
19 Consultants, Inc. I am responsible for all depreciation, valuation and original
20 cost studies, including the preparation of final exhibits and responses to data
21 requests and interrogatories for submission to the appropriate regulatory body.

22 Since January 1996, I have conducted depreciation studies similar to
23 those previously listed including assignments for Pennsylvania-American
24 Water Company; Aqua Pennsylvania; Kentucky-American Water Company;

1 Virginia-American Water Company; Indiana-American Water Company;
2 Hampton Water Works Company; Omaha Public Power District; Enbridge
3 Pipe Line Company; Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas
4 Company National Fuel Gas Distribution Corporation - New York and
5 Pennsylvania Divisions; The City of Bethlehem - Bureau of Water; The City of
6 Coatesville Authority; The City of Lancaster - Bureau of Water; Peoples
7 Energy Corporation; The York Water Company; Public Service Company of
8 Colorado; Enbridge Pipelines; Enbridge Gas Distribution, Inc.; Reliant Energy-
9 HLP; Massachusetts-American Water Company; St. Louis County Water
10 Company; Missouri-American Water Company; Chugach Electric Association;
11 Alliant Energy; Oklahoma Gas & Electric Company; Nevada Power Company;
12 Dominion Virginia Power; NUI-Virginia Gas Companies; Pacific Gas &
13 Electric Company; PSI Energy; NUI - Elizabethtown Gas Company; Cinergy
14 Corporation – CG&E; Cinergy Corporation – ULH&P; Columbia Gas of
15 Kentucky; SCANA, Inc.; Idaho Power Company; El Paso Electric Company;
16 Central Hudson Gas & Electric; Centennial Pipeline Company; CenterPoint
17 Energy-Arkansas; CenterPoint Energy – Oklahoma; CenterPoint Energy –
18 Entex; CenterPoint Energy - Louisiana; NSTAR – Boston Edison Company;
19 Westar Energy, Inc.; United Water Pennsylvania; PPL Electric Utilities; PPL
20 Gas Utilities; Wisconsin Power & Light Company; TransAlaska Pipeline;
21 Avista Corporation; Northwest Natural Gas; Allegheny Energy Supply, Inc.;
22 Public Service Company of North Carolina; South Jersey Gas Company;
23 Duquesne Light Company; MidAmerican Energy Company; Laclede Gas;
24 Duke Energy Company; E.ON U.S. Services Inc.; Elkton Gas Services;

1 Anchorage Water and Wastewater Utility; Kansas City Power and Light; Duke
2 Energy North Carolina; Duke Energy South Carolina; Duke Energy Ohio Gas;
3 Duke Energy Kentucky; Duke Energy Indiana; Northern Indiana Public Service
4 Company; Tennessee-American Water Company; Columbia Gas of Maryland;
5 Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR
6 Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas;
7 Entergy Mississippi; Entergy Louisiana and Entergy Gulf States Louisiana.
8 My additional duties include determining final life and salvage estimates,
9 conducting field reviews, presenting recommended depreciation rates to
10 management for its consideration and supporting such rates before regulatory
11 bodies.

12 **Q. What is the extent of your formal instruction regarding utility plant**
13 **depreciation?**

14 A. I have completed the “Techniques of Life Analysis”, “Techniques of Salvage
15 and Depreciation Analysis”, “Forecasting Life and Salvage”, “Modeling and Life
16 Analysis Using Simulation” and “Managing a Depreciation Study” programs
17 conducted by Depreciation Programs, Inc. I also have completed the
18 “Introduction to Public Utility Accounting” program conducted by the American
19 Gas Association.

20 **Q. Have you previously testified on public utility ratemaking matters?**

21 A. Yes. I have submitted testimony to the Pennsylvania Public Utility Commission;
22 the Commonwealth of Kentucky Public Service Commission; the Public Utilities
23 Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities
24 Board of New Jersey; the Missouri Public Service Commission; the

1 Massachusetts Department of Telecommunications and Energy; the Alberta
2 Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana
3 Public Service Commission; the State Corporation Commission of Kansas; the
4 Oklahoma Corporate Commission; the Public Service Commission of South
5 Carolina; the Railroad Commission of Texas – Gas Services Division; the New
6 York Public Service Commission; the Illinois Commerce Commission; the
7 Indiana Utility Regulatory Commission; the California Public Utilities
8 Commission; the Federal Energy Regulatory Commission (“FERC”); the
9 Arkansas Public Service Commission; the Public Utility Commission of Texas;
10 the Maryland Public Service Commission; the Washington Utilities and
11 Transportation Commission; the Tennessee Regulatory Commission; the
12 District of Columbia Public Service Commission; the Mississippi Public Service
13 Commission; the Regulatory Commission of Alaska; and the North Carolina
14 Utilities Commission.

15 **Q. What is the purpose of your testimony?**

16 A. My testimony is in support of the depreciation study conducted under my
17 direction and supervision for the utility plant of PPL Electric Utilities Corporation.

18 **Q. Have you prepared exhibits presenting the results of your study?**

19 A. Yes. Exhibit JJS 1 presents the results of the depreciation study as of
20 December 31, 2009 and Exhibit JJS 2 sets forth the results of the depreciation
21 study as of December 31, 2010. In addition, I am responsible for the responses
22 to Questions V-A-2, V-B-1, V-B-2, V-C-1, V-D-1, V-D-2 and V-E-1 of the Exhibit
23 Regs., § 53.53, Part V - Plant and Depreciation Supporting Data, Including
24 Related Depreciation Study Report.

1 **Q. Please describe Exhibits JJS 1 and JJS 2.**

2 A. Exhibit JJS 1, which is titled "Depreciation Study Related to Electric Plant at
3 December 31, 2009," includes the results of the depreciation study as related to
4 the original cost at December 31, 2009. The report also includes the detailed
5 depreciation calculations. Exhibit JJS 2, which is titled "Depreciation Study
6 Related to Electric Plant at December 31, 2010," includes the results of the
7 depreciation study as related to the estimated original cost at December 31,
8 2010. The report also includes explanatory text, statistics related to the
9 estimation of service life, and the detailed depreciation calculations.

10 **Q. What was the purpose of your depreciation study?**

11 A. The purpose of the depreciation study was to estimate the annual depreciation
12 accruals related to utility plant in service for ratemaking purposes and using
13 Commission-approved procedures to estimate the Company's book reserve at
14 December 31, 2010.

15 **Q. Is the Company's claim for annual depreciation in the current proceeding
16 based on the same methods of depreciation as were used in its most
17 recent electric base rate proceeding in Docket No. R-00072155?**

18 A. Yes, it is. For most plant accounts, the current claim for annual depreciation is
19 based on the straight-line, remaining-life method of depreciation. For Accounts
20 368, 370, 391, 393, 395, 397 and 398, the claim is based on the straight-line,
21 remaining-life method of amortization. Most assets in Accounts 392 and all
22 assets in Account 396 will be recovered in a similar fashion to the other
23 amortized accounts. The annual amortization is based on amortization

1 accounting which distributes the unrecovered cost of fixed capital assets over
2 the remaining amortization period selected for each account.

3 **Q. What group procedure is being used in this proceeding for depreciable**
4 **accounts?**

5 A. The average service life procedure is used in the current proceeding for all
6 depreciable accounts and installation years. The average service life procedure
7 also was used in this same manner in the Company's most recent base rate
8 proceeding.

9 **Q. Has a service life study of the Company's electric utility property been**
10 **performed?**

11 A. Not for this filing since Pennsylvania regulations require service life studies
12 every 5 years. A service life study was performed on the Company's electric
13 utility property through 2007. The service life study is the basis for the service
14 lives that I used to calculate annual accruals.

15 **Q. Briefly outline the procedure used in performing the service life study.**

16 A. The service life study consisted of assembling and compiling historical data
17 from the records related to the electric utility plant of the Company; statistically
18 analyzing such data to obtain historical trends of survivor characteristics;
19 obtaining supplementary information from management and operating
20 personnel regarding Company practices and plans as they relate to plant
21 operations; and interpreting the above data to form judgments of service life
22 characteristics.

23 Iowa type survivor curves were used to describe the estimated survivor
24 characteristics of the mass property groups. Individual service lives were used

1 for major individual units of plant, such as large service centers and office
2 buildings, within Account 390.2. The life span concept was recognized by
3 coordinating the lives of associated plant installed in subsequent years with the
4 probable retirement date defined by the life estimated for the major unit.

5 **Q. What statistical data were employed in the historical analyses performed**
6 **for the purpose of estimating service life characteristics?**

7 A. The data consisted of the entries made to record retirements and other
8 transactions related to the electric plant through 2007. These entries were
9 classified by depreciable group, type of transaction, the year in which the
10 transaction took place, and the year in which the plant was installed. Types of
11 transactions included in the data were plant additions, retirements, transfers,
12 and balances. In the presentation of service life statistics, only the significant
13 exposure points that were utilized in determining survivor curves were plotted.
14 This process is utilized to show my judgment in service life determinations.

15 **Q. What was the source of these data?**

16 A. They were assembled from Company records related to its utility plant in
17 service.

18 **Q. Were the methods used in the service life study the same as those used in**
19 **other depreciation studies for electric utility plant presented before this**
20 **Commission?**

21 A. Yes. The methods are the same as those that have been presented previously
22 for PPL Electric Utilities Corporation and for other electric companies before the
23 Pennsylvania Public Utility Commission, and that have been accepted by the
24 Commission in its past orders regarding electric utilities.

1 **Q. What approach did you use to estimate the lives of significant structures**
2 **such as office buildings and service centers?**

3 A. I used the life span technique to estimate the lives of significant structures. In
4 this technique, the survivor characteristics of the structures are described by the
5 use of interim survivor curves and estimated probable retirement dates. The
6 interim survivor curve describes the rate of retirement related to the
7 replacement of elements of the structure, such as plumbing, heating, doors,
8 windows, roofs, etc., that occur during the life of the facility. The probable
9 retirement date provides the rate of final retirement for each year of installation
10 for the structure by truncating the interim survivor curve for each installation
11 year at its attained age at the date of probable retirement. The use of interim
12 survivor curves truncated at the date of probable retirement provides a
13 consistent method for estimating the lives of the several years of installation,
14 inasmuch as concurrent retirement of all years of installation will occur when the
15 structure is retired.

16 **Q. Has your firm used this approach in other proceedings before this**
17 **Commission?**

18 A. Yes, we have used the life span technique on many occasions before the
19 Pennsylvania Public Utility Commission.

20 **Q. What are the bases for the probable retirement years that you have**
21 **estimated for each structure?**

22 A. The bases for the estimates of probable retirement years are life spans for each
23 structure that are based on judgment and incorporate consideration of the age,
24 use, size, nature of construction, management outlook and typical life spans

1 experienced and used by other electric utilities for similar structures. Most of
2 the life spans result in probable retirement years that are many years in the
3 future. As a result, the retirement of these structures is not yet subject to
4 specific management plans. Such plans would be premature. At the
5 appropriate time, analysis of the economics of rehabilitation and continued use
6 or retirement of the structure will be performed and the results incorporated in
7 the estimation of the structure's life span.

8 **Q. Are the factors considered in your estimates of service life presented in**
9 **Exhibit JJS 2?**

10 A. Yes. A discussion of the factors considered in the estimation of service lives is
11 presented by account on pages II-3 through II-26 of Exhibit JJS 2.

12 **Q. Please outline the contents of Exhibit JJS 2.**

13 A. Exhibit JJS 2 is presented in three parts. Part I, Executive Summary, sets forth
14 the scope and basis of study. Part II, Methods Used in Study, includes the
15 estimation of survivor curves, and the calculation of annual depreciation and
16 amortization. Part III, Results of Study, presents a description of the results,
17 summaries of the depreciation calculations, graphs and tables which relate to
18 the service life study, and the detailed depreciation calculations.

19 Table 1 on pages III-4 and III-5 presents the estimated survivor curve,
20 the original cost at December 31, 2010, and the book reserve and calculated
21 annual depreciation for each account or subaccount of utility plant.

22 Table 2 on pages III-6 and III-7 sets forth the bringforward of the book
23 reserve from December 31, 2009 to December 31, 2010. Table 3 on page III-8

1 presents the net salvage by function and amortization for the period 2006
2 through 2010.

3 The section beginning on page III-9 presents the results of the
4 retirement rate analyses prepared as the historical bases for the service life
5 estimates. The section beginning on page III-146 presents the depreciation
6 calculations related to original cost. The tabulations on pages III-147 through
7 III-265 present the calculation of annual depreciation by vintage by account for
8 each depreciable group of utility plant.

9 **Q. Please use an example to illustrate the manner in which the study is**
10 **presented in Exhibit JJS 2.**

11 A. I will use Account 364.4, Poles, Towers and Fixtures – Poles, as my example,
12 inasmuch as it is the largest depreciable group and represents 14 percent of the
13 original cost of depreciable utility plant as of December 31, 2010.

14 The retirement rate method was used to analyze the survivor
15 characteristics of this group. The life table for the 1912 through 2007
16 experience band is presented on pages III-83 through III-85 of Exhibit JJS 2.
17 The life table, or original survivor curve, is plotted along with the estimated
18 smooth survivor curve, the 44-O1, on page III-82.

19 The calculation at December 31, 2010, is presented on pages III-187
20 through III-189 of Exhibit JJS-2 and is based in part on the bringforward of the
21 book reserve. The tabulation in Exhibit JJS 2 sets forth the installation year, the
22 original cost, calculated accrued depreciation, allocated book reserve, future
23 accruals, remaining life and annual accrual. The totals are brought forward to
24 the table on page III-4 in Exhibit JJS 2.

1 **Q. Does this complete your testimony at this time?**

2 **A. Yes, it does.**