

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF
JOHN J. SPANOS

ON BEHALF OF
PENNSYLVANIA-AMERICAN WATER COMPANY

COATESVILLE WASTEWATER OPERATIONS

DEPRECIATION

DOCKET NO. R-2010-2166212

April 2010

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: PENNSYLVANIA-AMERICAN WATER COMPANY

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?
- 7 A. I have been associated with the firm since college graduation in June 1986.
- 8 Q. What is your position in the firm?
- 9 A. I am Vice President of the Valuation and Rate Division.
- 10 Q. What is your educational background?
- 11 A. I have Bachelor of Science degrees in Industrial Management and
12 Mathematics from Carnegie-Mellon University and a Master of Business
13 Administration from York College of Pennsylvania.
- 14 Q. Are you a member of any professional societies?
- 15 A. Yes. I am a member of the Society of Depreciation Professionals and the
16 American Gas Association/Edison Electric Institute Industry Accounting
17 Committee.
- 18 Q. Have you taken the certification examination for depreciation professionals?

1 A. Yes. I passed the certification examination of the Society of Depreciation
2 Professionals in September 1997 and was recertified in August 2003 and
3 February 2010.

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

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

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

21 My work for the gas industry included depreciation studies for
22 Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples
23 Natural Gas Company, T. W. Phillips Gas & Oil Company, The Cincinnati
24 Gas and Electric Company, The Union Light, Heat & Power Company,
25 Lawrenceburg Gas Company and Penn Fuel Gas, Inc. Assignments in the

1 water industry included depreciation studies for Indiana-American Water
2 Company, Consumers Pennsylvania Water Company and The York Water
3 Company; and depreciation and original cost studies for Philadelphia
4 Suburban Water Company and Pennsylvania-American Water Company.

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

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

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

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

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

12 Q. Have you submitted testimony to any state, federal or provincial utility
13 commissions on the subject of utility plant depreciation?

14 A. Yes. I have submitted testimony to the Pennsylvania Public Utility
15 Commission; the Commonwealth of Kentucky Public Service Commission;
16 the Public Utilities Commission of Ohio; the Nevada Public Utility
17 Commission; the Public Utilities Board of New Jersey; the Missouri Public
18 Service Commission; the Massachusetts Department of Telecommunications
19 and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility
20 Commission; the Louisiana Public Service Commission; the State Corporation
21 Commission of Kansas; the Oklahoma Corporate Commission; the Public
22 Service Commission of South Carolina; the Railroad Commission of Texas –
23 Gas Services Division; the New York Public Service Commission; the Illinois
24 Commerce Commission; the Indiana Utility Regulatory Commission; the

1 California Public Utilities Commission; the Federal Energy Regulatory
2 Commission ("FERC"); the Arkansas Public Service Commission; the Public
3 Utility Commission of Texas; the Maryland Public Service Commission; the
4 Washington Utilities and Transportation Commission; the Tennessee
5 Regulatory Commission; the District of Columbia Public Service Commission;
6 the Mississippi Public Service Commission; the Regulatory Commission of
7 Alaska; and the North Carolina Utilities Commission.

8 Q. What is the extent of your formal instruction with respect to utility plant
9 depreciation?

10 I have completed the "Techniques of Life Analysis", "Techniques of Salvage
11 and Depreciation Analysis", "Forecasting Life and Salvage", "Modeling and
12 Life Analysis Using Simulation" and "Managing a Depreciation Study"
13 programs conducted by Depreciation Programs, Inc. Also, I have completed
14 the "Introduction to Public Utility Accounting" program conducted by the
15 American Gas Association.

16 Q. What is the purpose of your testimony?

17 A. I was asked by Pennsylvania-American Water Company to prepare
18 depreciation studies with regards to plant in service as of December 31, 2009
19 and as of December 31, 2010 for its Coatesville Wastewater Operations.

20 Q. Have you prepared exhibits presenting the results of your studies?

21 A. Yes. Exhibit No. 8-A presents the results of the depreciation study as of
22 December 31, 2009. Exhibit No 8-B presents the results of the depreciation
23 study as of December 31, 2010. In addition, I am responsible for the
24 responses to Depreciation Data Filing Requirements FR VI.1, FR VI.2, FR

1 VI.3, FR VI.4, FR VI.5 and FR VI.6 which are presented as an Appendix to
2 this testimony.

3 Q. Please describe Exhibits No. 8-A and 8-B.

4 A. Exhibit No. 8-A, titled "Depreciation Study of Coatesville Wastewater
5 Operations - Calculated Annual Depreciation Accruals Related to Utility
6 Plant in Service at December 31, 2009," includes the results of the
7 depreciation study as related to the original cost at December 31, 2009.
8 The report also includes the detailed depreciation calculations. Exhibit No.
9 8-B, titled "Depreciation Study of Coatesville Wastewater Operations -
10 Calculated Annual Depreciation Accruals Related to Utility Plant in Service
11 at December 31, 2010," includes the results of the depreciation study as
12 related to the estimated original cost at December 31, 2010. The report
13 also includes explanatory text, statistics related to the estimation of service
14 life, and the detailed depreciation calculations.

15 Q. What was the purpose of your depreciation study?

16 A. The purpose of the depreciation study was to estimate the annual
17 depreciation accruals related to utility plant in service for ratemaking
18 purposes and, using Commission-approved procedures, to estimate
19 Pennsylvania-American Water Company's book reserve at December 31,
20 2010.

21 Q. Is Pennsylvania-American Water Company's claim for annual depreciation
22 in the current proceeding based on the same method of depreciation as was
23 used in its most recent wastewater rate proceeding in Docket No. R-2008-
24 2032689.

1 A. Yes, it is. For most plant accounts, the current claim for annual depreciation
2 is based on the straight line remaining life method of depreciation. For
3 Accounts 389.1, 390, 392, 393, 394, 396 and 397, the claim is based on the
4 straight line remaining life method of amortization. The annual amortization
5 is based on amortization accounting which distributes the unrecovered cost
6 of fixed capital assets over the remaining amortization period selected for
7 each account.

8 Q. What group procedure is being used in this proceeding for depreciable
9 accounts?

10 A. The equal life group procedure is used in the current proceeding for all
11 depreciable accounts and installation years. The equal life group procedure
12 for all vintages has also been used in this same manner in the Company's
13 last five water rate proceedings.

14 Q. Is Pennsylvania-American Water Company's claim for accrued depreciation
15 in the current proceeding made on the same basis as has been used by the
16 Company in other rate proceedings?

17 A. Yes. The current claim for accrued depreciation has been made on the
18 same basis for over seventeen years for water assets and for other
19 wastewater assets owned by Pennsylvania American Water Company. The
20 book reserve has been brought forward from the original cost study
21 associated with the acquisition of the Coatesville Wastewater Operations by
22 Pennsylvania American Water Company, approved by the Commission at
23 Docket No. A-2300073F0002.

24 Q. How was the book reserve used in the calculation of annual depreciation?

1 A. The book reserve was allocated by account and then to vintages to
2 determine original cost less accrued depreciation by vintage. The total
3 annual accrual is the sum of the results of dividing the original costs less
4 accrued depreciation by the vintage composite remaining lives.

5 Q. How was the book reserve at December 31, 2010 estimated?

6 A. The book reserve at December 31, 2010, by account, was projected by
7 adding estimated accruals and salvage and subtracting estimated
8 retirements and cost of removal from the book reserve at December 31,
9 2009. Annual accruals were estimated using the annual accruals calculated
10 as of December 31, 2009. For most accounts, salvage and cost of removal
11 were estimated by (1) expressing actual salvage and cost of removal as a
12 percent of retirements by account, and (2) applying those percents to the
13 projected retirements by account. The projected book reserve by account
14 was allocated to vintages for the purpose of the annual accrual calculation
15 based on calculated accrued depreciation at December 31, 2010.

16 Q. Has a service life study of Pennsylvania-American Water Company's
17 wastewater utility property been performed?

18 A. Yes. A service life study was performed through 2009. The service life
19 study is the basis for the service lives I used to calculate annual accruals.

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

21 A. The service life study consisted of assembling and compiling historical data
22 from the records related to the wastewater utility plant of Pennsylvania-
23 American Water Company's Coatesville, Northeast, Clarion and Claysville
24 Wastewater Operations; statistically analyzing such data to obtain historical

1 trends of survivor characteristics; obtaining supplementary information from
2 management and operating personnel concerning Company practices and
3 plans as they relate to plant operations; and interpreting the above data to
4 form judgments of service life characteristics.

5 Iowa type survivor curves were used to describe the estimated survivor
6 characteristics of the mass property groups. Individual service lives were
7 used for major individual units of plant, such as the treatment plant. The life
8 span concept was recognized by coordinating the lives of associated plant
9 installed in subsequent years with the probable retirement date defined by
10 the life estimated for the major unit.

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

13 A. The data consisted of the entries made to record retirements and other
14 transactions related to the wastewater plant during the period 2001-2009.
15 These entries were classified by depreciable group, type of transaction, the
16 year in which the transaction took place, and the year in which the plant was
17 installed. Types of transactions included in the data were plant additions,
18 retirements, transfers, acquisitions, and balances.

19 Q. What was the source of these data?

20 A. They were assembled from Company records related to its utility plant in
21 service and original cost studies performed at acquisition.

22 Q. Were the methods used in the service life study the same as those used in
23 other depreciation studies for water or wastewater utility plant presented
24 before this Commission?

1 A. Yes. The methods are the same ones that have been presented previously
2 for a number of water and wastewater companies, including Pennsylvania-
3 American Water Company's water and wastewater operations, before the
4 Pennsylvania Public Utility Commission and that have been accepted by the
5 Commission in its past orders concerning water and wastewater utilities.

6 Q. Are the factors considered in your estimates of service life presented in
7 Exhibit No. 8-B?

8 A. Yes. A discussion of the factors considered in the estimation of service
9 lives is presented by account on pages I-3 through I-5 of Exhibit No. 8-B.

10 Q. Please outline the contents of Exhibit No. 8-B.

11 A. Exhibit No. 8-B is presented in two parts. Part I, Methods Used in Study,
12 includes an introduction; the estimation of survivor curves and the calcula-
13 tion of annual depreciation; and an explanation of the manner in which net
14 salvage was incorporated in the calculations.

15 Part II, Results of Study, presents a description of the results,
16 summaries of the depreciation calculations, graphs and tables which relate
17 to the service life study, and the detailed depreciation calculations.

18 Table 1, page II-4, presents the estimated survivor curve, the net
19 original cost at December 31, 2010, and the book reserve and calculated
20 annual depreciation for each account or subaccount of Utility Plant. Table
21 2, page II-5, presents the bringforward to December 31, 2010, of the book
22 depreciation reserve as of December 31, 2009. Table 3 on page II-6 sets
23 forth the calculation of the annual accruals used in the bringforward. Table

1 4, page II-7, presents the experienced and estimated net salvage during the
2 five-year period, 2006 through 2010.

3 The section beginning on page II-8 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 II-50 presents the depreciation
6 calculations related to original cost. The tabulations on pages II-52 through
7 II-74 present the calculation of annual depreciation by vintage by account
8 for each depreciable group of utility plant. The tabulation on pages II-76
9 through II-80 presents the retirements, salvage, and cost of removal by
10 account for each year during the period 2006 through 2010.

11 Q. Please outline the contents of Exhibit No. 8-A.

12 A. Exhibit No. 8-A includes a description of the results, summaries of the
13 depreciation calculations, and the detailed depreciation calculations as of
14 December 31, 2009. The descriptions and explanations presented in
15 Exhibit No. 8-B are also applicable to the depreciation calculations
16 presented in Exhibit No. 8-A. The graphs and tables related to service life
17 presented in Exhibit No. 8-B also support the service life estimates used in
18 Exhibit No. 8-A, inasmuch as the estimates are the same for both test years.
19 The summary tables and detailed depreciation calculations as of December
20 31, 2009, are organized and presented in the same manner as those as of
21 December 31, 2010.

22 Q. Are there any significant changes to the life estimates from the time of
23 acquisition?

1 A. Yes, there are. The treatment plant and some related equipment will be
2 retired in early 2010 when the new treatment plant is completed.

3 Q. Can you explain how you are recommending handling the existing treatment
4 plant assets?

5 A. The existing treatment plant assets have been segregated into two
6 categories. The first group of assets will be utilized when the new treatment
7 plant is put into service. The second group of assets will be retired from
8 service as of March 2010 in conjunction with the new treatment plant going
9 on line. The accounts or asset classes directly affected by the construction
10 of the new treatment plant are: 354.4, 354.70, 371.0, 380.0 and 389.1. The
11 assets that remain in service from the existing treatment plant are combined
12 with the assets constituting the new treatment plant in the appropriate
13 accounts and assigned a recommended accrual rate reflecting the
14 anticipated retirement date of the new plant. The assets that do not remain
15 in service have been retired with the calculations of Exhibit No. 8-B. The
16 unrecovered cost of these assets is being amortized in the manner provided
17 in the Joint Petition for Settlement of the last (2008) base rate case for the
18 Coatesville Wastewater Operations, as discussed in Mr. Cox's direct
19 testimony in this case.

20 Q. Please use an example to illustrate the manner in which the study is
21 presented in Exhibits No. 8-A and 8-B.

22 A. I will use Account 361.10, Collection Sewer Mains, as my example,
23 inasmuch as it is the largest depreciable group and represents 19 percent of
24 the original cost of depreciable utility plant as of December 31, 2010.

1 The retirement rate method was used to analyze the survivor
2 characteristics of this group. The life table for the 2001-2009 experience
3 band is presented on pages II-25 through II-41 of Exhibit No. 8-B. The life
4 table, or original survivor curve, is plotted along with the estimated smooth
5 survivor curve, the 65-S1.5, on page II-24.

6 The calculation of the annual depreciation related to the original cost at
7 December 31, 2009, of utility plant is presented on page 15 of Exhibit No. 8-
8 A. The calculation is based on the 65-S1.5 survivor curve, the attained age,
9 and the allocated book reserve. The calculation at December 31, 2010 is
10 presented on page II-58 of Exhibit No. 8-B and is based in part on the
11 bringforward of the book reserve. The tabulations in Exhibits 8-A and 8-B
12 set forth the installation year, the original cost, calculated accrued
13 depreciation, allocated book reserve, future accruals, remaining life and
14 annual accrual. The totals are brought forward to Table 1 on page 3 in
15 Exhibit No. 8-A and on page II-4 in Exhibit No. 8-B.

16 Q. Do the exhibits exclude the original cost of certain plant?

17 A. Yes. The amounts received from customers as advances or contributions
18 have been excluded from the original cost used in the study. The original
19 cost excluded by account for customer advances or contributions are set
20 forth in the detailed depreciation calculations of Exhibit No. 8-A and 8-B.
21 The amounts are designated with a 9999 vintage.

22 Q. In what manner is net salvage incorporated in the depreciation calculations?

23 A. As stated on page I-9 of Exhibit No. 8-B, no adjustment for net salvage was
24 made to the calculated annual depreciation amounts. The total calculated

1 annual depreciation set forth on page II-7 of Exhibit No. 8-B reflects an
2 addition for the amortization of negative net salvage in accordance with the
3 practice of this Commission. The amortization is based on experience
4 during the period 2006 through December 31, 2009, plus estimates for the
5 year 2010 for the calculation as of December 31, 2010. The detail by plant
6 account of regular retirements, salvage, and cost of removal for each year is
7 presented on pages II-76 through II-80 of Exhibit No. 8-B. The totals are
8 brought forward to Table 4 on page II-7 of Exhibit No. 8-B in which the
9 amounts of the five-year amortizations are calculated.

10 Q. Does this complete your testimony at this time?

11 A. Yes, it does.

Pennsylvania-American Water Company
Coatesville Wastewater Operations
Data Requirements of the Pennsylvania Public Utility Commission
Depreciation Study

FR VI.1

Pennsylvania-American Water Company
VI. Depreciation

1. Provide a description of the depreciation methods used to calculate annual depreciation amounts and depreciation reserves, together with a discussion of the factors which were considered in arriving at estimates of service life and dispersion by account. Supply a comprehensive statement of any changes made in method of depreciation. Provide dates of all field inspections and facilities visited.

Answer:

The depreciation methods utilized in calculating annual and accrued depreciation are discussed in Exhibit No. 8B in the section titled "Method Used in the Study," beginning on page I-2.

The most recent field trip was conducted on March 11, 2010 for Pennsylvania American Water Company. The new and old Coatesville Water Treatment facilities were visited.

Pennsylvania-American Water Company
Coatesville Wastewater Operations
Data Requirements of the Pennsylvania Public Utility Commission
Depreciation Study

FR VI.2

Pennsylvania-American Water Company
VI. Depreciation

2. Set forth, in exhibit form, charts depicting the original and estimated survivor curves and a tabular presentation of the original life table plotted on the chart for each account where the retirement rate method of analysis is utilized.

Answer:

Charts depicting the original and estimated survivor curves and a tabular presentation of the original life table plotted on the chart of each account where the retirement rate method of analysis is utilized is presented in Exhibit No. 8B in the section beginning on page II-9.

Pennsylvania-American Water Company
Coatesville Wastewater Operations
Data Requirements of the Pennsylvania Public Utility Commission
Depreciation Study

FR VI.3

Pennsylvania-American Water Company
VI. Depreciation

3. Provide the surviving original cost at historic test year-end by vintage by account and include applicable depreciation reserves and accruals. These calculations should be provided for plant in service as well as other categories of plant, including contributions in aid of construction and customers' advances for construction.

Answer:

The surviving original cost at the end of the historical year December 31, 2009, by vintage by account and the applicable depreciation reserve for utility plant are presented in Exhibit No. 8A. The tabulations begin on page 8.

The surviving original cost at test year end December 31, 2010, by vintage by account and the applicable depreciation reserve for utility plant are presented in Exhibit No. 8B. The tabulations begin on page II-52.

Pennsylvania-American Water Company
Coatesville Wastewater Operations
Data Requirements of the Pennsylvania Public Utility Commission
Depreciation Study

FR VI.4

Pennsylvania-American Water Company
VI. Depreciation

4. Provide a comparison of the calculated depreciation reserve used for ratemaking purposes v. the book reserve by account at the end of the test year, if they differ.

Answer:

A comparison of the calculated depreciation reserve v. book reserve by account at December 31, 2009 and at December 31, 2010, is listed on Schedule FR VI.4, pages 2 and 3 for Pennsylvania American Water Company – Coatesville Wastewater Operations.

**PENNSYLVANIA AMERICAN WATER COMPANY
COATESVILLE WASTEWATER OPERATIONS**

**BOOK RESERVE VS CALCULATED ACCRUED
AT DECEMBER 31, 2009**

<u>DEPRECIABLE GROUP</u>	<u>BOOK RESERVE</u>	<u>CALCULATED ACCRUED</u>
DEPRECIABLE PLANT		
354.20 STRUCTURES AND IMPROVEMENTS - COLLECTION	7,392	6,630
354.30 STRUCTURES AND IMPROVEMENTS - SPP	151,951	193,823
354.40 STRUCTURES AND IMPROVEMENTS - TDP		
EXISTING	800,802	1,511,554
TO BE RETIRED	<u>2,092,812</u>	<u>2,183,761</u>
TOTAL ACCOUNT 354.40	2,893,614	3,695,315
354.70 STRUCTURES AND IMPROVEMENTS - GENERAL		
EXISTING	44,242	69,746
TO BE RETIRED	<u>16,388</u>	<u>17,076</u>
TOTAL ACCOUNT 354.70	60,630	86,822
355.00 POWER GENERATION EQUIPMENT	21,235	35,312
360.10 COLLECTION SEWERS - FORCE MAINS	35,606	352,347
361.10 COLLECTION SEWERS - GRAVITY MAINS	1,164,250	1,571,780
361.20 MANHOLES	22,501	76,055
363.00 SERVICES	185,875	507,319
364.00 FLOW MEASURING DEVICES	11,882	11,887
365.00 FLOW MEASURING INSTALLATIONS	122	173
370.00 RECEIVING WELLS	648	572
371.00 PUMPING EQUIPMENT		
EXISTING	67,302	33,925
TO BE RETIRED	<u>304,931</u>	<u>317,301</u>
TOTAL ACCOUNT 371.00	372,233	351,226
380.00 TREATMENT EQUIPMENT		
EXISTING	187,180	295,662
TO BE RETIRED	<u>728,730</u>	<u>759,677</u>
TOTAL ACCOUNT 380.00	915,910	1,055,339
381.00 PLANT SEWERS	87,967	61,813
389.10 OTHER PLANT AND MISC. EQUIPMENT - INTANGIBLE		
EXISTING	9,145	3,434
TO BE RETIRED	<u>105,982</u>	<u>108,852</u>
TOTAL ACCOUNT 389.10	115,127	112,286
390.00 OFFICE FURNITURE AND EQUIPMENT	5,180	11,836
392.00 STORES EQUIPMENT	2,149	2,204
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	5,257	7,157
394.00 LABORATORY EQUIPMENT	29,351	36,513
395.00 POWER OPERATED EQUIPMENT	33,500	39,145
396.00 COMMUNICATION EQUIPMENT	27,132	43,608
397.00 MISCELLANEOUS EQUIPMENT	<u>99,719</u>	<u>115,517</u>
TOTAL DEPRECIABLE PLANT	<u><u>6,249,231</u></u>	<u><u>8,374,679</u></u>

**PENNSYLVANIA AMERICAN WATER COMPANY
COATESVILLE WASTEWATER OPERATIONS**

**BOOK RESERVE VS CALCULATED ACCRUED
AT DECEMBER 31, 2010**

<u>DEPRECIABLE GROUP</u>	<u>BOOK RESERVE</u>	<u>CALCULATED ACCRUED</u>
DEPRECIABLE PLANT		
354.20 STRUCTURES AND IMPROVEMENTS - COLLECTION	11,580	10,731
354.30 STRUCTURES AND IMPROVEMENTS - SPP	299,493	351,645
354.40 STRUCTURES AND IMPROVEMENTS - TDP	(1,012,969)	2,084,191
354.70 STRUCTURES AND IMPROVEMENTS - GENERAL	32,960	66,390
355.00 POWER GENERATION EQUIPMENT	28,188	44,460
360.10 COLLECTION SEWERS - FORCE MAINS	112,207	422,466
361.10 COLLECTION SEWERS - GRAVITY MAINS	1,363,362	1,800,695
361.20 MANHOLES	46,132	84,134
363.00 SERVICES	262,828	559,473
364.00 FLOW MEASURING DEVICES	14,130	13,799
365.00 FLOW MEASURING INSTALLATIONS	613	644
370.00 RECEIVING WELLS	1,037	349
371.00 PUMPING EQUIPMENT	(157,497)	60,696
380.00 TREATMENT EQUIPMENT	(161,859)	676,300
381.00 PLANT SEWERS	223,518	194,798
389.10 OTHER PLANT AND MISC. EQUIPMENT - INTANGIBLE	894	4,008
390.00 OFFICE FURNITURE AND EQUIPMENT	11,322	16,931
392.00 STORES EQUIPMENT	2,424	2,476
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	6,658	8,409
394.00 LABORATORY EQUIPMENT	33,920	39,071
395.00 POWER OPERATED EQUIPMENT	40,323	43,367
396.00 COMMUNICATION EQUIPMENT	76,860	91,450
397.00 MISCELLANEOUS EQUIPMENT	118,690	132,401
TOTAL DEPRECIABLE PLANT	<u>1,354,814</u>	<u>6,708,884</u>

Pennsylvania-American Water Company
Coatesville Wastewater Operations
Data Requirements of the Pennsylvania Public Utility Commission
Depreciation Study

FR VI.5

Pennsylvania-American Water Company
VI. Depreciation

5. Supply a schedule by account and depreciable group showing the survivor curve and annual accrual rate estimated to be appropriate:
 - a. For the purposes of this filing.
 - b. For the purposes of the most recent rate increase filing prior to the current proceedings.

Answer:

- a. Refer to Table 1 in Exhibit Nos. 8A and 8B.
- b. Refer to pages FR VI.5(2) through FR VI.5(5) for survivor curves and annual accrual rates estimated to be appropriate in the most recent prior rate filing.

PENNSYLVANIA AMERICAN WATER COMPANY
COATESVILLE WASTEWATER SYSTEM

ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED
ANNUAL DEPRECIATION ACCRUALS RELATED TO ORIGINAL COST AT DECEMBER 31, 2007

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET ORIGINAL COST AT DECEMBER 31, 2007 (3)	BOOK RESERVE (4)	FUTURE ACCRUALS (5)	ANNUAL ACCRUAL AMOUNT (6)	COMPOSITE REMAINING LIFE (7)	ANNUAL ACCRUAL RATE, PERCENT (8)
DEPRECIABLE PLANT							
354.20	STRUCTURES & IMPROVEMENTS - COLL						
354.30	STRUCTURES & IMPROVEMENTS - SPP	20,658.88	216	20,443	612	33.4	2.96
		46,474.59	1,657	44,818	1,447	31.0	3.11
354.40	STRUCTURES & IMPROVEMENTS - TDP						
	EXISTING	2,643,870.94	634,568	2,009,304	59,844	33.6	2.26
	TO BE RETIRED	2,365,449.03	1,535,548	829,901	416,129	2.0	17.59
	TOTAL ACCOUNT 354.4	5,009,319.97	2,170,116	2,839,205	475,973	6.0	9.50
354.70	STRUCTURES & IMPROVEMENTS - GEN						
	EXISTING	157,079.29	45,182	111,897	5,903	19.0	3.76
	TO BE RETIRED	17,274.00	11,087	6,187	3,139	2.0	18.17
	TOTAL ACCOUNT 354.7	174,353.29	56,269	118,084	9,042	13.1	5.19
355.20	POWER GENERATION EQUIPMENT - COLL						
355.40	POWER GENERATION EQUIPMENT - TDP	1,846.41	30	1,816	87	20.9	4.71
355.50	POWER GENERATION EQUIPMENT - RWTP	44,265.48	14,094	30,171	2,485	12.1	5.61
360.20	FORCE MAINS	1,160.76	195	966	46	21.0	3.96
361.10	COLLECTION SEWER MAINS	1,756,034.79	76,831	1,679,204	32,847	51.1	1.87
361.20	MANHOLES	8,578,153.39	1,014,335	7,564,820	184,948	40.9	2.16
363.20	SERVICE LATERALS	614,201.65	33,253	580,949	13,148	44.2	2.14
364.20	FLOW MEASURING DEVICES	2,270,662.01	264,974	2,005,687	49,808	40.3	2.19
370.30	RECEIVING WELLS	58,621.70	6,478	52,142	3,352	15.6	5.72
		7,369.99	69	7,301	194	37.6	2.63
371.30	PUMPING EQUIPMENT						
	EXISTING	134,886.46	5,835	129,051	5,233	24.7	3.88
	TO BE RETIRED	342,644.74	216,979	125,666	63,569	2.0	18.55
	TOTAL ACCOUNT 371.3	477,531.20	222,814	254,717	68,802	3.7	14.41
380.40	TREATMENT EQUIPMENT						
	EXISTING	259,840.82	86,280	173,561	14,682	11.8	5.65
	TO BE RETIRED	769,254.48	500,664	268,591	166,800	1.6	21.68
	TOTAL ACCOUNT 380.4	1,029,095.30	586,944	442,152	181,482	2.4	17.64
389.10	OTHER PLANT & MISC EQUIPMENT-INTANGIBLE						
	EXISTING	76,423.32	2,762	73,662	3,888	18.9	5.09
	TO BE RETIRED	111,711.75	62,321	49,391	24,696	2.0	22.11
	TOTAL ACCOUNT 389.1	188,135.07	65,083	123,053	28,584	4.3	15.19

PENNSYLVANIA AMERICAN WATER COMPANY
COATESVILLE WASTEWATER SYSTEM

ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO ORIGINAL COST AT DECEMBER 31, 2007

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET ORIGINAL COST AT DECEMBER 31, 2007 (3)		BOOK RESERVE (4)	FUTURE ACCRUALS (5)	ANNUAL ACCRUAL AMOUNT (6)	COMPOSITE REMAINING LIFE (7)	ANNUAL ACCRUAL RATE, PERCENT (8)
390.00 OFFICE FURNITURE AND EQUIPMENT	20-SQ	19,759.00	11,309	8,450	11,309	1,197	9.4	6.06
392.00 STORES EQUIPMENT	25-SQ	6,778.64	5,605	1,174	5,605	307	18.3	4.53
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	28,394.79	24,755	3,640	24,755	1,524	16.2	5.37
394.00 LABORATORY EQUIPMENT	15-SQ	52,436.94	28,521	23,916	28,521	6,373	4.5	12.15
395.00 POWER OPERATED EQUIPMENT	15-L3	80,079.14	58,953	21,126	58,953	7,244	8.1	9.05
396.00 COMMUNICATION EQUIPMENT	15-SQ	20,435.09	8,221	12,214	8,221	1,490	5.5	7.29
397.00 MISCELLANEOUS EQUIPMENT	20-SQ	365,043.49	305,658	59,385	305,658	20,389	15.0	5.59
TOTAL DEPRECIABLE PLANT		20,850,811.57	16,208,550	4,643,263		1,091,381	14.9	5.23
NONDEPRECIABLE PLANT								
352.00 FRANCHISES		150,568.58						
353.40 LAND AND LAND RIGHTS - TDP		71,343.00						
TOTAL NONDEPRECIABLE PLANT		221,911.58						
TOTAL WASTEWATER COMPANY		21,072,723.15						

* Life Span Procedure used. Curve shown is interim Survivor Curve.

** Life Span Procedure used for assets that will be replaced with new treatment plant.

PENNSYLVANIA AMERICAN WATER COMPANY
COATESVILLE WASTEWATER SYSTEM

ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED
ANNUAL DEPRECIATION ACCRUALS RELATED TO ORIGINAL COST AT DECEMBER 31, 2008

(1) DEPRECIABLE GROUP	(2) SURVIVOR CURVE	(3) NET ORIGINAL COST AT DECEMBER 31, 2008		(4) BOOK RESERVE	(5) FUTURE ACCRUALS	(6) ANNUAL ACCRUAL AMOUNT	(7) COMPOSITE REMAINING LIFE	(8) ANNUAL ACCRUAL RATE, PERCENT
		DECEMBER 31, 2008	RESERVE					
DEPRECIABLE PLANT								
354.20	40-R3	20,658.88	828	19,831	590	33.6	33.6	2.86
354.30	40-R2.5	46,474.59	3,102	43,373	1,418	30.6	30.6	3.05
354.40	65-R3 *	1,915,870.94	659,744	1,256,128	37,784	33.2	33.2	1.97
	65-R3 **	2,365,449.03	1,951,677	413,772	408,303	1.0	1.0	17.26
		4,281,319.97	2,611,421	1,869,900	446,087	3.7	3.7	10.42
354.70	35-S2	157,079.29	51,092	105,987	5,833	18.2	18.2	3.71
	35-S2 **	17,274.00	14,226	3,048	3,048	1.0	1.0	17.65
		174,353.29	65,318	109,035	8,881	12.3	12.3	5.09
355.20	25-R3	1,846.41	117	1,729	85	20.3	20.3	4.60
355.40	25-R3	44,265.48	16,577	27,688	2,384	11.6	11.6	5.39
355.50	30-S2.5	1,160.76	241	920	46	20.0	20.0	3.96
360.20	60-S2.5	2,478,372.79	24,390	2,453,983	48,479	50.6	50.6	1.96
361.10	60-S2.5	11,123,790.39	789,346	10,334,445	228,594	45.2	45.2	2.06
361.20	55-R3	844,313.65	5,128	839,185	18,948	44.3	44.3	2.24
363.20	55-R3	2,400,562.01	301,624	2,098,940	52,160	40.2	40.2	2.17
364.20	25-R1.5	58,621.70	9,831	48,789	3,060	15.9	15.9	5.22
370.30	45-R3	7,369.99	263	7,107	190	37.4	37.4	2.58
371.30	45-R1	134,886.46	11,078	123,808	4,770	26.0	26.0	3.54
	45-R1 **	342,644.74	280,548	62,097	61,859	1.0	1.0	18.05
		477,531.20	291,626	185,905	66,629	2.8	2.8	13.95
380.40	25-S2	259,840.82	101,012	158,829	13,941	11.4	11.4	5.37
	25-S2 **	769,254.48	667,464	101,791	101,791	1.0	1.0	13.23
		1,029,095.30	768,476	260,620	115,732	2.3	2.3	11.25
389.10	20-SQ	76,423.32	6,644	69,780	3,885	18.0	18.0	5.08
	20-SQ **	111,711.75	87,017	24,695	24,695	1.0	1.0	22.11
		188,135.07	93,661	94,475	28,580	3.3	3.3	15.19

PENNSYLVANIA AMERICAN WATER COMPANY
COATESVILLE WASTEWATER SYSTEM

ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO ORIGINAL COST AT DECEMBER 31, 2008

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET ORIGINAL COST AT DECEMBER 31, 2008 (3)	BOOK RESERVE (4)	FUTURE ACCRUALS (5)	ANNUAL ACCRUAL AMOUNT (6)	COMPOSITE REMAINING LIFE (7)	ANNUAL ACCRUAL RATE, PERCENT (8)
390.00	OFFICE FURNITURE AND EQUIPMENT	19,759.00	9,647	10,112	1,215	8.3	6.15
392.00	STORES EQUIPMENT	6,778.64	1,481	5,298	307	17.3	4.53
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	28,394.79	5,165	23,230	1,521	15.3	5.36
394.00	LABORATORY EQUIPMENT	52,436.94	30,287	22,150	2,940	7.5	5.61
395.00	POWER OPERATED EQUIPMENT	80,079.14	28,373	51,706	6,589	7.8	8.23
396.00	COMMUNICATION EQUIPMENT	20,435.09	13,704	6,731	545	12.4	2.67
397.00	MISCELLANEOUS EQUIPMENT	365,043.49	79,791	285,252	20,417	14.0	5.59
TOTAL DEPRECIABLE PLANT		23,750,798.57	5,150,397	18,600,404	1,055,397	17.6	4.44
NONDEPRECIABLE PLANT							
352.00	FRANCHISES	150,568.58					
363.40	LAND AND LAND RIGHTS - TDP	71,343.00					
TOTAL NONDEPRECIABLE PLANT		221,911.58					
TOTAL WASTEWATER COMPANY		23,972,710.15					

* Life Span Procedure used. Curve shown is Interim Survivor Curve.

** Life Span Procedure used for assets that will be replaced with new treatment plant.

Pennsylvania-American Water Company
Coatesville Wastewater Operations
Data Requirements of the Pennsylvania Public Utility Commission
Depreciation Study

FR VI.6

Pennsylvania-American Water Company

VI. Depreciation

6. Provide an exhibit showing gross salvage, cost of removal, and net salvage for the five most recent calendar or fiscal years by account.

Answer:

The information is presented on pages II-76 through II-80 for Exhibit No. 8B, for the future test year.