

**BEFORE THE STATE CORPORATION COMMISSION**

MAY 02 2005

**OF THE STATE OF KANSAS**

*Susan K. Duffy* Docket Room

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**DIRECT TESTIMONY**

**OF**

**JOHN J. SPANOS**

**WESTAR ENERGY**

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**DOCKET NO. 05-WSEE-981-RTS**

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**I. INTRODUCTION**

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**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. John J. Spanos, 207 Senate Avenue, Camp Hill, Pennsylvania,  
17011.

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

A. Gannett Fleming, Inc. (Gannett Fleming). I am Vice President of  
the Valuation and Rate Division.

**Q. PLEASE DESCRIBE YOUR EDUCATION AND BUSINESS EXPERIENCE.**

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

I have been associated with the firm since college  
graduation in 1986. The Valuation and Rate Division of Gannett

1 Fleming provides depreciation consulting services to utility  
2 companies in the United States and Canada. As Vice President of  
3 Gannett Fleming's Valuation and Rate Division, I am responsible  
4 for conducting depreciation, valuation and original cost studies,  
5 determining service life and salvage estimates, conducting field  
6 reviews, presenting recommended depreciation rates to clients, and  
7 supporting such rates before state and federal regulatory agencies.

8 **Q. DO YOU BELONG TO ANY PROFESSIONAL SOCIETIES?**

9 A. Yes. I am a member of the Society of Depreciation Professionals  
10 and the American Gas Association/Edison Electric Institute Industry  
11 Accounting Committee.

12 **Q. DO YOU HOLD ANY SPECIAL CERTIFICATION AS A  
13 DEPRECIATION EXPERT?**

14 A. Yes. The Society of Depreciation Professionals has established  
15 national standards for depreciation professionals. The Society  
16 administers an examination to become certified in this field. I  
17 passed the certification exam in September 1997, and was  
18 recertified in August 2003.

19 **Q. PLEASE OUTLINE YOUR EXPERIENCE IN THE FIELD OF  
20 DEPRECIATION.**

21 A. In June, 1986, I was employed by Gannett Fleming Valuation and  
22 Rate Consultants, Inc. as a Depreciation Analyst. During the period  
23 from June, 1986 through December, 1995, I assisted in the

1 preparation of numerous depreciation and original cost studies for  
2 utility companies in various industries. I helped perform  
3 depreciation studies for the following telephone companies: United  
4 Telephone of Pennsylvania, United Telephone of New Jersey and  
5 Anchorage Telephone Utility. I helped perform depreciation studies  
6 for the following companies in the railroad industry: Union Pacific  
7 Railroad, Burlington Northern Railroad and Wisconsin Central  
8 Transportation Corporation.

9 I assisted in the preparation of depreciation studies for the  
10 following organizations in the electric industry: Chugach Electric  
11 Association, The Cincinnati Gas & Electric Company (CG&E), The  
12 Union Light, Heat and Power Company (ULH&P), Northwest  
13 Territories Power Corporation and the City of Calgary - Electric  
14 System.

15 I assisted in the preparation of depreciation studies for the  
16 following pipeline companies: TransCanada Pipelines Limited,  
17 Trans Mountain Pipe Line Company Ltd., Interprovincial Pipe Line  
18 Inc., Nova Gas Transmission Limited and Lakehead Pipeline  
19 Company.

20 I assisted in the preparation of depreciation studies for the  
21 following gas companies: Columbia Gas of Pennsylvania, Columbia  
22 Gas of Maryland, The Peoples Natural Gas Company, T. W.

1 Phillips Gas & Oil Company, CG&E, ULH&P, Lawrenceburg Gas  
2 Company and Penn Fuel Gas, Inc.

3 I assisted in the preparation of depreciation studies for the  
4 following water companies: Indiana-American Water Company,  
5 Consumers Pennsylvania Water Company and The York Water  
6 Company; and depreciation and original cost studies for  
7 Philadelphia Suburban Water Company and Pennsylvania-  
8 American Water Company.

9 In each of the above studies, I assembled and analyzed  
10 historical and simulated data, performed field reviews, developed  
11 preliminary estimates of service life and net salvage, calculated  
12 annual depreciation, and prepared reports for submission to state  
13 Public Utility Commissions or federal regulatory agencies. I  
14 performed these studies under the general direction of William M.  
15 Stout, P.E.

16 In January, 1996, I was assigned to the position of  
17 Supervisor of Depreciation Studies. In July, 1999, I was promoted  
18 to the position of Manager, Depreciation and Valuation Studies. In  
19 December, 2000, I was promoted to my present position as Vice  
20 President of Gannett Fleming Valuation and Rate Consultants, Inc.,  
21 now the Valuation and Rate Division of Gannett Fleming, Inc. I am  
22 responsible for conducting depreciation, valuation and original cost  
23 studies, including the preparation of final exhibits and responses to

1 data requests for submission to the appropriate regulatory bodies.  
2 Since January 1996, I have conducted depreciation studies similar  
3 to those previously listed including assignments for Hampton Water  
4 Works Company, Omaha Public Power District, Enbridge Pipe Line  
5 Company, Inc., Columbia Gas of Virginia, Inc., Virginia Natural Gas  
6 Company, National Fuel Gas Distribution Corporation - New York  
7 and Pennsylvania Divisions, The City of Bethlehem - Bureau of  
8 Water, The City of Coatesville Authority, The City of Lancaster -  
9 Bureau of Water, Peoples Energy Corporation, The York Water  
10 Company, Public Service Company of Colorado, Reliant Energy-  
11 HLP, Massachusetts-American Water Company, St. Louis County  
12 Water Company, Missouri-American Water Company, Chugach  
13 Electric Association, Alliant Energy, Oklahoma Gas and Electric  
14 Company, Nevada Power Company, Dominion Virginia Power,  
15 NUI-Virginia Gas Companies, PSI Energy, NUI - Elizabethtown Gas  
16 Company, Cinergy Corporation – CG&E, Cinergy Corporation –  
17 ULH&P, Columbia Gas of Kentucky, Idaho Power Company, El  
18 Paso Electric Company, Centennial Pipeline Company, CenterPoint  
19 Energy, NSTAR – Boston Edison Company, South Jersey Gas  
20 Company, Bonneville Power Administration, EPCOR Distribution,  
21 Inc. and B. C. Gas Utility, Ltd. My additional duties include  
22 determining final life and salvage estimates, conducting field  
23 reviews, presenting recommended depreciation rates to

1 management for its consideration and supporting such rates before  
2 regulatory bodies.

3 **Q. HAVE YOU SUBMITTED TESTIMONY TO ANY STATE UTILITY**  
4 **COMMISSIONS ON THE SUBJECT OF UTILITY PLANT**  
5 **DEPRECIATION?**

6 **A.** Yes. I have submitted testimony to the Pennsylvania Public Utility  
7 Commission, the Commonwealth of Kentucky Public Service  
8 Commission, the Public Utilities Commission of Ohio, the Public  
9 Utilities Board of New Jersey, The Missouri Public Service  
10 Commission, the Massachusetts Department of  
11 Telecommunications and Energy, The Alberta Energy & Utility  
12 Board, the Nevada Public Utility Commission, the Idaho Public  
13 Utility Commission, the Louisiana Public Service Commission, the  
14 Oklahoma Corporate Commission, The Public Service Commission  
15 of South Carolina, Railroad Commission of Texas – Gas Services  
16 Division, the New York Public Service Commission, Illinois  
17 Commerce Commission, and the Indiana Utility Regulatory  
18 Commission.

19 **Q. HAVE YOU RECEIVED ANY ADDITIONAL EDUCATION**  
20 **RELATING TO UTILITY PLANT DEPRECIATION?**

21 **A.** Yes. I have completed the following courses conducted by  
22 Depreciation Programs, Inc.: “Techniques of Life Analysis,”  
23 “Techniques of Salvage and Depreciation Analysis,” “Forecasting

1 Life and Salvage,” “Modeling and Life Analysis Using Simulation”  
2 and “Managing a Depreciation Study.” I have also completed the  
3 “Introduction to Public Utility Accounting” program conducted by the  
4 American Gas Association.

5 **Q. WHAT IS THE PURPOSE OF YOUR PREFILED DIRECT**  
6 **TESTIMONY IN THIS PROCEEDING?**

7 A. I am sponsoring Exhibit \_\_\_\_ (JJS-1) of the depreciation application  
8 stating the results of my depreciation studies for Westar North and  
9 Westar South’s electric plant as of December 31, 2003 (the “2003  
10 Depreciation Study” or “Depreciation Study”).

11 **Q. WOULD YOU PLEASE SUMMARIZE YOUR TESTIMONY?**

12 A. My testimony will explain the methods and procedures of the  
13 depreciation report as well as set forth the annual depreciation  
14 rates as of December 31, 2003. Exhibit \_\_\_\_ (JJS-1) sets forth  
15 detailed methods, procedures and results of the depreciation study  
16 as of December 31, 2003. Each report will be explained in Part II of  
17 my testimony.

18 **Q. WHAT ARE THE PRINCIPAL CONCLUSIONS OF YOUR STUDY**  
19 **AND THE BASES FOR THEM?**

20 A. The principal conclusions of the study are depreciation accrual  
21 rates by account for Westar South and Westar North. Overall,  
22 average service lives for transmission and distribution accounts are

1 longer and the life spans for production facilities are slightly longer  
2 than the lives currently being used.

3 **II. METHODS USED IN DEPRECIATION STUDY**

4 **Q. PLEASE DEFINE THE CONCEPT OF DEPRECIATION.**

5 A. Depreciation refers to the loss in service value not restored by  
6 current maintenance, incurred in connection with the consumption  
7 or prospective retirement of utility plant in the course of service  
8 from causes that can be reasonably anticipated or contemplated,  
9 against which the Company is not protected by insurance. Among  
10 the causes to be given consideration are wear and tear, decay,  
11 action of the elements, inadequacy, obsolescence, changes in the  
12 art, changes in demand and the requirements of public authorities.

13 **Q. IN PREPARING THE DEPRECIATION STUDIES, DID YOU**  
14 **FOLLOW GENERALLY ACCEPTED PRACTICES IN THE FIELD**  
15 **OF DEPRECIATION AND VALUATION?**

16 A Yes.

17 **Q. PLEASE DESCRIBE THE CONTENTS OF YOUR REPORT.**

18 A. My reports are presented in three parts. Part I, Introduction,  
19 presents the scope and basis for each depreciation study. Part II,  
20 Methods Used in the Estimation of Depreciation, includes  
21 descriptions of the basis of the study, the estimation of survivor  
22 curves and net salvage and the calculation of annual and accrued  
23 depreciation. Part III, Results of Study, presents a description of  
24 the results, summaries of the depreciation calculations, graphs and



1 tables that relate to the service life and net salvage analyses, and  
2 the detailed depreciation calculations.

3 The tables on pages III-4 through III-6 and III-7 through III-9  
4 of the report presents the estimated survivor curve, the net salvage  
5 percent, the original cost as of December 31, 2003, the book  
6 reserve and the calculated annual depreciation accrual and rate for  
7 each account or subaccount. The section beginning on page III-10  
8 of the report presents the results of the retirement rate analyses  
9 prepared as the historical bases for the service life estimates. In  
10 the case of Westar South, service life estimates for most mass  
11 accounts were developed using the simulated plant record method.  
12 The section beginning on page III-214 of Exhibit \_\_\_\_ (JJS-1)  
13 presents the results of the salvage analysis. The section beginning  
14 on page III-293 of Exhibit \_\_\_\_ (JJS-1) presents the depreciation  
15 calculations related to surviving original cost as of December 31,  
16 2003.

17 **Q. PLEASE IDENTIFY THE DEPRECIATION METHOD THAT YOU**  
18 **USED.**

19 A. I used the straight line remaining life method of depreciation, with  
20 the average service life procedure. This is the method the  
21 Commission adopted for Westar in its most recent rate proceeding.  
22 This method of depreciation aims to distribute the unrecovered cost

1 of fixed capital assets over the estimated remaining useful life of  
2 each unit or group of assets in a systematic and rational manner.

3 **Q. DID YOU REVIEW PRIOR COMMISSION ORDERS ON WESTAR**  
4 **ENERGY'S DEPRECIATION ACCRUAL RATES?**

5 A. Yes.

6 **Q. WHAT ARE YOUR RECOMMENDED ANNUAL DEPRECIATION**  
7 **ACCRUAL RATES FOR WESTAR SOUTH AND WESTAR**  
8 **NORTH?**

9 A. My recommended annual depreciation accrual rates as of  
10 December 31, 2003 for Westar South are set forth on pages III-4  
11 through III-6 of Exhibit \_\_\_\_ (JJS-1) and for Westar North on pages  
12 III-7 through III-9 of Exhibit \_\_\_\_ (JJS-1).

13 **Q. HOW DID YOU DETERMINE THE RECOMMENDED ANNUAL**  
14 **DEPRECIATION ACCRUAL RATES?**

15 A. I did this in two phases. In the first phase, I estimated the service  
16 life and net salvage characteristics for each depreciable group, that  
17 is, each plant account or subaccount identified as having similar  
18 characteristics. In the second phase, I calculated the composite  
19 remaining lives and annual depreciation accrual rates based on the  
20 service life and net salvage estimates determined in the first phase.

21 **Q. PLEASE DESCRIBE THE FIRST PHASE OF THE**  
22 **DEPRECIATION STUDY, IN WHICH YOU ESTIMATED THE**

1                   **SERVICE LIFE AND NET SALVAGE CHARACTERISTICS FOR**  
2                   **EACH DEPRECIABLE GROUP.**

3           A.    The service life and net salvage study consisted of compiling  
4                    historic data from records related to Westar Energy’s plant;  
5                    analyzing these data to obtain historic trends of survivor and net  
6                    salvage characteristics; obtaining supplementary information from  
7                    management, and operating personnel concerning practices and  
8                    plans as they relate to plant operations; and interpreting the above  
9                    data and the estimates used by other electric utilities to form  
10                  judgments of average service life and net salvage characteristics.

11           **Q.    WHAT HISTORIC DATA DID YOU ANALYZE FOR THE**  
12                  **PURPOSE OF ESTIMATING SERVICE LIFE CHARACTERIS-**  
13                  **TICS?**

14           A.    I analyzed the Company’s accounting entries that record plant  
15                    transactions during the 14-year period 1990 through 2003. The  
16                    transactions included additions, retirements, transfers and the  
17                    related balances. The Company records also included surviving  
18                    dollar value by year installed for each plant account as of  
19                    December 31, 2003.

20           **Q.    WHAT METHOD DID YOU USE TO ANALYZE THIS SERVICE**  
21                  **LIFE DATA?**

22           A.    I used the retirement rate method for all accounts in Westar North  
23                    and some accounts for Westar South. This is the most appropriate

1 method when aged retirement data are available, because this  
2 method determines the average rates of retirement actually  
3 experienced by the Company during the period covered by the  
4 study. For those accounts in Westar South for which actuarial data  
5 were not available, the simulated plant record (SPR) method was  
6 utilized.

7 **Q. WOULD YOU EXPLAIN HOW YOU USED THE RETIREMENT**  
8 **RATE METHOD TO ANALYZE WESTAR'S SERVICE LIFE**  
9 **DATA?**

10 A. I applied the retirement rate method to each different group of  
11 property in the study. For each property group, I used the  
12 retirement rate method to form a life table which, when plotted,  
13 shows an original survivor curve for that property group. Each  
14 original survivor curve represents the average survivor pattern  
15 experienced by the several vintage groups during the experience  
16 band studied. The survivor patterns do not necessarily describe  
17 the life characteristics of the property group; therefore,  
18 interpretation of the original survivor curves is required in order to  
19 use them as valid considerations in estimating service life. The  
20 lowa-type survivor curves were used to perform these  
21 interpretations.

22 **Q. WAS THE RETIREMENT RATE METHOD THE ONLY METHOD**  
23 **USED FOR LIFE ANALYSIS?**

1 A. No, it was not. In some accounts for Westar South, aged data was  
2 not available; therefore, the simulated plant record (SPR) method  
3 was utilized.

4 **Q. DOES THE USE OF SIMULATED PLANT ANALYSIS FOR**  
5 **UNAGED DATA FOR SOME ACCOUNTS OF WESTAR SOUTH**  
6 **AFFECT THE RELIABILITY OF THE LIFE ANALYSIS?**

7 A. No, it does not. The use of the simulated plant record method is  
8 the most widely used method of life analysis for unaged data.  
9 Although actuarial (aged) data sets forth a cleaner data base, the  
10 simulated plant record method is designed to take gross annual  
11 additions and retirements over time and smooth the activity to  
12 represent the best combination of service life and survivor curve.

13 **Q. PLEASE BRIEFLY EXPLAIN THE SIMULATED PLANT RECORD**  
14 **METHODOLOGY.**

15 A. The simulated plant record method utilized in this study compares  
16 gross plant activity during the most recent 15-year period. The  
17 actual book balances are then compared to the simulated book  
18 balances that are developed using Iowa-type survivor curves.

19 **Q. WHAT IS AN “IOWA-TYPE SURVIVOR CURVE” AND HOW DID**  
20 **YOU USE SUCH CURVES TO ESTIMATE THE SERVICE LIFE**  
21 **CHARACTERISTICS FOR EACH PROPERTY GROUP?**

22 A. Iowa-type curves are a widely used group of generalized survivor  
23 curves that contain the range of survivor characteristics usually

1 experienced by utilities and other industrial companies. The Iowa  
2 curves were developed at the Iowa State College Engineering  
3 Experiment Station through an extensive process of observing and  
4 classifying the ages at which various types of property used by  
5 utilities and other industrial companies had been retired.

6 Iowa-type curves are used to smooth and extrapolate  
7 original survivor curves determined by the retirement rate method.  
8 The Iowa curves and truncated Iowa curves were used in this study  
9 to describe the forecasted rates of retirement based on the  
10 observed rates of retirement and the outlook for future retirements.  
11 As I will explain, the use of truncated curves is appropriate to reflect  
12 retirements of plant components that may not be fully depreciated  
13 at the time a plant is retired.

14 The estimated survivor curve designations for each  
15 depreciable property group indicate the average service life, the  
16 family within the Iowa system to which the property group belongs,  
17 and the relative height of the mode. For example, the Iowa 50-R2  
18 indicates an average service life of fifty years; a right-moded, or R,  
19 type curve (the mode occurs after average life for right-moded  
20 curves); and a moderate height, 2, for the mode (possible modes  
21 for R type curves range from 1 to 5).

1       **Q.    WHAT APPROACH DID YOU USE TO ESTIMATE THE LIVES OF**  
2       **SIGNIFICANT    FACILITIES    STRUCTURES    SUCH    AS**  
3       **PRODUCTION PLANTS AND SERVICE CENTERS?**

4       A.    I used the life span technique to estimate the lives of significant  
5       facilities for which concurrent retirement of the entire facility is  
6       anticipated. In this technique, the survivor characteristics of such  
7       facilities are described by the use of interim survivor curves and  
8       estimated probable retirement dates.

9                The interim survivor curves describe the rate of retirement  
10       related to the replacement of elements of the facility, such as, for a  
11       building, the retirements of plumbing, heating, doors, windows,  
12       roofs, etc., that occur during the life of the facility. The probable  
13       retirement date provides the rate of final retirement for each year of  
14       installation for the facility by truncating the interim survivor curve for  
15       each installation year at its attained age at the date of probable  
16       retirement. The use of interim survivor curves truncated at the date  
17       of probable retirement provides a consistent method for estimating  
18       the lives of the several years of installation for a particular facility  
19       inasmuch as a single concurrent retirement for all years of  
20       installation will occur when it is retired.

21       **Q.    HAS GANNETT FLEMING USED THIS APPROACH IN OTHER**  
22       **PROCEEDINGS?**

1 A. Yes, we have used the life span technique in performing  
2 depreciation studies presented to and accepted by many public  
3 utility commissions across the United States and Canada.

4 **Q. WHAT ARE THE BASES FOR THE PROBABLE RETIREMENT**  
5 **YEARS THAT YOU HAVE ESTIMATED FOR EACH FACILITY?**

6 A. The bases for the probable retirement years are life spans for each  
7 facility that are based on judgment and incorporate consideration of  
8 the age, use, size, nature of construction, management outlook and  
9 typical life spans experienced and used by other electric utilities for  
10 similar facilities. Most of the life spans result in probable retirement  
11 years that are many years in the future. As a result, the retirements  
12 of these facilities are not yet subject to specific management plans.  
13 Such plans would be premature. At the appropriate time, detailed  
14 studies of the economics of rehabilitation and continued use or  
15 retirement of the structure will be performed and the results  
16 incorporated in the estimation of the facility's life span.

17 **Q. DID YOU PHYSICALLY OBSERVE WESTAR NORTH AND**  
18 **SOUTH'S PLANTS AND EQUIPMENT AS PART OF YOUR**  
19 **DEPRECIATION STUDY?**

20 A. Yes. I made field reviews of Westar North's property on October 4  
21 and 5, 2004 and Westar South's property on October 18 and 19,  
22 2004 to observe representative portions of plant. Field reviews are  
23 conducted to become familiar with Company operations and obtain



1 an understanding of the function of the plant and information with  
2 respect to the reasons for past retirements and the expected future  
3 causes of retirements. This knowledge as well as information from  
4 other discussions with management was incorporated in the  
5 interpretation and extrapolation of the statistical analyses.

6 **Q. HOW DID YOUR EXPERIENCE IN DEVELOPMENT OF OTHER**  
7 **DEPRECIATION STUDIES AFFECT YOUR WORK IN THIS**  
8 **CASE?**

9 A. Because I customarily conduct field reviews for my depreciation  
10 studies, I have had the opportunity to visit scores of similar plants  
11 and meet with operations personnel at other companies. The  
12 knowledge accumulated from those visits and meetings provide me  
13 useful information that I can draw on to confirm or challenge my  
14 numerical analyses concerning plant condition and remaining life  
15 estimates.

16 **Q. WOULD YOU PLEASE EXPLAIN THE CONCEPT OF “NET**  
17 **SALVAGE”?**

18 A. Net salvage is a component of the service value of capital assets  
19 that is recovered through depreciation rates. The service value of  
20 an asset is its original cost less its net salvage. Net salvage is the  
21 salvage value received for the asset upon retirement less the cost  
22 to retire the asset. When the cost to retire exceeds the salvage  
23 value, the result is negative net salvage.

1           Inasmuch as depreciation expense is the loss in service  
2 value of an asset during a defined period, e.g. one year, it must  
3 include a ratable portion of both the original cost and the net  
4 salvage. That is, the net salvage related to an asset should be  
5 incorporated in the cost of service during the same period as its  
6 original cost so that customers receiving service from the asset pay  
7 rates that include a portion of both elements of the asset's service  
8 value, the original cost and the net salvage value.

9           For example, the full recovery of the service value of a \$100  
10 electric pole will include not only the \$100 of original cost, but also,  
11 on average, \$35 to remove the pole at the end of its life and \$5 in  
12 salvage value. In this example, the net salvage component is  
13 negative \$30 (\$5 - \$35), and the net salvage percent is negative  
14 30%  $((\$5 - \$35)/\$100)$ .

15       **Q. PLEASE DESCRIBE HOW YOU ESTIMATED NET SALVAGE**  
16       **PERCENTAGES.**

17       A. I estimated the net salvage percentages based on judgment that,  
18 for most accounts, incorporated analyses of the historical data for  
19 the period 1990 through 2003 and considered estimates for other  
20 electric companies. For Steam Production Plant accounts, the net  
21 salvage percent was based on the sum of estimated dismantling  
22 costs for all accounts at all stations and interim net salvage costs.  
23 The estimate of dismantling costs was based on costs per KW

1 derived from detailed dismantling studies of other similar stations.  
2 In the historical analyses for the other accounts, the net salvage,  
3 cost of removal and gross salvage amounts were expressed as  
4 percents of the original cost retired. These percents were  
5 calculated on annual and three-year moving average bases for the  
6 1990 to 2003 period.

7 **Q. YOUR ESTIMATES OF NEGATIVE NET SALVAGE FOR PLANT**  
8 **ARE HIGHER THAN WHAT IS INCLUDED IN THE PRESENT**  
9 **DEPRECIATION RATES AUTHORIZED A FEW YEARS AGO.**  
10 **TO WHAT DO YOU ATTRIBUTE THAT CHANGE AND WHY DO**  
11 **YOU BELIEVE SUCH A CHANGE IS WARRANTED?**

12 A. The estimates of net salvage recommended in this depreciation  
13 study are based on historical indications of past retirements as well  
14 as expectations of final retirement. In contrast, the current  
15 depreciation rates do not have a component of final retirement or  
16 reflect historical indications of net salvage. The estimates utilized  
17 in the last case were understated, based on historical indications.  
18 Consequently, the estimate of net salvage in this study sets forth  
19 expectations of current practices and future expectations.

20 **Q. PLEASE DESCRIBE THE SECOND PHASE OF THE PROCESS**  
21 **THAT YOU USED IN THE DEPRECIATION STUDY IN WHICH**  
22 **YOU CALCULATED COMPOSITE REMAINING LIVES AND**  
23 **ANNUAL DEPRECIATION ACCRUAL RATES.**

1       A.     After I estimated the service life and net salvage characteristics for  
2           each depreciable property group, I calculated the annual  
3           depreciation accrual rates for each group based on the straight line  
4           remaining life method, using remaining lives weighted consistent  
5           with the average service life procedure. The annual depreciation  
6           accrual rates were developed as of December 31, 2003.

7       **Q.     PLEASE DESCRIBE THE STRAIGHT LINE REMAINING LIFE**  
8           **METHOD OF DEPRECIATION.**

9       A.     The straight line remaining life method of depreciation allocates the  
10          original cost of the property, less accumulated depreciation, less  
11          future net salvage, in equal amounts to each year of remaining  
12          service life.

13      **Q.     PLEASE DESCRIBE THE AVERAGE SERVICE LIFE**  
14          **PROCEDURE FOR CALCULATING REMAINING LIFE ACCRUAL**  
15          **RATES.**

16      A.     The average service life procedure defines the group for which the  
17          remaining life annual accrual is determined. Under this procedure,  
18          the annual accrual rate is determined for the entire group or  
19          account based on its average remaining life and this rate is applied  
20          to the surviving balance of the group's cost. The average  
21          remaining life of the group is calculated by first dividing the future  
22          book accruals (original cost less allocated book reserve less future  
23          net salvage) by the average remaining life for each vintage. The

1 average remaining life for each vintage is derived from the area  
2 under the survivor curve between the attained age of the vintage  
3 and the maximum age. Then, the sum of the future book accruals  
4 is divided by the sum of the annual accruals to determine the  
5 average remaining life of the entire group for use in calculating the  
6 annual depreciation accrual rate.

7 **Q. PLEASE USE AN EXAMPLE TO ILLUSTRATE THE**  
8 **DEVELOPMENT OF THE ANNUAL DEPRECIATION ACCRUAL**  
9 **RATE FOR A PARTICULAR GROUP OF PROPERTY IN YOUR**  
10 **DEPRECIATION STUDIES.**

11 A. I will use Account 3530, Station Equipment, as an example  
12 because it is one of the largest depreciable groups and represents  
13 5% of depreciable plant for Westar North.

14 The retirement rate method was used to analyze the survivor  
15 characteristics of this property group. Aged plant accounting data  
16 were compiled from 1990 through 2003 and analyzed for periods  
17 that best represent the overall service life of this property. The life  
18 table for the 1990-2003 experience band is presented on pages III-  
19 147 and III-148 of Exhibit \_\_\_\_ (JJS-1). The life table displays the  
20 retirement and surviving ratios of the aged plant data exposed to  
21 retirement by age interval. For example, page III-147 shows  
22 \$52,065 retired during age interval 0.5-1.5 with \$37,376,581  
23 exposed to retirement at the beginning of the interval.

1           Consequently, the retirement ratio is 0.0014 ( $\$52,065/37,376,581$ )  
2           and the surviving ratio is 0.9986 (1-0.0014). The percent surviving at  
3           age 0.5 of .9986 percent is multiplied by the survivor ratio of 99.75  
4           to derive the percent surviving at age 1.5 of 99.61 percent. This  
5           process continues for the remaining age intervals for which plant  
6           was exposed to retirement during the period 1990-2003. The  
7           resultant life table, or original survivor curve, is plotted along with  
8           the estimated smooth survivor curve, the 50-R2.5 on page III-146.

9           The net salvage percent is presented on page III-275 of  
10          Exhibit \_\_\_\_ (JJS-1). The percentage is based on the result of  
11          annual gross salvage minus the cost to remove plant assets as  
12          compared to the original cost of plant retired during the period 1990  
13          through 2003. The 14-year period experienced negative 1,127,648  
14          (310,008 – 1,437,656) in net salvage for 7,959,399 plant retired.  
15          The result is negative net salvage of 14 percent (-  
16          1,127,648/7,959,399), however, the most recent five-year period  
17          and the rolling three-year averages trend toward twelve percent.  
18          Therefore, negative 10 percent was recommended.

19          My calculation of the annual depreciation related to original  
20          cost of Account 3530, Station Equipment, at December 31, 2003, is  
21          presented on pages III-445 through III-447 Exhibit \_\_\_\_ (JJS-1).  
22          The calculation is based on the 50-R2.5 survivor curve, 10%  
23          negative net salvage, the attained age, and the allocated book

1 reserve. The tabulation sets forth the installation year, the original  
2 cost, calculated accrued depreciation, allocated book reserve,  
3 future accruals, remaining life and annual accrual. These totals are  
4 brought forward to the table on page III-8.

5 **Q. WERE THE DEPRECIATION RATES FOR STEAM PRODUCTION**  
6 **PLANT DEVELOPED WITH A COMPONENT FOR FINAL**  
7 **RETIREMENT?**

8 A. Yes. Final retirement costs were estimated for each unit based on  
9 its capacity, summed on a Company-wide basis, and then an  
10 average was determined and applied to all units. The total  
11 estimated final retirement costs were combined with interim  
12 retirement costs in order to establish full recovery of capital  
13 investment.

14 **Q. THANK YOU.**