

**EXHIBIT NO. \_\_\_(CRC-1T)  
DOCKET NOS. UE-07\_\_\_/UG-07\_\_\_  
2007 PSE GENERAL RATE CASE  
WITNESS: C. RICHARD CLARKE**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY, INC.,**

**Respondent.**

**Docket No. UE-07\_\_\_  
Docket No. UG-07\_\_\_**

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF  
C. RICHARD CLARKE  
ON BEHALF OF PUGET SOUND ENERGY, INC.**

**DECEMBER 3, 2007**

**PUGET SOUND ENERGY, INC.**

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF  
C. RICHARD CLARKE**

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1 **PUGET SOUND ENERGY, INC.**

2 **PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF**  
3 **C. RICHARD CLARKE**

4 **I. INTRODUCTION**

5 **Q. Please state your name, employer, and business address.**

6 A. My name is C. Richard Clarke. I am Director of Western U.S. Services for the  
7 Valuation and Rate Division of Gannett Fleming, Inc. (“Gannett Fleming”). My  
8 business address is 5062 Alfigo Street, Las Vegas, Nevada, 89135.

9 **Q. Have you prepared an exhibit describing your education, relevant**  
10 **employment experience, and other professional qualifications?**

11 A. Yes, I have. It is Exhibit No. \_\_\_(CRC-2).

12 **Q. What is the purpose of your prefiled direct testimony in this proceeding?**

13 A. I am sponsoring the results of a new depreciation study (the “Depreciation Study”  
14 or “Report”) that I prepared for Puget Sound Energy, Inc. (“Company” or “Puget  
15 Sound Energy”). The Depreciation Study covers gas, electric and common  
16 properties in service as of the last date of the previous full calendar year,  
17 December 31, 2006.

1 **Q. Would you please summarize your testimony?**

2 A. My testimony explains the methods and procedures used in the preparation of the  
3 Depreciation Study and set forth the annual depreciation rates that result from the  
4 Depreciation Study. A copy of the Depreciation Study is attached to this  
5 testimony as Exhibit No. \_\_\_(CRC-3). The study includes a comparison between  
6 the existing rates and the recommended rates of the study. Each section of the  
7 study is explained in Part II of my testimony.

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

9 **Q. Please define the concept of depreciation.**

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

17 **Q. In preparing the Depreciation Study, did you follow generally accepted**  
18 **practices in the field of depreciation and valuation?**

19 A Yes. In performing the Depreciation Study, I used the straight line remaining life

1 method of depreciation, with the average service life procedure. I developed  
2 service life and salvage estimates, based on statistical analyses of retirement data,  
3 judgment based on discussions with management and consideration of estimates  
4 made for other electric and gas utilities. Survivor curves were developed for  
5 groups of Company property and used to derive the average remaining life of  
6 each such group. (The survivor curve graphically depicts the amount or  
7 percentage of property existing at each age throughout the life of an original  
8 group.) Iowa-type curves were used to smooth and extrapolate the original  
9 survivor curves. These methods and techniques are generally accepted practices  
10 in the field of depreciation and valuation.

11 **Q. Did you use industry accepted software and programs in developing your**  
12 **analysis of depreciation?**

13 A. Yes I used software and programs developed by Gannett Fleming for analyzing  
14 the historical data; determining average service lives and net salvage rates; and  
15 developing the depreciation calculations. This software and programs are  
16 proprietary to Gannett Fleming but use algorithms that are standard to the  
17 depreciation industry.

18 **Q. Please describe the contents of your report.**

19 A. My Report is presented in three parts. Part I, Introduction, presents the scope and  
20 basis for the Depreciation Study. Part II, Methods Used in the Estimation of

1 Depreciation, includes descriptions of the methods used in the study for the  
2 estimation of survivor curves and net salvage and the calculation of annual and  
3 accrued depreciation. Part III, Results of Study, presents a description of the  
4 results, summaries of the depreciation calculations, graphs and tables that relate to  
5 the service life and net salvage analyses, recommended depreciation rates, and the  
6 detailed depreciation calculations.

7 The table on pages 49 through 55 of Exhibit No. \_\_\_\_ (CRC-3) presents the  
8 estimated survivor curve, the net salvage percent, the original cost (for accounts  
9 as of December 31, 2006), the book reserve, and the calculated annual  
10 depreciation accrual and rate for each account or subaccount. The table on pages  
11 57 through 67 of 470 presents a comparison between the existing depreciation  
12 rates and parameters and those recommended in this Depreciation Study. The  
13 section beginning on page 68 presents the results of the simulated plant analyses  
14 prepared as the historical bases for the service life estimates. The section  
15 beginning on page 191 presents the results of the salvage analysis. The section  
16 beginning on page 271 presents the depreciation calculations related to surviving  
17 original cost as of December 31, 2006.

18 **Q. Please identify the depreciation method that you used.**

19 A. I used the straight line remaining life method of depreciation, with the average  
20 service life procedure. This is the method most commonly used in developing  
21 utility rates in the United States. This method distributes the unrecovered cost of

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

3 **Q. Was the Depreciation Study prepared using the same methodologies as were**  
4 **used in preparing the previous study?**

5 A. Yes, the Depreciation Study was prepared using the same methodologies as were  
6 used in preparing the previous study, except that the Company is proposing  
7 amortization of general plant in this study, with the exception of Structures and  
8 Improvements. The previous study was based on plant in service as of December  
9 31, 2000 and was accepted by the Commission in Company Docket Nos. UE-  
10 011570 and UG-011571.

11 **Q. What are your recommended annual depreciation accrual rates for Puget**  
12 **Sound Energy?**

13 A. My recommended annual depreciation accrual rates are set forth on pages 49  
14 through 56 of the Depreciation Study, Exhibit No. \_\_\_(CRC-3).

15 **Q. How did you determine the recommended annual depreciation accrual rates?**

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

1 based on the service life and net salvage estimates determined in the first phase.

2 **Q. Please describe the first phase of the Depreciation Study, in which you**  
3 **estimated the service life and net salvage characteristics for each depreciable**  
4 **group.**

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

12 **Q. What historic data did you analyze for the purpose of estimating service life**  
13 **characteristics?**

14 A. I analyzed the Company's accounting entries that record plant transactions during  
15 the period 1905 through 2006. The transactions included additions, retirements,  
16 transfers and the related balances. The Company records also included surviving  
17 dollar value by year installed for each plant account as of December 31, 2006.

18 **Q. Please describe the relationship between a survivor curve and service life.**

19 A. A survivor curve graphically depicts the amount of property existing at each age



1 throughout the life of the original group. The average life is obtained by  
2 calculating the area under the survivor curve. This is explained in detail  
3 beginning on page 13 of the Depreciation Study. Every survivor curve has an  
4 associated average service life.

5 **Q. What methods are used to analyze service life data?**

6 A. There are two methods widely used in a typical depreciation study to estimate a  
7 survivor curve for a group of plant assets: the Retirement Rate Method and the  
8 Simulated Plant Balances Method.

9 The Retirement Rate Method is an actuarial method of deriving survivor curves  
10 using the average rates at which property of each age group is retired. This  
11 method relates to property groups for which aged accounting experience is  
12 available or for which aged accounting experience is developed by statistically  
13 aging unaged amounts. This method has been illustrated through the use of an  
14 example in Section II of the Depreciation Study.

15 The Simulated Plant Balance Method is used for property groups for which the  
16 retirements of property by age are not known. However, it does require  
17 continuous records of vintage plant additions and year-end plant balances, which  
18 are available in Puget Sound Energy's accounting system. Puget Sound Energy's  
19 accounting system keeps continuous records of vintage plant additions and year-  
20 end plant balances but does not keep retirement data for mass property accounts  
21 (e.g., poles, towers, and conductors) by the original installation dates. Therefore,

1 the Simulated Plant Balance Method rather than the Retirement Rate Method was  
2 the appropriate method to use, and was used, in the Depreciation Study for all  
3 mass property accounts except general plant.

4 The Simulated Plant Balance Method of life analysis is a statistical procedure by  
5 which experienced average service life and survivor characteristics are inferred  
6 through a series of approximations in which several average service life and  
7 survivor curve combinations are tested. The survivor curve that results in  
8 simulated balances that conform most closely to the book balances may be  
9 considered to be the survivor curve the group under study is experiencing. The  
10 period of years during which the simulated and book balances are compared is  
11 referred to as the term of comparison. For the Depreciation Study, the term of  
12 comparison used was the recorded plant balances from 1987 to 2006.

13 **Q. Please describe your use of the life span technique to estimate the lives of**  
14 **production facilities.**

15 A. I used the life span technique to estimate the lives of electric generation facilities,  
16 manufactured gas facilities, underground storage facilities, and liquefied natural  
17 gas (“LNG”) facilities, for which concurrent retirement of the entire facility is  
18 anticipated. In this technique, the survivor characteristics of such facilities are  
19 described by the use of interim retirement survivor curves and estimated probable  
20 retirement dates. The interim survivor curve describes the rate of retirement  
21 related to the replacement of elements of the facility—e.g., for a building, the

1 retirements of plumbing, heating, doors, windows, roofs, etc.—that occur during  
2 the life of the facility. The probable retirement date is the probable date of final  
3 retirement of the facility. The use of interim survivor curves truncated at the date  
4 of probable retirement of the entire facility provides a consistent method of  
5 estimating the lives of multiple years of installation for a particular facility,  
6 inasmuch as a single concurrent retirement for all the years of installation will  
7 occur when the facility retires.

8 **Q. Has Gannett Fleming used the life span technique in other proceedings?**

9 A. Yes, we have used the life span technique in performing depreciation studies  
10 presented to many public utility commissions across the United States and  
11 Canada.

12 **Q. What are the probable life span determinations in the Depreciation Study?**

13 A. For each of the facilities for which I used the life span technique, the Company  
14 provided me with its anticipated probable retirement date and its basis for such  
15 anticipation. I reviewed this data. Based on my general knowledge and  
16 experience in the industry; based on interviews of Company personnel; and based  
17 on trends in the industry, I determined that these retirement dates were  
18 appropriate for use in the Depreciation Study. The probable retirement date for  
19 each of the facilities is provided in the Depreciation Study at pages 38 and 39.

20 ////

1 **Q. What is an “Iowa-type survivor curve”?**

2 A. Iowa-type curves are a widely used group of generalized survivor curves that  
3 contain the range of survivor characteristics usually experienced by utilities and  
4 other industrial companies. The Iowa curves were developed at the Iowa State  
5 College Engineering Experiment Station through an extensive process of  
6 observing and classifying the ages at which various types of property used by  
7 utilities and other industrial companies had been retired. Iowa-type curves are  
8 used to smooth and extrapolate original survivor curves determined by the  
9 Retirement Rate Method or the Simulated Plant Balance Method.

10 The estimated survivor curve designations for each depreciable property group  
11 indicates the average service life, the family within the Iowa system to which the  
12 property group belongs, and the relative height of the mode. The mode refers to  
13 the frequency of retirements around the average service life. The higher the  
14 mode, the more retirements will occur closer to the average service life. For  
15 example, for a right-moded curve, the greatest frequency of retirements occurs to  
16 the right of, or after, the average service life. A further refinement of the mode  
17 description is added by adding a numerical number referring to the height of the  
18 curve. Thus, for example, the Iowa 50-R2 curve indicates an average service life  
19 of fifty years; a right-moded, or R, type curve; and a moderate height of 2 for the  
20 mode (possible mode heights for R type curves range from 1 to 5).

21 *////*

1 **Q. How did you use Iowa-type survivor curves to estimate the service life**  
2 **characteristics for each property group?**

3 A. Iowa-type curves were used in the Depreciation Study to smooth and extrapolate  
4 original survivor curves determined by the Simulated Plant Balance Method.  
5 Specifically, Iowa curves were used in the Depreciation Study to describe the  
6 forecasted rates of retirement based on the observed rates of retirement and the  
7 outlook for future retirements.

8 **Q. Did you physically observe Puget Sound Energy's plant and equipment as**  
9 **part of your depreciation study?**

10 A. Yes. I held meetings with operating personnel and made field visits to Puget  
11 Sound Energy's property to observe representative portions of plant. Meetings  
12 and field reviews were conducted to become familiar with Company operations  
13 and to obtain an understanding of the function of the plant and information with  
14 respect to the reasons for past retirements and the expected future causes of  
15 retirements. This knowledge as well as information from other discussions with  
16 management and other Company personnel was incorporated in the evaluation,  
17 interpretation and extrapolation of the statistical analyses. Meetings were held  
18 with Puget Sound Energy personnel from Information Technology, System  
19 Operations, System Maintenance, System Planning, Communications,  
20 Accounting, and Revenue Requirements.

1 **Q. What facilities did you observe?**

2 A. I visited the following facilities and observed operations and maintenance  
3 practices at each location:

- 4 • Factoria Service Center
- 5 • Snoqualmie Hydro Facility
- 6 • Frederickson 1 Combined Cycle Facility
- 7 • Frederickson CTs
- 8 • Electron Hydro Facility
- 9 • Gig Harbor LNG Facilities
- 10 • South Seattle Gate Station
- 11 • Redondo Substation
- 12 • S. Des Moines Cable Station
- 13 • Midway/Freeway Switching Yard
- 14 • Bowlake Substation
- 15 • General Office Building

16 **Q. Would you please explain the concept of “net salvage”?**

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

22 Inasmuch as depreciation expense is the loss in service value of an asset during a  
23 defined period, e.g., one year, it must include a ratable portion of both the original  
24 cost and the net salvage. That is, the net salvage related to an asset should be  
25 incorporated in the cost of service during the same period as its original cost so  
26 that customers receiving service from the asset pay rates that include a portion of

1 both elements of the asset's service value, the original cost and the net salvage  
2 value.

3 For example, the full recovery of the service value of a \$100 meter will include  
4 not only the \$100 of original cost, but also, on average, \$45 to remove the meter  
5 at the end of its life and \$15 in salvage value. In this example, the net salvage  
6 component is negative \$30 ( $\$15 - \$45$ ), and the net salvage percent is negative  
7 30% ( $(\$15 - \$45)/\$100$ ).

8 **Q. Please describe the criteria you used to estimate net salvage percentages.**

9 A. I reviewed net salvage data for the period 1998 - 2006. Cost of removal and  
10 salvage were expressed as percent of the original cost of plant retired, both on an  
11 annual basis and a three-year moving average basis. The most recent five-year  
12 average was also calculated.

13 **Q. Were there other considerations used in developing your final estimates for  
14 net salvage?**

15 A. Yes. After applying the above-mentioned criteria to each account, I considered  
16 any information provided to me by the Company personnel in operation and  
17 maintenance; general knowledge and experience of the industry practices; and  
18 trends in the industry in general.

19 ////

1 **Q. Do the depreciation rates used for electric generating facilities have a**  
2 **component for dismantling?**

3 A. There were no site-specific decommissioning studies performed for any of the  
4 Puget Sound Energy production facilities. The net salvage data for production  
5 facilities only reflects interim retirement activity.

6 The net salvage percent I used for production facilities includes some amount for  
7 final decommissioning. For example, for Colstrip coal plant the interim  
8 retirements from 1998 to 2006 reflected very little salvage or cost of removal;  
9 however, I used negative 10 percent to allow for some decommissioning at the  
10 end of the life of the plant. (Electric production facilities with site-specific  
11 decommissioning studies often reflect net salvage much higher than negative 10  
12 percent—for example, negative 50 percent.)

13 **Q. Please describe the second phase of the process that you used in the**  
14 **Depreciation Study, in which you calculated composite remaining lives and**  
15 **annual depreciation accrual rates.**

16 A. In the second phase of the process, I calculated the composite remaining lives and  
17 annual depreciation accrual rates based on the service life and net salvage  
18 estimates determined in the first phase. After I estimated the service life and  
19 determined net salvage characteristics to use for each depreciable property group,  
20 I calculated the annual depreciation accrual rates for each group based on the  
21 straight line remaining life method, using remaining lives weighted consistent



1 with the average service life procedure. The annual depreciation accrual rates  
2 were developed as of December 31, 2006.

3 **Q. Please describe the straight line remaining life method of depreciation.**

4 A. The straight line remaining life method of depreciation allocates the original cost  
5 of the property, less accumulated depreciation and less future net salvage, in equal  
6 amounts to each year of remaining service life.

7 **Q. Please describe the average service life procedure for calculating remaining  
8 life accrual rates.**

9 A. The average service life procedure defines the group for which the remaining life  
10 annual accrual is determined. Under this procedure, the annual accrual rate is  
11 determined for the entire group or account based on its average remaining life,  
12 and this rate is applied to the surviving balance of the group's cost. The average  
13 remaining life of the group is calculated by first dividing the future book accruals  
14 (original cost less allocated book reserve and less future net salvage) by the  
15 average remaining life for each vintage. The average remaining life for each  
16 vintage is derived from the area under the survivor curve between the attained age  
17 of the vintage and the maximum age. Then, the sum of the future book accruals is  
18 divided by the sum of the annual accruals to determine the average remaining life  
19 of the entire group for use in calculating the annual depreciation accrual rate.

20 ////

1 **Q. Please use an example to illustrate the development of the annual**  
2 **depreciation accrual rate for a particular group of property in your**  
3 **depreciation study.**

4 A. Certainly. For purposes of illustrating this process I will use Account 364-Poles,  
5 Towers, and Fixtures. I've selected this account because it is one of the largest  
6 depreciable groups.

7 Plant accounting data have been compiled for the years 1912 to 2006. The  
8 additions, retirements, other plant transactions, and balances were analyzed by  
9 using the Simulated Plant Balances Method. The survivor curve estimate is based  
10 on addition, retirement, transfer, and balance data for the period 1912 to 2006,  
11 and balances for a 20-year period, 1987 to 2006. In my experience, a 20-year  
12 period is commonly used for such a comparison of balances. A number of  
13 alternative survivor curves were applied to the group's historical additions in  
14 order to simulate the group's surviving balances between 1987 and 2006. In this  
15 case, the best fitting curve, the 40 R1.5, fit the balances very well. The matching  
16 of simulated balances to book balances for this account is shown on pages 120  
17 and 121 of the Depreciation Study.

18 The net salvage percent used for this account is negative 30 percent. This  
19 percentage is based on the aforementioned criteria for developing net salvage  
20 percentages. As shown on page 219, net salvage has been negative since 1998.

21 The five-year average on page 219 shows negative 25 percent; the last five years

1 of a three year moving average shows negative net salvage ranging from negative  
2 22 to negative 74 percent. (This is consistent with the indication by Company  
3 personnel that removal costs have generally been increasing.) Considering all this  
4 information, I used negative 30 percent for this account.

5 My calculation of the annual depreciation related to original cost of Account 364,  
6 Poles, Towers, and Fixtures, at December 31, 2006, is presented on pages 370 of  
7 470 through 372 of 470 of the Depreciation Study. The calculation is based on  
8 the 40 R1.5 survivor curve, negative 30% net salvage, the attained age, and the  
9 allocated book reserve. The tabulation sets forth the installation year, original  
10 cost, calculated accrued depreciation, allocated book reserve, future accruals,  
11 remaining life and annual accrual. These totals are brought forward to the table  
12 on page 53 of 470.

13 **Q. Were you able to develop results for every account in the Company using the**  
14 **Simulated Plant Balance Method?**

15 A. The above-mentioned Simulated Plant Balance Method was performed on every  
16 account except the general plant accounts, for which I used amortization. The  
17 Simulated Plant Balance Method was also used to develop interim retirement  
18 curves for life span properties.

19 For those accounts with limited applicable data and limited historical experience,  
20 information obtained from Company personal, comparisons to experience of other  
21 utilities, and my experience and knowledge in the utility industry were factored

1 into the final results.

2 **Q. Was the Simulated Plant Balance Method applied to life span properties?**

3 A. The above-mentioned Simulated Plant Balance Method was applied to life span  
4 properties. (As previously mentioned, life span property has a specific retirement  
5 date for the entire facility.) The Simulated Plant Balance Method was used to  
6 develop interim retirements of these properties. An interim survivor curve was  
7 estimated for each plant account using the above-mentioned criteria and then the  
8 survivor curve was truncated at the end of the life span developed for each  
9 property group

10 **Q. What were the overall results of your life analysis?**

11 A. The overall results of the Depreciation Study showed an increase in average  
12 service lives for most accounts as compared with the previous study. This is a  
13 result of equipment generally staying in service longer and fewer retirements  
14 being made. This is typical of the utility industry today.

15 **Q. You mentioned that you did not use the Simulated Plant Balance Method for**  
16 **General Plant. What method did you use to develop lives for General Plant**  
17 **accounts?**

18 A. Amortization accounting was used for all General Plant accounts except for  
19 Structures and Improvements.

1 **Q. Please describe amortization accounting.**

2 A. In amortization accounting, units of property are capitalized the same as they are  
3 in depreciation accounting. Retirements are recorded when a vintage is fully  
4 amortized, rather than when the units are removed from service as is the case in  
5 Depreciation Accounting. In amortization accounting, each plant account or  
6 group of assets is assigned a fixed period representing the anticipated life during  
7 which the assets will render service. For example, in amortization accounting,  
8 assets that have a ten-year amortization period will be fully recovered after ten  
9 years of service, retired, and taken off the Company books.

10 **Q. What is the reason for the Company to request a change to amortization**  
11 **accounting for these accounts?**

12 A. General Plant accounts contain large numbers of units with very small asset  
13 values. Therefore, depreciation accounting and its attendant asset tracking and  
14 reporting requirements are time consuming and costly for these assets.  
15 Amortization accounting provides a better result for these accounts because it  
16 allows the Company to manage the costs of small assets in a more cost-effective  
17 manner.

18 **Q. How were the amortization periods determined?**

19 A. The amortization periods used in this Depreciation Study were based on judgment  
20 that was informed by consideration of i) the periods during which the assets will

1 render service, ii) the historical life analysis, iii) the amortization periods and  
2 service lives used by other utilities for this type of property, iv) discussions with  
3 Company personnel, and v) the service life estimates previously used for the asset  
4 under depreciation accounting.

5 **Q. Have other utilities utilized this methodology for General Plant?**

6 A. Yes. Many utilities in the United States have received approval to adopt  
7 amortization accounting for these types of accounts. In January 1997, the Federal  
8 Energy Regulatory Commission issued Accounting Release 15, which granted  
9 approval for utilities to use amortization accounting for General Plant accounts.

10 **Q. How has depreciation expense changed from that in the previous study**  
11 **accepted by the Commission?**

12 A. The current depreciation rates were developed based on data as of December 31,  
13 2000, and were accepted by this Commission in Docket Nos. UE-011570 and  
14 UG-011571. The latest study as set forth in the Depreciation Study is based on  
15 plant in service as of December 31, 2006, and shows that there are a number of  
16 warranted changes to average service lives and net salvage rates that would cause  
17 changes in annual depreciation rates and expenses.

18 ////

19 ////

1 **Q. Can you compare the annual depreciation expenses generated from your**  
2 **Depreciation Study with the annual depreciation expenses generated from**  
3 **the previous study?**

4 A. Such a comparison is difficult because a number of parameters have changed  
5 between the last study as of December 31, 2000, and the Depreciation Study as of  
6 December 31, 2006. Pages 57 through 67 of the Depreciation Study shows a  
7 rough comparison of depreciation expense, assuming for purposes of the  
8 comparison plant in service as of December 31, 2006, and applying the  
9 depreciation rates from the 2000 study and applying the depreciation rates from  
10 this Depreciation Study to that same plant in service. In other words, the  
11 comparison tables on pages 57 through 67 of the Depreciation Study simply  
12 compare the plant investment at December 31, 2006, multiplied by the current  
13 depreciation rates and the new depreciation rates.

14 Because I used amortization accounting for General Plant accounts, it was  
15 necessary to include the annual amortization directly from the Depreciation Study  
16 as the new depreciation expense in the comparison tables

17 **Q. With the difficulty of making the comparison in mind, please discuss the**  
18 **differences in depreciation expense from the comparison tables you**  
19 **developed in the Depreciation Study.**

20 A. Electric Plant showed an overall increase in annual depreciation expense from the  
21 2000 study to the Depreciation Study of \$5.8 million, with \$4.8 million of that

1 being in general plant. Some classes of plant showed increases, and some classes  
2 of plant showed decreases in annual depreciation expense. The changes and  
3 reasons for changes for each class of plant in Electric Plant may be summarized  
4 as follows:

- 5 • Steam Production Annual Depreciation Expense increased by \$3.1  
6 million due to decreases in the average service lives for two of the  
7 largest accounts, an increase in net salvage for one account, and the  
8 addition of two new steam locations since the 2000 Study.
- 9 • Hydro Production Annual Depreciation Expense decreased by \$6.6  
10 million due to increases in the life spans for all hydro facilities except  
11 Electron, for which the life span was shortened. Also, the average  
12 service lives for some accounts decreased.
- 13 • Other Production Plant Annual Depreciation Expense increased by  
14 \$1.7 million, with \$1.2 million of that due to the addition of wind farm  
15 facilities and a combined cycle plant. The remainder was due to minor  
16 changes.
- 17 • Transmission Plant Annual Depreciation Expense decreased by \$0.9  
18 million due to a combination of increased net salvage and increased  
19 average service lives for various accounts.
- 20 • Distribution Plant Annual Depreciation Expense increased by \$3.7  
21 million mainly due to the decrease in average service life for two large  
22 accounts and overall increase in distribution net salvage.
- 23 • General Plant Annual Depreciation Expense increased by \$4.8 million  
24 mainly due to a decrease in average service life for Communication  
25 equipment and an increase in net salvage for Structures and  
26 Improvements.

27 **Q. Were there large increases in Gas Plant annual depreciation expense similar**  
28 **to Electric Plant annual depreciation expense?**

29 A. Yes. Gas Plant showed an overall increase in annual depreciation expense from



1 the 2000 study to the Depreciation Study of \$14.5 million. There was an \$8.4  
2 million increase in General Plant and an \$ 7.8.million change in Distribution for  
3 the Services Account. The changes and reasons for changes for each class of  
4 plant in Gas Plant may be summarized as follows:

- 5 • Manufactured Gas Production Annual Depreciation Expense  
6 decreased by \$0.3 million due to a decrease in net salvage.
- 7 • Underground Storage Annual Depreciation Expense decreased \$0.3  
8 million due a decrease in the average service life and an increase in the  
9 life span.
- 10 • Liquefied Natural Gas Plant Annual Depreciation Expense decreased  
11 due to development of new rates for this plant, as it was recently  
12 placed in service using composite depreciation rates and was not  
13 included in the last depreciation study.
- 14 • Transmission Plant Annual Depreciation Expense decreased due to  
15 reclassification of transmission plant as distribution plant.
- 16 • Distribution Plant Annual Depreciation Expense increased \$ 7.8  
17 million. There was a large increase in net salvage for the Services  
18 account. There were several other accounts for which the net salvage  
19 was decreased; however, Services is one of the largest accounts in this  
20 class of plant, and the increase in net salvage for this account caused  
21 the depreciation expense for this class to increase.
- 22 • General Plant Annual Depreciation Expense increased by \$8.4 million,  
23 \$5.7 million of that due to the fact that the life for Computers was  
24 reduced from 27 years to 5 years. The remainder of the decrease was  
25 the result of a shortening of average serve life for several accounts.

26 **Q. Please describe any changes in Common Plant?**

27 A. Common Plant showed an overall increase in annual depreciation expense from  
28 the 2000 study to this Depreciation Study of \$16.4 million, with an \$11.4 million  
29 increase for Computer Equipment (for which the service life decreased from 19

1 years to 5 years) and a \$4 million increase for Communication Equipment (for  
2 which the service life decreased from 20 years to 15 years). The remainder of the  
3 increase was due to increasing net salvage and decreasing the service life for  
4 several accounts.

5 **III. CONCLUSION**

6 **Q. Does this conclude your direct testimony?**

7 **A. Yes.**