DIRECT TESTIMONY OF

JACOB POUS

ON BEHALF OF THE STAFF OF THE UTILITY REFORM NETWORK

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TABLE OF ACRONYMS

AICPA	American Institute of Certified Public Accountants
ALG	Average Life Group
APFD	Accumulated Provision for Depreciation
ASL	Average Service Life
CFR	Code of Federal Regulations
CPUC or Commission	California Public Utilities Commission
DUCI	Diversified Utility Consultants, Inc.
FERC	Federal Energy Regulatory Commission
HMWPE	High Molecular Weight PE
NARUC	National Association of Regulatory Utility Commissioners
PG&E	Pacific Gas and Electric Company
PILC	Paper Insulated Lead Cover
REI	Retirement Experience Index
SCE or Company	Southern California Edison
SPR	Simulated Plant Record Balance Method
TDBU	Transmission and Distribution Business Unit
TR-XLPE	Tree-retardant XLPE
TURN	The Utility Reform Network
TYDS	Test Year Depreciation Study
USOA	Uniform System of Accounts

SECTION I: QUALIFICATIONS, INTRODUCTION, AND OVERVIEW

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jacob Pous and my business address is 12113 Roxie Drive, Suite 110, Austin, Texas 78729.

Q. WHAT IS YOUR OCCUPATION?

A. I am a principal in the firm of Diversified Utility Consultants, Inc. ("DUCI"). A copy of my qualifications appears as Attachment 1.

Q. PLEASE DESCRIBE DIVERSIFIED UTILITY CONSULTANTS, INC.

A. DUCI is a consulting firm located in Austin, Texas, with an international client base. The personnel of DUCI provide engineering, accounting, economic, and financial services to its clients. DUCI provides utility consulting services to municipal governments with utility systems, to end-users of utility services, and to regulatory bodies such as state public service commissions. DUCI provides complete rate case analyses, expert testimony, negotiation services and litigation support to clients in electric, gas, telephone, water, sewer, and cable utility matters.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN PUBLIC UTILITY PROCEEDINGS?

A. Yes. Attachment 1 also includes a list of proceedings in which I have previously presented testimony. In addition, I have been involved in numerous utility rate proceedings that resulted in settlements before testimony was filed. In total, I have participated in well over 300 utility rate proceedings in the United States and Canada.

Q. WHAT IS YOUR PROFESSIONAL BACKGROUND?

A. I am a registered professional engineer. I am registered to practice as a Professional Engineer in the states of Florida, Texas, Mississippi, North Carolina, Arizona, New Mexico, Arkansas, Oklahoma, and Louisiana.

Q. ON WHOSE BEHALF ARE YOU PROVIDING THIS TESTIMONY?

A. I am testifying on behalf of the staff of The Utility Reform Network ("TURN").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address several depreciation issues raised by Southern California Edison ("Company" or "SCE") in its 2003 General Rate Case filing submitted to the California Public Utilities Commission ("Commission"). My testimony will address the following depreciation issues: (1) Mass property average service life ("ASL"), (2) Mass property net salvage, and (3) Four Corners generating facility depreciation.

Q. PLEASE PROVIDE AN OVERVIEW OF YOUR TESTIMONY.

A. The Company initially proposed depreciation rates that would produce a total of $786.3 million of depreciation and amortization expense as estimated for 2003.[1] The Company's initial request represented an approximate $77 million increase due solely to the impact of its proposed new depreciation rates as developed in its depreciation study ending with plant through December 2000.[2] This figure was reduced to a $70 million increase after correction of an error in the Company's salvage analysis.[3] As shown on Attachment 2, it appears that the adjustment should have been $9.2 million rather than $7 million. After review of the Company's filing, workpapers, data responses, other available information, and applying my judgment and experience, I conclude that the Company's request is excessive. I recommend an alternative $583.1 million level of depreciation and amortization expense for 2003, as shown on Attachment 3. My recommendation represents a $194.1 million reduction to the Company's request as modified in Attachment 2. Compared to the existing depreciation and amortization expense, my recommendation represents a $117.8 million reduction for 2003, as shown on Attachment 4. The key points associated

[1] SCE-8, Chapter XI, Part 1, workpaper page 5.

[2] Id. at page 20.

[3] In mid-August, 2002, TURN served a data request asking Edison to reconcile the retirements utilized in the life analysis with the salvage analysis portion of the Company's depreciation study. Shortly thereafter, the Company's depreciation witness contacted TURN's witness and informed him that the data request had caused

with the issues and corresponding approximate stand-alone impacts of each are as follows:

- Mass Property ASL – The Company generally relied on a combination of statistical life analyses, interviews with technical and operational personnel of the Company, and reliance on industry depreciation statistics for its proposed ASL and corresponding dispersion curve.[4] While the Company never identified the specific factors which led it to its ultimate life analysis proposals for each account, it seems to have picked and chosen items of information from each of the above three categories. A review of the various areas identifies numerous problems with the Company's proposed life parameters for mass property. In particular, the Company regularly ignored the best fitting statistical results of its life analyses and inappropriately interpreted information from in-house technical operational personnel to arrive at inadequate ASLs. I have recommended longer ASLs and/or different dispersion patterns for 9 accounts, while reducing the ASL for 1 account. As shown on Attachment 5, the combined impact of the various mass property life recommendations results in a $60 million reduction to 2003 depreciation expense on a stand-alone basis.
- Mass Property Net Salvage – The Company's depreciation includes over $5.6 billion of negative net salvage related to mass property over the life of the investment. The Company's request represents a $3.253 billion, or approximately 74% increase in negative net salvage when compared to the existing salvage levels, both as applied to plant as of the end of 2000.[5] In this area of the depreciation study, it appears the Company has generally ignored its review of industry information since the Company's proposals in many instances are much more negative than the industry or even the "Pacific coast" subset of the industry. Further, the Company relied upon certain statements from technical or operational personnel that are unsupported and fail to provide adequate support for the proposed changes. Finally, the historical database upon which the Company relies for its Company-specific statistical analysis is flawed. Instead of recognizing portions of the accumulated provision for depreciation ("APFD") in a manner that would appropriately lessen the negative level of net salvage or increase the positive level of net salvage, the Company

Edison to recognize an error in the service lives analysis, and that a revised life analysis portion of its depreciation study would be forthcoming.

[4] A life-curve pattern combination is required to calculate a remaining life depreciation rate as relied on by the Company. A more detailed discussion of a life analysis for mass property is presented later.

[5] SCE-8, Chapter XI, Part 1, workpaper pages 134, 135, 138, and 139.

categorizes them as "other" and generally excludes them from the net salvage calculation. In addition, the Company's historical database arbitrarily allocates costs incurred in replacement activity to cost of removal rather than as a component of the cost of the new installation. These as well as other concerns require adjustments to the Company's various net salvage proposals. Based on a review of all the information, and my experience and judgment, I recommend adjustments to net salvage for 10 mass property accounts. As shown on Attachment 6, the combined impact of these various adjustments results in a $148.7 million annual reduction to depreciation expense for 2003 on a stand-alone basis.

- Combined Impact of Mass Property Recommendations – The total impact of the life and net salvage mass property recommendations is not simply the sum of each component on a stand-alone basis. If the life is changed for an account, it affects the annual level of net salvage collected. As shown on Attachment 7, the combined impact on mass property depreciation expense due to my recommendations is a $184.5 million reduction for calendar year 2003 as compared to SCE's revised proposal.
- Four Corners Generating Facility – The Company requests $9.6 million of annual depreciation expense for its Four Corners generating station.[6] The life and salvage analyses associated with this investment differ from those performed for mass property accounts. The Company has assumed a 45-year life span (date of installation to date of ultimate retirement), a .0025 annual interim retirement rate, and an approximate corresponding negative 5% net salvage.[7] After review of the Company's request, I recommend a suspension of all recovery of depreciation expense corresponding to this investment as a conservative recommendation in favor of the Company. This would result in a $9.6 million reduction to depreciation expense for 2003.

  The Company's recent experience with generating facilities would normally require a negative depreciation expense or an equivalent amortization credit for previously over-collected depreciation expense. The Company's recent plant sales, and particularly the sale price established for the aborted sale of Four Corners, should eliminate any doubt that the plant would sell for at least its book value, and likely substantially more. It is inconsistent to have charged customers negative net salvage historically, and to now propose to charge customers additional

[6] SCE-8, Chapter XI, Part 1, workpaper page 16.
[7] Id. at page 137.

negative net salvage in the future, when the Company and the industry have clearly demonstrated these generating facilities are very likely to produce significant levels of positive net salvage. This portion of my testimony also reflects alternative recommendations in the event that the Commission desires to take an even more conservative approach in favor of the Company in this proceeding. The alternative recommendation increases the life span from 45 to 50 years, while setting net salvage at zero rather than a positive value. As shown on Attachment 8, the alternative recommendation would result in a $5.9 million level of depreciation expense for the Four Corners generating facility, or a $3.8 million reduction in depreciation expense for 2003.

SECTION II: DEPRECIATION

Q. WHAT IS DEPRECIATION?

A. There are several definitions of depreciation. Two definitions that are commonly referenced are one from the Federal Energy Regulatory Commission ("FERC") and one from the American Institute of Certified Public Accountants ("AICPA"). The FERC definition for depreciation is as follows:

> 'Depreciation', as applied to depreciable plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities, and in the case of natural gas companies, the exhaustion of natural resources.

The AICPA definition is similar and follows:

> Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any) over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation. Depreciation for the year is a portion of the total charge under such a system that is allocated to the year. Although the allocation may properly take into account occurrences during the year, it is not intended to be a measurement of the effect of all such occurrences.

Q. WHAT ARE THE TWO GENERAL FORMULAE USED IN DETERMINING DEPRECIATION RATES?

A. The whole life and the remaining life technique are the most common used. The whole life technique is as follows:[8]

$$\text{Depreciation Rate (\%)} = \left[\frac{\frac{\text{Original Cost - Net Salvage}}{\text{Average Service Life}}}{\text{Original Cost}} \right]$$

The remaining life technique for calculating depreciation rates is as follows:

$$\text{Depreciation Rate (\%)} = \left[\frac{\text{Original Cost-Accumulated Provision for Depreciation-Net Salvage}}{\text{Remaining Life}} \right] \Big/ \text{Original cost}$$

The two formulas should equal each other when the difference between the theoretical reserve and the actual accumulated provision for depreciation are recovered over the remaining life of the investment under the whole life formula.

Q. ARE THERE ADDITIONAL CONSIDERATIONS IN DEPRECIATON BEYOND THE DEFINITIONS?

A. Yes. The definitions provide only a general outline of the overall utility depreciation concept. In order to arrive at a depreciation-related revenue requirement in a rate proceeding, a depreciation system must be established.

Q. WHAT IS A DEPRECIATION SYSTEM?

A. A depreciation system constitutes the method, procedure, and technique employed in the development of depreciation rates.

Q. BRIEFLY DESCRIBE WHAT IS MEANT BY METHOD.

[8] A theoretical depreciation reserve calculation is developed and compared to the actual accumulated provision for depreciation in conjunction with the whole life technique. If the differential is significant, an amortization of the differential for some period of time may be recommended.

A. Method identifies whether a straight-line, liberalized, compound interest, or other type of calculation is being performed. The straight-line method is normally employed for utility depreciation proceedings.

Q. BRIEFLY DESCRIBE WHAT IS MEANT BY PROCEDURE.

A. Procedure identifies a calculation approach or grouping. For example, procedures can reflect the grouping of only a single item, items by vintage (year of addition), items by broad group or total grouping, and equal life groupings. The average life group ("ALG") procedure is used by the vast majority of both electric and gas utilities.

Q. PLEASE BRIEFLY DESCRIBE WHAT IS MEANT BY TECHNIQUES.

A. There are two main categories of techniques with various sub-groupings. The two main categories are the whole life technique and the remaining life technique. The whole life technique simply reflects calculation of a depreciation rate based on the whole life (e.g., a ten year life would imply a ten percent depreciation rate over the life of a plant). Alternatively, the remaining life technique recognizes that depreciation is a forecast or estimation process which is never precisely accurate and requires true-ups in order to recover only 100% of what a utility is entitled to over the entire life of the investment. Therefore, as time passes, the remaining life technique attempts to recover the remaining unrecovered balance over the remaining life or other period of time. Most utilities rely on a remaining life technique in utility rate matters.

Q. DO THE METHODS, PROCEDURES, AND TECHNIQUES INTERACT WITH ONE ANOTHER?

A. Yes. Different depreciation rates will result depending on what combination of method, procedure, and technique is employed. The difference will occur even when beginning with the same average service life and net salvage values.

Q. WHAT IS NET SALVAGE?

A. Net salvage represents gross salvage obtained associated from retired property less the cost of removal. Net salvage can either be positive in cases where gross salvage exceeds cost of removal, or negative in cases where cost of removal is greater than gross salvage.

Q. HOW DOES NET SALVAGE IMPACT THE CALCULATION OF DEPRECIATION?

A. The intent of the depreciation process is to allow the Company to recover 100% of investment less net salvage. Therefore, if net salvage is a positive 10%, then the utility should only recover 90% of its investment through annual depreciation charges, under the theory that it will recover the remaining 10% through net salvage at the time the asset retires (e.g., 90% + 10% = 100%). Alternatively, if net salvage is a negative 10%, then the utility should be allowed to recover 110% of its investment through annual depreciation charges so that the negative 10% net salvage that is expected to occur at the end of the property's life will still leave the utility whole (i.e., 110% - 10% = 100%).

Q. WHAT ARE THE KEY ELEMENTS OF THE DEPRECIATION FORMULAE AT ISSUE IN THIS PROCEEDING?

A. The ASL, the remaining life and net salvage parameters in the above formulas are at issue. The establishment of each of these is a function of the analysis performed, the interpretation of the data, the judgment and experience of the analyst, and other relevant information.

Salvage value or net salvage is the gross salvage amount received (usually in the form of proceeds from the sale of the retired plant) less the cost of removing the item, with limitation. Net salvage can either be negative or positive, depending on whether the gross salvage or cost of removal is greater. Positive gross salvage reduces depreciation expense while negative net salvage increases depreciation expense.

Q. ARE THERE PROBLEMS WITH THE DEPRECIATION STUDY?

A. Yes. There are numerous problems. The Company has deviated from supportable and well-reasoned depreciation positions and has turned to reliance on vague or generalized statements for its proposals. The reliance on positions that are not supportable artificially increases total depreciation expense by approximately $70 million above what would have been the case if the existing depreciation rates were relied on. In fact, many of the Company's proposed net salvage levels exceed the most negative levels reported by other utilities in the industry survey it relied on. The new 2000 Test Year Depreciation Study ("TYDS") overstates the level of negative salvage and understates the average service life for many mass property accounts.

SECTION III: MASS PROPERTY LIFE ANALYSIS

1. General

Q. WHAT IS THE PURPOSE OF THE LIFE PORTION OF A DEPRECIATION ANALYSIS?

A. The purpose of a life analysis is to determine the ASL, the dispersion pattern, and remaining life for each account or subaccount. This information is necessary in order to properly perform the depreciation calculation previously noted. A longer ASL normally results in a longer remaining life and therefore in a lower depreciation expense. Alternatively, a shorter ASL will normally reduce the remaining life and increase depreciation expense. The dispersion pattern is also important, as it is critical in the overall selection process of the best fitting results. The same ASL with different Iowa survivor curves also results in different remaining lives. Attachment 9 sets forth basic information relating to Iowa survivor curves that are used in the life analysis process.

Q. WHAT ARE THE MAIN TOOLS UTILIZED IN PERFORMING LIFE ANALYSES?

A. Life analyses are normally performed either through the use of actuarial or semi-actuarial analyses. Actuarial analyses rely on aged data. In other words, when an item of property is retired the age at retirement is known. This is identical to the type

of analysis performed by insurance companies in obtaining life tables in order to establish premiums. Semi-actuarial analyses are performed in instances when the age of plant retired is not known.

Q. WHAT METHOD DID THE COMPANY USE?

A. The Company employed a semi-actuarial analysis. The semi-actuarial analysis relied upon is the Simulated Plant Record Balance method ("SPR"). This approach relies on simulated generic Iowa survivor curves with a corresponding ASL. The simulation matches the best interrelationship of additions, retirements and balances on an annual basis. The lowest sum of least squared differences between actual balances and simulated balances, based on an assumed curve and life combination, produce a potential range of results from which to estimate the future pattern of retirements for the current investment.

Q. IN PERFORMING SPR ANALYSES, ARE THERE VARIOUS ALTERNATIVES AVAILABLE?

A. Yes. Some of the key alternatives or assumptions are the number of experience bands or which bands to rely upon, the length of experience bands to rely upon, as well as what criteria should be employed to rank and determine the best fitting results of each SPR analysis.

Q. WHAT ARE EXPERIENCE BANDS?

A. Experience bands are simply the time period in which historical retirement activity is reviewed. For example, plant placed in service from 1910 through 2000 would form a placement band (i.e., the historical data base). A full experience band would simulate the retirement activity over the full time frame 1910 through 2000. Alternatively, a 10 year experience band might still rely on the full placement band but only review the annual retirement activity for the period 1991 through 2000. By reviewing varying lengths of experience bands, one can identify trends and/or changing patterns in life characteristics.

Q. WHAT EXPERIENCE BANDS DID THE COMPANY SELECT?

A. The Company selected six (6) experience bands; 5, 10, 15, 20, 30 and 40-year periods.

Q. WHAT CRITERIA ARE AVAILABLE FOR MEASURING THE ACCEPTABILITY OF SPR RESULTS?

A. There are two general criteria relied upon in selecting the best fitting results of an SPR analysis. These criteria fall into two categories. One is a conformance index or a comparable index titled the index of variation. These indices measure the sum of squared difference between the actual balances over time versus the simulated balances over time. The second category of criteria relied upon is the Retirement Experience Index ("REI"). The REI attempts to measure the robustness of the simulation. In other words, it attempts to measure what portions of the oldest additions are reflected in the results of the analysis. The REI in effect measures the quantity and quality of the information relied upon to develop the index of variation. This particular index will be discussed in greater detail later.

Q. HAVE YOU REVIEWED THE COMPANY'S ANALYSIS?

A. Yes. I have reviewed the Company's analysis and find it to be generally inappropriate. The following is a brief summary of the main problems I have identified.

- In many instances, the Company has chosen to ignore the best fitting statistical curves (based on conformance index) from its own analyses. While it is appropriate to ignore better fitting statistical curves in some instances, it should only be done with a specific explanation detailing the basis for such an approach. The Company consistently failed to provide an adequate explanation.
- The Company calculates an REI, but claims it was not used "as a basis for selecting a proper mortality dispersion."[9] The Company's statements and actions indicate either a lack of adequate depreciation expertise, or a failure to correctly apply that expertise.

[9] Company's response to TURN 3-3c.

Q. BASED ON YOUR REVIEW OF THE COMPANY'S LIFE ANALYSES, ARE YOU RECOMMENDING ADJUSTMENTS?

A. Yes. I am recommending adjustments for 10 accounts. My recommendations, as well as the Company's proposals for each of the accounts where a change is being made are summarized in the table below.

ACCOUNT DESCRIPTION	SCE CURVE	SCE ASL	TURN CURVE	TURN ASL
353 Transmission Station Equipment	R1	40	R0.5	49
355 Transmission Poles & Fixtures	R1	45	R0.5	49
356 Transmission Overhead Conductors & Devices	R0.5	45	R4	48
362 Dist. Station Equipment	R1	45	R0.5	49
366 Dist. Underground Conduit	S6	45	R2.5	50
367 Dist. Underground Conductors & Devices	R1	35	R0.5	43
369 Distribution Services Overhead	R1	35	R0.5	44
370 Distribution Meters	R2	30	S3	28
373 Distribution Streetlighting-Lamps	R0.5	35	R0.5	38
390 General Structures & Improvements	R5	30	S2	50

The combined impact of the various adjustments I recommend above result in a stand-alone impact of $60 million annually based on plant as of 2003.

2. <u>Statistical Selection Criteria</u>

Q. WHAT STATISTICAL SELECTION CRITERIA DID THE COMPANY EMPLOY FOR ITS ASL CURVE COMBINATION PROPOSAL?

A. The Company relies on the index of variation.[10] The index of variation ranks the results of each ASL and Iowa survivor curve combination analyzed based on the least sum of squared difference between the actual balances and the simulated balances.

[10] SCE-8, Chapter XI, Part 1, workpaper page 10.

While the Company also states that it relied on the REI, it simultaneously claims that it did not rely on the REI for the selection of the mortality dispersion.[11]

Q. DO YOU AGREE WITH THE COMPANY REGARDING HOW THE REI SHOULD BE UTILIZED?

A. No. The Company claims that it utilized the REI "as a basis to assess the adequacy of the historical retirement data, but not as a basis for selecting a proper mortality dispersion."[12] This information was provided in response to a request for identification of each life-curve combination that was altered from reliance on the index of variation due to the REI. In other words, the Company claims that the REI was not relied upon to modify the life-curve combination it believes was the better statistical fit. In my opinion, this is inappropriate.

Q. PLEASE EXPLAIN FURTHER.

A. The REI must be reviewed prior to placing any weight on the index of variation results from a SPR analysis. The REI in effect measures the quantity and quality of the information relied upon to develop the index of variation. To illustrate the function served by the REI, consider the degree of reliance placed upon pulling one black marble out of a bag of 1,000 marbles. This sample of one tells very little of the entire unknown population representing the remaining 999 marbles. Yet one could use it to predict the result that the bag could contain all black marbles. Realistically, no reliable conclusion can be drawn from the limited sample. Alternatively, if 35 marbles were sampled from the bag and all marbles were black then the same conclusion previously drawn that all marbles in the bag are black would have a much greater degree of importance. The REI in effect measures the number of marbles being sampled compared to the total population and gives an indication as to the robustness of the sample results.

Q. ARE YOU AWARE OF A PARTICULAR AUTHORITATIVE SOURCE WHICH CONFIRMS THAT REI INFORMATION IS CRITICAL?

[11] Id., and Company response to TURN 3-3c.

A. Yes. The individual who developed the SPR method relied upon by the Company, Mr. Alex Bauhan, authored an appendix to *The Methods of Estimating Utility Plant Life,* a publication by the Depreciation Accounting Committee, Edison Electric Institute. The publication stated the following:

> the merit of a result, however, is not adequately represented by the conformance index. In some cases, the conformance might be very high and yet the result could be questionable because of insufficient experience with the account. For instance, a particular account might show excellent conformance for an average life of 40 years and Iowa dispersion R3. But if the experience with the account covers only 20 years, the retirements of the first year's additions will, according to the discovered pattern, have amounted to only 6 per cent and, of course, the retirements of the later additions to a lesser percentage. Any conclusion in such a case that the discovered pattern is representative of the account would be too meagerly supported, notwithstanding the excellent conformance index. ...In order for a life determination to be considered entirely satisfactory, it should be required that both the retirements experience index and the conformance index be "good" or better.[13] (Emphasis added).

Q. ARE THERE OTHER PROBLEMS ASSOCIATED WITH THE COMPANY'S STATISTICAL SELECTION CRITERIA?

A. Yes. As discussed in more detail later, the Company often skipped over the best fitting statistical curve from both an index of variation and REI standpoint. The Company claims that a particular curve, the SC curve, is not representative of utility plant retirement patterns.[14] The Company then proceeded to select dispersion patterns such as the R1 curve, without acknowledging that they are very similar in nature to the SC curve. In other words, the Company did not consider potentially useful information that its own analysis ranked as the best fitting semi-actuarial results despite the similarity in dispersion patterns among certain survivor curves.

[12] Company's response to TURN 3-3c.

[13] Bauhan, Alex E., "Life Analysis of Utility Plant for Depreciation Accounting Purposes by the Simulated Plant-Record Method," National Conference of Electric and Gas Utility Accountants, American Gas Association-Edison Electric Institute, Buffalo, New York, April 8, 1947, page 62.

[14] SCE-8, Chapter XI, Part 2, revised workpaper page 35.

3. Account Specific Adjustments

A. Account 353-Station Equipment

Q. WHAT HAS THE COMPANY PROPOSED FOR TRANSMISSION ACCOUNT 353-STATION EQUIPMENT?

A. The Company is proposing a 40-year R1.0 life-curve combination.[15] This represents a substantial reduction from the currently approved 46-year SC life-curve combination.[16]

Q. WHAT IS SCE'S BASIS FOR ITS PROPOSED SIGNIFICANT CHANGE?

A. The Company now believes that the currently approved SC survivor curve "does not really reflect the retirements for this type of equipment in this account."[17] The Company apparently turns to a combination of industry based statistics, as well as information obtained from the Transmission and Distribution Business Unit ("TDBU") for its new position.[18] When asked for the specific support for its proposal, the Company simply referred to its testimony and workpapers, which quite often do not provide the information requested. For this account, the information provided states that industry statistics indicated that mid-modal and predominately the R family of Iowa survivor curves are appropriate. The industry indications, along with beliefs by Company personnel that the account "will show a trend towards decreasing in the future" due to "aggressive loading practices, reduced design margins, and how switching from overhead to underground impacts circuit breakers"[19], comprise the universe of information that guided selection of the final proposed life parameters. (Emphasis added). However, many different life parameters could be selected and be consistent with this Company-supplied information. As discussed below, these generalized statements fail to identify how

[15] SCE-8, Chapter XI, Part 2, revised workpaper page 35.
[16] Id.
[17] Id.
[18] I use the word "apparently" here and for many other accounts because SCE failed to specifically describe the detailed steps "undertaken to arrive at the proposed ASL and corresponding dispersion curve" for each account. Company response to TURN 2-6.

the Company's specific life parameters were selected and do not provide sufficient support for the proposed life parameters when other relevant and material information is appropriately considered.

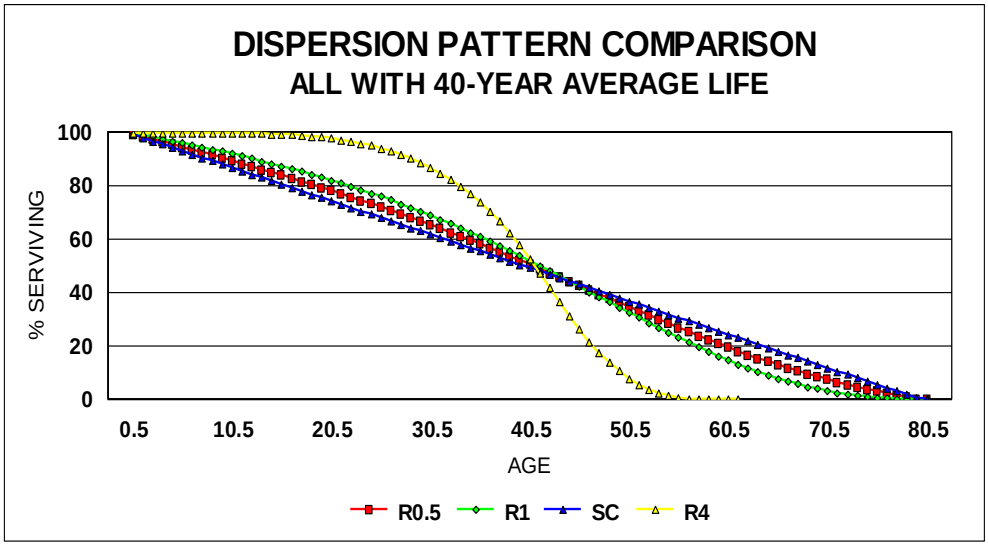
Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The Company's proposal is not only flawed, but relies on information obtained from the TDBU that is not supported by the actual Company specific historical experience. Instead, I recommend a 49-year average service life with a corresponding R0.5 survivor curve as a conservative estimate in favor of the Company.

Q. PLEASE DISCUSS THE COMPANY'S ERRONEOUS STATEMENT REGARDING THE SC CURVE.

A. As support for its claim that the SC curve is not representative of expected retirements, the Company cites discussions with unidentified technical experts. Those experts apparently claimed that "the equipment composing this account will not be equally disposed to retiring at each age, but would increase with age concentrating around the average life, based upon thermal, mechanical, and electrical aging factors."[20] Even if true, this is an inadequate basis for ignoring the best fitting statistical analysis results, especially where (as here) the SC curve is very similar to the R1 curve the Company believes is representative of retirement activity. Moreover, the SC curve is even closer to the R0.5 survivor curve that the Company chose as the best fitting curve in its 1998 depreciation study.[21] The similarity of these 3 curves, along with a R4.0 for comparative perspective, is shown in the graph below. It is also important to recall that the currently approved rate is based on an SC curve, as proposed by SCE.[22] Obviously, the Company thought the SC curve was representative of the retirements in this account in the past. Therefore, the SC curve should not have been eliminated simply because the Company's new misconstrued concept of what an SC curve represents compared to low-modal R survivor curve.

[19] SCE-8, Chapter XI, Part 2, revised workpaper page 35.
[20] Company's response to TURN 3-32 (a).
[21] 1998 Depreciation Study workpaper WP-AE-291.
[22] 1995 General Rate Case, SCE 14, Chapter VI, Part 2, page 255.



Q. PLEASE DISCUSS THE COMPANY'S RELIANCE ON INDUSTRY INFORMATION?

A. While industry data can be a useful source of information, it should not override Company specific data unless other factors and considerations warrant such modification. In addition, the industry information cannot be used to exclude the currently approved dispersion curve as a reasonable and appropriate alternative for the reasons noted above. In fact, relying on the current best fitting statistical SC curve, which is also the Company's previously derived and approved curve, produces ASLs ranging from 49 to 55 years.[23] This range of results falls within the range of ASLs derived from the industry analysis.[24] Therefore, from an industry standpoint, the Company cannot justify or support why it should ignore the longer ASLs obtained from the best ranking SPR analyses.

Q. DO YOU HAVE ANY COMMENTS REGARDING THE COMPANY'S RELIANCE ON INPUT FROM THE TDBU?

[23] SCE-8, Chapter XI, Part 2 revised workpapers page 38.
[24] SCE-8, Chapter XI, Part 2 revised workpapers page 36.

A. Yes. Nowhere does the Company discuss the fact that the best fitting SC curve is very similar in dispersion to the R0.5 or even the R1 survivor curves actually proposed by the Company both in its 1998 depreciation study as well as in the current study, respectively. Next, the generalized statements of what the TDBU personnel believe "will" materialize in the future are nothing more than unsupported speculation purportedly based on (but actually contrary to) the recorded trend exhibited by the recent retirement history of the Company. That trend in ASL is upward, not downward.

Q. PLEASE EXPLAIN FURTHER.

A. The Company selected a survivor curve with an ASL that is 3 to 7 years lower than the ASLs obtained from SPR analyses with better fitting statistics.[25] The Company could not support or justify, through its SPR analyses, the validity of the generalized claimed impacts associated with design changes and changes in transformer loadings as obtained from the TDBU personnel. The Company's position is that no additional SPR analyses were performed to isolate the investment specifically associated with design changes or transformer loading, nor were they necessary "as the changes made to the loading limits would not reflect an immediate impact on transformer retirements, but were in fact expected in the future." (Emphasis added).[26] In fact, the Company claims that the associated impact to its future expectation will occur within the next 5 to 10 years.[27] However, the Company began 120% loading of its transformers in 1985, or 15 years prior to the end of the depreciation data it analyzed.[28] In other words, approximately 83% of the total transmission transformers were in service as of 1985 when the Company began loading some of its transformers to 120% of capacity.[29] Given the claimed acceleration in loss of service life due to such loading practices, one would have expected a decreasing ASL in the 5, 10, and 15-year experience band SPR runs (1996-2000, 1991-2000, and 1986-2000). Yet the trend in the ASL over the past 15 years has been an increase to a range from 41 to 43

[25] SCE-8, Chapter XI, Part 2 revised workpapers page 38.
[26] Company's response to TURN 3-31 (b).
[27] Id., at (c).
[28] Id., with clarification during employee interviews.

years corresponding to the R1 curve selected by the Company, an increase to a 46 to 48 year ASL for the R0.5 curve, and an increase to a 53 to 55 year ASL corresponding to the best fitting curve, the SC curve.[30] Clearly, the actual Company experience does not support the generalized statements made by TDBU personnel as it pertains to aggressive loading of transformers.

In an attempt to explain away the inconsistency between SPR-based increasing ASLs and the TDBU's expectations of future reduction, the Company states that it "takes into consideration the factors discussed in Workpapers pages SCE-8 Chapter XI, Part 2 of 3, pp. 13-17, which should have a reducing effect on equipment lives in the future."[31] (Emphasis added). This practice of *ipse dixit* in place of supportable analyses or documentation should be given little weight at this time. If or when an actual real decrease begins to materialize, it can be captured in future SPR analyses.

Q. DO YOU HAVE ANOTHER REASON TO QUESTION SCE'S CLAIMED TRANSFORMER LOADING CONCERNS?

A. Yes. I testified on life expectation for this same account in the early 1980s in an SCE proceeding at the Federal Energy Regulatory Commission ("FERC"), so the claim sounded familiar. After reviewing Mr. Clarke's and my testimony in FERC Docket No. ER82-427, I found that SCE was making the same claim that aggressive loading practices would shorten service lives in this account long before 1985.[32] The Administrative Law Judge in that case rightfully rejected SCE's unsupported speculation.[33] For this account, it makes no sense to assume a lower ASL for transformers due to the TDBU personnel expectations that aggressive loading practices "will" have an impact.

Q. ARE ANY OF SCE'S OTHER GENERALIZED STATEMENTS SUPPORTED BY ACTUAL FACTUAL INFORMATION OR HISTORICAL EVENTS?

[29] Company response to TURN 3-30 (d) attachment.
[30] SCE-8, Chapter XI, Part 2 revised workpapers page 38.
[31] Company response to TURN 3-27 (d).
[32] Mr. Clarke's testimony at pages 23 and 24 in FERC Docket No. ER82-427.

A. No. The Company makes several claims as to why it expects a reduction in ASL in the future (e.g., decrease in safety margins built into design by manufacturers, insulation degradation, etc.), yet presents no factual support for such claims.[34] These generalized statements based on impressions obtained from TDBU personnel are contradicted by the increasing trend in ASL as more current experience bands are employed in the SPR analysis. In fact, there are other generalized statements made by TDBU personnel that imply longer ASLs, yet they did not make it to the depreciation study.[35] For example, Company personnel stated that "[r]elocation of substations [was] slowing down" or that there are only a "small % left" of PCB capacitors.[36] Each of these concerns should result in longer, not shorter, ASLs. Finally, during the interview with SCE's technical personnel, it was stated that the vast majority of the design changes that formed the basis for the life shortening expectations occurred basically in the 1960's.[37] This means that either they were corrected and applied to only a small percentage of the current investment, or if they actually had a life shortening impact, it is already reflected in the SPR results.[38]

In addition, the Company has not provided any data that supports a shorter life expectancy for circuit breakers due to switching from overhead to underground. To the extent the historical data already reflects retirements due to switching from overhead to underground, this concern is already reflected in the increasing ASLs from the SPR analyses. Moreover, it is important to note that circuit breakers make up a small fraction of the investment in this account, so even if they begin to experience shorter ASLs, it will not have a material impact on the overall account.[39]

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

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[33] Company's Brief on Exceptions to Initial Decision, page 65.
[34] Company response to TURN 3-27 (a)-(d).
[35] Company response to TURN 3-4 attachment.
[36] Id.
[37] Statements made by Doug Kim on 12/9/02 during employee interviews.
[38] After 35 years of operation (1965-2000), investment subject to a 40-year ASL and an R1 survivor curve would have already had approximately 38 % of the initial investment retired. This level of retirements would be reflected in the SPR results.
[39] Company response to TURN 3-32.

A. I have reviewed all of the information provided by the Company and performed additional analyses. There can be no denial of the fact that the Company is actually experiencing a lengthening in ASLs as measured by any of its best fitting SPR life-curve combinations. Moreover, none of the claimed, but inadequately supported, other factors which the Company expects would have an impact in the future have come to fruition at this point in time. To the extent any of these may actually result in shorter ASLs, as anticipated by the Company, there may be other factors which would lengthen ASL during the same corresponding period.[40] However, such speculation is not necessary at this time, just as it was not necessary during the early 1980s in FERC Docket No. 82-427. At best, the Company does not anticipate the impact of its expectations to materialize for 5 to 10 years. This period provides plenty of time to continue recognizing the actual retirement experience demonstrated by the Company's investment and make appropriate modifications in the future should various impacts that affect the level of ASL appropriate for such investment actually materialize.

Based on a review of SPR results, there is no basis to shorten the ASL from the currently approved 46-year level. In fact, there is every reason to increase the ASL, given that the 4 best fitting curves (each a better fit than the Company's proposed R1 curve) produce an average increasing ASL trend ranging from a low of 45.25 years to a high of 50.5 years.[41] While the SC curve is the best fitting curve, I recommend a R0.5 curve, which is the second best fitting curve and corresponds to the curve selected by the Company in its 1998 depreciation study. I also recommend a corresponding 49-year ASL for this account, as it is not only supported by the Company's SPR analysis, but falls within the range of acceptable values for industry comparisons. The 49-year ASL is also approximately equal to or lower than any of the ASLs obtained by averaging the 4 best fitting curves from the 5, 10, and 15-year experience band SPR analyses. In other words, the most current trends for the best fitting curves would place the ASL for this account at approximately 49 to 51 years.

[40] SCE-14, Chapter XII, Part 2 workpapers page 255. It is worth noting that actual forces of retirement caused the Company to raise the proposed ASL for this account from a previous depreciation study to the 1995 study.
[41] SCE-8, Chapter XI, Part 2 revised workpapers page 38.

Therefore, my recommended 49-year ASL already has a level of conservatism built in. In addition, I have analyzed each of the Company's identifiable claims as to why the ASL for this account should decrease significantly and have found them to be inadequately supported or illogical as described above. In other words, the Company has failed to demonstrate the reasonableness of such a dramatic reduction in ASL from that previously approved by the Commission. Again, this is especially true given that the Company's current SPR analyses yield trends to increasing levels of ASL rather than decreasing levels.

One further fact came to light during the interviews with SCE technical personnel. It was stated that the oldest transformer on the system was placed in service in 1912.[42] That means that investment has reached 88 years of operation. That level of operation exceeds the theoretical limits of the 40-year R1 life-curve combination proposed by SCE. However, my recommended 49-year R0.5 life-curve still reflects such an investment within its theoretical limits.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommended 49-year R0.5 survivor curve results in a $12,201,000 reduction to the Company's depreciation expense request, on a stand-alone basis for 2003.

B. Account 355-Poles and Fixtures

Q. WHAT HAS THE COMPANY PROPOSED FOR TRANSMISSION ACCOUNT 355-POLES AND FIXTURES?

A. The Company has proposed a 45-year ASL with a corresponding R1 survivor curve. This represents a 2-year increase from the previously approved 43-year ASL and a change from the previously approved R0.5 survivor curve.[43]

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSED LIFE CHARACTERISTICS?

[42] On site interview on December 9, 2002.

A. It appears that the Company has relied on a combination of statements made by operation personnel and a review of industry data with limited input from the Company's own actual SPR analyses.[44] In particular, the Company recognizes industry curves are predominant in the R2 to R3 range and that operational people "mentioned" that poles being removed today are up to 50-years old. Operational personnel apparently also mentioned that:

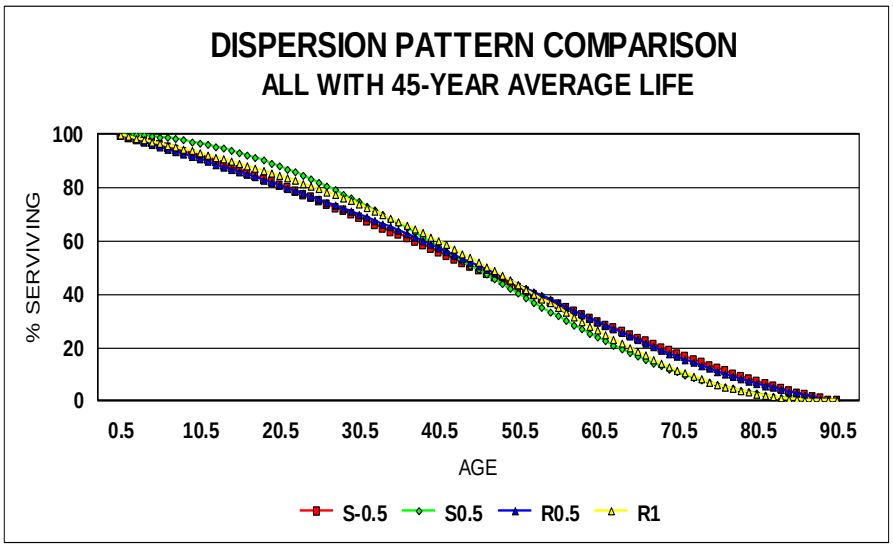
> "the Company would prefer and have recently commenced an accelerated pole replacement program which will tend to shorten the life of the remaining poles and increase the retirement frequency to higher modal curves. According to operational and technical engineers replacement poles may have a shorter life expectancy. Reasons for this include type of replacement pole and a more vigorous inspection program under GO 165 may cause poles to be replaced sooner in the future."[45] (Emphasis added).

Q. DO THE LIFE CHARACTERISTICS PROPOSED BY THE COMPANY REFLECT THE BEST FITTING SPR RESULT?

A. No. The Company has ignored up to 4 better fitting life-curve combinations than the one it proposed.[46] It appears the reason that the Company has ignored better fitting curves is its reliance on a concept that the other curves "do not appear to be representative of the expectations for transmission poles and fixtures retirements. Other companies with aged retirements reveal that none found the retirement dispersion associated with Account 355 to be as dispersed as the S-0.5 and R0.5 curves."[47] (Emphasis added). Rather than rely on the Company specific data obtained from its own analysis, the Company discards better fitting curves with longer ASLs (approximately 6 to 10 years longer on average) and selects the 5th best fitting result from its analysis.[48] The Company's reliance on the type and mode of retirement curve used by some other unidentified companies, while seeming to ignore or at least failing to explain away its Company-specific data is not appropriate under these circumstances. It is especially inappropriate given SCE stated in its 1995 study

[43] SCE-8, Chapter XI, Part 2 workpapers revised page 59.
[44] Id.
[45] Id.
[46] SCE-8, Chapter XI, Part 2, revised workpapers page 62.
[47] Company's response to TURN 4-10, Part 1, subpart (e).

that its "second choice, R0.5, is more in line with industry selections."[49] Moreover, the Company's claim that none of the other companies found retirements dispersed as the S-0.5 and the R0.5 makes little sense in light of the similarity of these dispersion patterns. As shown in the graph below, the Company's proposed R1 curve is not only very similar to the S-0.5 and R0.5 curves, but is also very similar to the S0.5 curve employed by the industry.[50]



Q. WHAT IS THE BASIS AND SUPPORT FOR THE COMPANY'S OPERATIONS PERSONNEL INPUT?

A. Again, it appears the Company's depreciation analyst relied on generalized and inadequately supported statements regarding what "may" happen in the future. However, for this account there were also statements by operational personnel that would support a longer ASL and be inconsistent with the proposed 45-year ASL. In particular, the interview notes state that "[p]oles not showing life shortening."[51] (Emphasis added). In addition, the Company's operational personnel also recognize that retired poles are up to 50 years of age. Yet in spite of these statements based on factual information, the Company concludes that the assumed 45-year ASL is "the

[48] SCE-8, Chapter XI, Part 2, revised workpapers page 62.
[49] 1995 Study, SCE 14, Part 2, page 259.
[50] SCE-8, Chapter XI, Part 2, revised workpapers page 60.
[51] Company response to TURN 3-4, attachment.

most representative for that account."[52] (Emphasis added). The conclusion is based on the analyst's belief that the proposed life parameters were "consistent with the comments from SCE engineering."[53] Moreover, this statement is made without the benefit of an analysis to determine if a 48 or 50-year ASL would also be "consistent with the amounts from SCE engineering."[54]

In addition, the Company's selection of a shorter ASL for poles relies in part on the concept that poles being removed currently are typically "older growth timber which are denser wood. On the other hand, wood poles installed today are typically new growth Douglas Fir harvested from reforested areas, selected for its straightness, strength, and costs."[55] This information does not demonstrate that the replacement poles, which are selected in part for their straightness and strength, would not in fact last longer or at least as long as the poles they are replacing. In fact, the technical personnel indicated during the on-site interview that they would not expect ASL for Douglas Fir to be shorter. Additionally, approximately 27% of the investment of the account is associated with steel/concrete poles rather than wood poles.[56] Steel/concrete poles would seem to have durability that exceeds that of wood poles, a position reinforced by the Company's technical personnel during on-site interviews.

The Company has simply not presented any factual basis which would demonstrate that the longer ASLs, and the trends towards longer ASLs, exhibited by its plant are not more representative of the anticipated ASL for this investment than the final proposal that is apparently derived from some unidentified combination of industry and operational personnel information. This process and proposal are not appropriate, especially given the apparent selective reliance on unsubstantiated and generalized claims made by operational personnel.

Q. WHAT DO YOU RECOMMEND FOR THIS ACCOUNT?

[52] Company's response to TURN 7-18a.
[53] Company response to TURN 7-13a.
[54] Id.
[55] Company's response to TURN 4-10, Part 2, subpart (d).

A. I recommend a 49-year ASL with a corresponding R0.5 survivor curve. This recommendation is a conservative estimate in favor of the Company and is based on a review of the historical results of SPR analyses and comments by operational personnel. These analyses reflect the only Company-specific data that can be verified. Moreover, the trend in the data is for ASLs of 50 years or slightly longer.[57] My recommendation also reflects the fact that approximately 27% of the investment is associated with concrete/steel poles which one would anticipate exhibiting less deterioration. This is significant since the Company admits that the current single largest cause of transmission pole retirement is deterioration.[58] To the extent there is any merit to the Company's concerns for a shorter ASL that may materialize in the future, my 49-year recommendation already understates the reasonable ASL level and provides opportunity for modification to ASLs in future depreciation studies if and when the shorter lives begin to materialize.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $1,892,000 reduction to the Company's depreciation request, on a stand-alone basis.

C. Account 356-Overhead Conductors and Devices

Q. WHAT HAS THE COMPANY PROPOSED FOR TRANSMISSION ACCOUNT 356-OVERHEAD CONDUCTORS AND DEVICES?

A. The Company is proposing a 45-year R5.0 life-curve combination.[59] This represents an increase in ASL from the currently approved 40-year S5.0 life-curve combination.[60]

Q. WHAT IS SCE'S BASIS FOR ITS PROPOSED CHANGE?

[56] Company response to TURN 4-10c.
[57] SCE-8, Chapter XI, Part 2 workpapers revised page 62.
[58] Company's response to TURN 4-10, Part 2, subpart (h).
[59] SCE-8, Chapter XI, Part 2 revised workpapers page 71.
[60] Id.

A. It appears that the Company gave weight to industry information in conjunction with the results of its SPR analyses. The industry information indicated R-modal curves rather than symmetrical curves,[61] and the R5 yielded the best R family results for only the longer experience bands (20, 30, and 40-year), which appear to be the governing basis.[62]

Q. DO YOU BELIEVE SCE'S PRESENTATION ADEQUATELY DEMONSTRATES SUPPORT AND JUSTIFICATION FOR ITS SELECTION?

A. No. Based on the limited information provided, many other values could have been selected. There is simply no clear-cut basis or support for the actual life-curve proposed by the Company. Keep in mind that the existing life parameters are based on using the "shorter bands for ASL selection to reflect larger additions in last 10 years."[63] Consistency by SCE would have required reliance on the 5, 10, and 15-year experience bands rather than the 20, 30, and 40-year experience bands.

Q. WHAT DO YOU RECOMMEND AS AN ALTERNATIVE LIFE-CURVE COMBINATION?

A. I recommend a 48-year ASL with a corresponding R4 survivor curve. This recommendation is based on a review of Company specific SPR results. The R4 curve maintains a much higher ranking than the R5 curve for the 5-year, 10-year, and 15-year experience band analyses, those representing more current time frames. The longer experience bands show the R5 curve with approximately the same or only somewhat better rankings than the R4 curve. However, while both survivor curves indicate increasing life trends, the R4 maintains an overall better ranking.[64] In addition, the ASL falls well within the range of acceptable levels from an industry standpoint.[65] Further, the industry information indicates that no other utility relied upon for industry comparisons utilizes the R5 curve, while the R4 curve is utilized by

[61] Id.
[62] Id., at revised page 74.
[63] 1995 Depreciation Study, SCE 14, Chapter VII, Part 2, page 260.
[64] SCE-8, Chapter XI, Part 2, revised workpaper page 74.

another utility. While I do not place as great a level of importance on the industry information for this account, given the Company specific data and analysis, it does appear the Company does place a greater weight on what other utilities do.[66] Finally, Company technical personnel admitted that a 50-year ASL would also be reasonable.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $3,444,000 reduction to the Company's requested depreciation expense on a stand-alone basis.

D. Account 362-Station Equipment

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 362-STATION EQUIPMENT?

A. The Company has proposed a 45-year ASL with a corresponding R1.0 dispersion pattern.[67]

Q. WHAT IS THE BASIS FOR THE COMPANY'S PROPOSED LIFE CHARACTERISTICS?

A. For this account the Company states that because "of technical information we chose an ASL of 45-years."[68] This appears to be the basis for the proposed ASL, while the dispersion pattern appears to have been selected because of industry consideration and the fact that it is consistent with the proposal made for transmission Account 353-Station Equipment.[69]

Q. WHAT IS THE TECHNICAL INFORMATION THE COMPANY REFERENCES AS ITS BASIS FOR SELECTING THE 45-YEAR ASL?

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[65] Id., at revised workpaper page 72.
[66] For example, see SCE-8, Chapter XI, Part 2 revised workpaper page 35, which applies to transmission Account 353-Structures and Improvements.
[67] SCE-8, Chapter XI, Part 2 revised workpapers page 133.
[68] Id.
[69] Id.

A. The technical information identified by the Company in its depreciation workpapers is as follows:

> "[t]echnicians discuss shorter lives of this equipment in the future due to design changes and expected operations."[70] (Emphasis added).

No further explanation of the time frame, the types of design changes or operations appeared in the Company's workpapers. The best fitting curve appears to be an SC curve with a constantly increasing ASL from 48 years to 57 years over the various experience bands performed by the Company. So the 45-year ASL proposed by the Company would appear to yield an approximate 8-year reduction in ASL due to consideration of non-specific information obtained through a discussion with technical personnel.[71]

Q. DO THE LIFE CHARACTERISTICS PROPOSED BY THE COMPANY REFLECT THE BEST FITTING SPR RESULTS?

A. No. This is yet another account where the Company has passed over many better fitting life curve combinations in favor of the one it selected. All of the better fitting life-curve combinations that the Company rejected equaled or, for the most part, exceeded the ASL associated with the R1 curve it ultimately proposed. In fact, the best fitting curves exhibited 3 to 4-year higher ASLs than the ASL associated with the R1 curve for each of the experienced bands.[72] This is not appropriate absent adequate justification.

Q. TURNING SPECIFICALLY TO THE ASL PROPOSED BY THE COMPANY, DOES THE LIMITED INFORMATION OBTAINED THROUGH A DISCUSSION WITH TECHNICIANS PROVIDE CREDIBLE EVIDENCE FOR THE 45-YEAR SELECTION?

A. No. As discussed under the portion of my testimony dealing with transmission substation investment Account 353, the Company's vague and inadequately supported statements obtained from unidentified Company personnel is not of a

[70] Id.
[71] SCE-8, Chapter XI, Part 2 revised workpapers page 136.
[72] Id.

quality or quantity that would warrant overriding the increasing ASL exhibited by the Company's historical addition and retirement pattern. In fact, based on information obtained from Company technical personnel during on-site interviews, the proposed reduction in ASL is not warranted. First, the technical personnel indicated that the referenced design changes occurred for the most part during the 1960 to 1970 time period. That means the life shortening expectations have had 30 to 40 years to materialize, if indeed the Company's claims have merit. Yet, the Company-specific statistical analyses yield trends toward longer ASLs as more current transaction periods are analyzed. The same trend towards lengthening of ASLs manifests itself even after consideration of the aggressive loading of transformers began prior to 1985. It appears that either the anticipated life shortening impacts of design changes and aggressive loading policies are inaccurate, or that there are other life lengthening forces that more than counter the anticipated life shortening expectations. In either case, that actual data of the Company outweighs the unsupported expectations.

Q. IS THERE ANY BASIS FOR THE COMPANY TO IGNORE SC OR LOW L OR R-MODAL CURVES OTHER THAN THE ONE IT PROPOSED FOR THIS ACCOUNT?

A. No. After all, the dispersion curve proposed and adopted in its 1995 Depreciation Study was an SC curve. Indeed, the Company's industry summary indicates that other companies have employed both the SC curve and low-modal L curves and R curves for their selection. Each of these curves represents better statistical fits than the R1 proposed by the Company.[73]

Q. WHAT DO YOU RECOMMEND FOR THIS ACCOUNT?

A. I recommend a 49-year ASL with a corresponding R0.5 curve as a conservative estimate in favor of the Company. Selection of either the SC curve or the L0 curve would result in a higher ASL. The R0.5 curve is similar in nature to the R1 curve the Company proposes. It is also consistent with the R0.5 curve I recommend for similar investment in transmission station equipment Account 353. Finally, as noted in my

[73] SCE-8, Chapter XI, Part 2 revised workpapers page 136.

testimony for Account 353, to the extent the Company does begin to experience life-shortening impacts due to its currently unsubstantiated expectations of what may transpire in the future, then there is more than adequate opportunity in future rate proceedings to recognize such trends. My selection of a 49-year ASL builds in a degree of conservatism that would not place the Company in any jeopardy of under collecting its depreciation expense on a timely basis. In fact, if during the next several depreciation studies the Company were to determine through appropriate analyses of its data that design changes or future expected operations are in fact resulting in shorter lives (and not offset by other factors that may lengthen the ASL for this account), it could then propose a substantiated modification. Finally, the 49-year ASL I recommend is a full 4 years shorter than the currently approved 53-year ASL. Not surprisingly, the non-specific information obtained from technical personnel also supports a 49-year ASL.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation would result in a $3,125,000 reduction to the Company's depreciation expense on a stand-alone basis.

E. Account 366-Underground Conduit

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 366-UNDERGROUND CONDUIT?

A. The Company proposes a reduction from the currently approved 50-year ASL to 45 years. In addition, the Company proposes to significantly change the dispersion curve shape from the currently approved S2 curve to an S6 curve.[74]

Q. WHAT IS SCE'S BASIS FOR ITS PROPOSED CHANGE?

A. For this account, it appears the Company relies on a combination of its statistical analyses and information obtained from technical personnel.[75] It makes no attempt to support its proposal with industry statistics.

[74] SCE-8, Chapter XI, Part 2 revised workpapers page 169.

Q. WHAT DID THE INDUSTRY INFORMATION THAT SCE GAVE LITTLE WEIGHT INDICATE FOR THIS ACCOUNT?

A. The Company states that industry information yields a 56-year ASL compared to the 45-year ASL it proposes, or the 38-year ASL selected as the result of its statistical analysis.[76] In addition, the industry data yields "a mid-range curve, with the R3 being the most prominent."[77] The industry data differs significantly from the Company's proposed S6 Iowa survivor curve. In fact, no utility in the Company's industry data exhibits this dispersion pattern.[78] In other words, the Company apparently chooses to ignore industry information for this account since it differs so greatly from its proposed life-curve combination and the one statistical result it relied on.

Q. DID THE STATISTICAL ANALYSIS PROVIDE STRONG AND MEANINGFUL RESULTS?

A. No, not in my opinion. A review of the statistical results reveals that the SPR analysis had great difficulty in simulating any consistent life-curve combinations based on the revised data.[79] In fact, the Company's claim that the REI was not used as a secondary ranking criteria seems to be contradicted by its selection process for this account. For this account, the Company first states that the REI statistics "indicate insufficient data to justify low modal curves."[80] In other words, it ignored, discarded, or effectively changed the ranking for selection purposes of better fitting life-curve combinations due to the REI. The effective ranking due to the REI can be seen based on a review of the summary results of the individual SPR analyses contained in the Company's workpapers.[81] In the workpapers, it can be seen that the Company's proposed S6 curve ranks below the best 14 fitting curves, from a conformance index standpoint, for the 5-year experience band. The Company also

[75] Id.
[76] Id.
[77] Id.
[78] Id. at page 170.
[79] Id. at page 172.
[80] Id. at page 169.
[81] Id. at pages 172-178.

bypassed the best 8 fitting curves and selected the 9th best fitting curve associated with the 10-year experience band. Finally, the Company skipped the 5 best fitting curves and selected the 6th best fitting curve for its proposal associated with the 15-year experience band.[82] The reliance on the shorter experience bands is consistent with the Company's prior treatment in its 1995 Study where, for this same account, the Company stated that the "additions in this account have increased in the last 8 years, therefore, shorter analysis bands should be used in life selection."[83] (Emphasis added). Given that approximately 66% of the current plant balance has been added during the last 15 years, consistency on the part of the Company would have required it to rely here on the results of its 5, 10, and 15-year experience bands for its selection. Here the best fitting mid-range curves with excellent REIs yielded ASLs in the mid-50 to 70-year range for the 5, 10, and 15-year experience bands.

Additionally, the summary results for SPR analyses for other accounts demonstrate that the ASLs for the better fitting curves normally do not differ as dramatically as is the case for Account 366.[84] In situations where the stability of the SPR results are questionable, based on the conformance index in conjunction with the REI, the results have to be tempered with realistic expectations of the investment. The Company implicitly recognized this by increasing its proposed ASL from the 37 to 38-year ASL level obtained from the SPR analyses to a 45-year level. The increase appears to be based on the comments from its technical staff.

Q. WHAT WAS THE INPUT FROM THE TECHNICAL STAFF THAT CAUSED THE COMPANY TO INCREASE THE PROPOSED ASL BY APPROXIMATELY 7 YEARS FROM THE SPR RESULTS IT SELECTED?

A. Technical personnel of the Company stated that the design life of the equipment was 50 years and that the Company "has an experience of 45 to 50-years" for this investment.[85] In addition, the technical personnel of the Company also noted that

[82] Id. at page 172.
[83] 1995 Study, SCE 14, Chapter VII, part 2, page 270.
[84] For example, see Account 365, SCE-8, Chapter XI, Part 2 revised workpapers page 160.
[85] SCE-8, Chapter XI, Part 2 revised workpapers page 169.

similar transmission conduit booked in Account 357 had a proposed ASL of 50 years.[86] However, the Company provides no explanation as to how the statements from technical personnel, which would seem to indicate an ASL greater than 45-years, ultimately resulted in only a 45-year ASL. This omission is compounded by the fact that the Company-performed industry comparison indicates a 56-year ASL, and the fact that the Company has relied on its industry summaries for other accounts. This information in conjunction with the stability of the SPR results undermines the Company's initial selection of the 38-year S6 life-curve combination.

Q. IS THERE OTHER INFORMATION THAT SCE MAY HAVE RELIED UPON FROM ITS TECHNICAL OR OPERATIONAL PERSONNEL?

A. Yes. While the Company did not identify or address it in their depreciation study, it did state in a response to a data request that "[o]perations [personnel] agree that there would be a shorter life for distribution conduit due to "digs" – many secondary lines get dug up for relocations, new development, accident[s]."[87] It is not clear when and where this statement was made (i.e., prior to the depreciation proposal being developed by the Company or only in response to TURN's data request). The statement does not necessarily support the Company's proposed 45-year ASL. For one thing, it implies that distribution conduits should have a shorter ASL than transmission conduits because of the enumerated factors. However, a review of industry data, as developed by the Company, indicates that this premise is incorrect. The Company concludes that the industry data for transmission Account 357, which is similar to investment in this account,[88] supports an ASL of approximately 53 years, while the industry average calculated for Account 366, distribution underground conduit, is approximately 56 year, or almost 3 years longer.[89] In other words, there are forces of retirement recognized by other utilities that have a greater impact on transmission underground conduit than distribution underground conduit. Moreover, even if one assumes *arguendo* that the Company's premise (that the distribution

[86] Id.
[87] Company's response to TURN 3-13f.
[88] SCE-8, Chapter XI, Part 2 revised workpapers page 169.
[89] SCE-8, Chapter XI, Part 2 revised workpapers pages 84 and 170.

underground conduit should have a shorter ASL than transmission underground conduit) is correct, the Company's limitation of such ASL to its proposed 45-year level is unsubstantiated and excessive. The 45-year level would be almost 8 years shorter than the industry average relied upon by the Company to establish the ASL for transmission underground conduit.[90]

Q. WHAT IS YOUR RECOMMENDATION FOR THIS ACCOUNT?

A. I recommend the retention of the existing 50-year ASL as a conservative estimate in favor of the Company, but modification to an R2.5 survivor curve.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. A review of the SPR results obtained from Company specific data indicates, for the shorter experience bands, that the mid-modal R family of curves is as indicative of the best dispersion pattern, as is the S6 curve proposed by the Company. However, my section of the R2.5 curve is reinforced by comparison with industry information. It is also more consistent with the R3 curve proposed by the Company for Account 357, transmission underground conduit, which the Company admits is similar.

The Company's field personnel indicate that there are approximately 300,000 structures in this account which are designed to have a useful service life of 50 years.[91] In addition, the Company states that a "review of inspection data for the past seven years indicates that the service life of most man holes, pull boxes, and vaults will likely meet the design life."[92] Further, the Company recognizes both a design life of 50-years, and a review of data that shows a 45 to 55-year ASL is indicated.[93] Given these facts, and given that 90% of the investment in this account is comprised of equipment such as distribution pull boxes, conduit (including ones made of

[90] SCE-8, Chapter XI, Part 2 revised workpapers page 84.
[91] SCE-8, Chapter XI, Part 2 workpapers page 6.
[92] Id.
[93] SCE-8, Chapter XI, Part 2 workpaper page 6.

concrete), manholes, vaults (concrete/block wall or chain link fencing), and trenches (concrete enclosures), a 50-year ASL may be inadequate.[94]

In addition, I often testify in gas utility proceedings. Underground conduit or plastic pipe in the ground is common in the gas industry. In my experience, the life expectation for plastic gas pipe in the ground normally exceeds 50 years. Therefore, unless the Company can demonstrate why it believes plastic pipe in the ground owned by electric utilities should have an appreciably shorter ASL than that of plastic pipe in the ground owned by gas utilities, I believe my 50-year ASL is not only reasonable, but conservative in favor of the Company. Moreover, the 50-year recommended ASL is still lower than the industry average as noted by the Company in its industry survey.[95]

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation would result in a $4,657,000 reduction to the Company's depreciation expense on a stand-alone basis.

F. Account 367-Underground Conductors and Devices

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 367-UNDERGROUND CONDUCTORS AND DEVICES?

A. The Company proposes a significant change from the currently approved 24-year ASL with a corresponding L3 survivor curve. The Company has increased the ASL to 35 years and changed the dispersion pattern to an R1 curve.[96]

Q. WHAT IS SCE'S BASIS FOR ITS PROPOSED SIGNIFICANT CHANGE?

A. The Company states that its "analysis shows good statistics for all low modal R curves with R1.0 and R0.5 being best."[97] The Company further states that the R0.5 curve has a 43-year ASL, while the R1 curve has an ASL of 36 years. Given that the industry

[94] Company's response to TURN 3-14.
[95] SCE-8, Chapter XI, Part 2 revised workpaper page 170.
[96] SCE-8, Chapter XI, Part 2 revised workpaper page 181.

average as calculated by the Company is 36 years, and based on information from its operations and technical personnel, it selects the R1 curve and limits the ASL to 35 years.[98]

Q. WHAT WAS THE BEST FITTING LIFE-CURVE COMBINATION FROM THE COMPANY'S SPR ANALYSES?

A. The SC curve, with a 52 to 55-year ASL, was the best life-curve combination obtained from all 6 of the Company's SPR analyses. The second best fitting life-curve combination for the 6 life analyses was a R0.5, with a 43 to 46-year ASL. The third best fitting curve for the 6 life analyses was a S-.5 curve, with a 42 to 44-year ASL. Finally, the fourth best fitting curve was the R1 curve, with a 36 to 38-year ASL, the curve selected by the Company.[99] In other words, from a statistical analysis standpoint, a longer ASL is warranted based on all the best fitting curves obtained from all the experience bands analyzed by the Company. However, given that approximately 50% of the plant balance has been added in the last 10 years, and 70% of the balance has been added in the last 15 years, the shorter experience bands should be given greater consideration.[100] This is precisely what the Company itself determined in its 1995 Depreciation Study for this account. In that study, the Company stated that "[s]horter analysis bands reflect current trend for large additions and should be used in life selection."[101] (Emphasis added). Moreover, the general trend as shorter experience bands are reviewed indicate a trend for lengthening of ASLs with the average of the 4 best fitting curves yielding an approximate 46-year ASL.[102] This is more than 10 years longer than the ASL proposed by the Company in this case. The results for the top 4 curves are set forth below. As can be seen, the trend is not only for a longer life, but all values are greater than the 35-year ASL proposed by the Company.

[97] Id.
[98] Id.
[99] SCE-8, Chapter XI, Part 2 revised workpaper page 184.
[100] Id. at 181.
[101] 1995 Study, SCE 14, Chapter VII, part 2, page 271.
[102] SCE-8, Chapter XI, Part 2 revised workpaper page 184.

ACCOUNT 367 LIFE-CURVE COMBINATIONS

	SC	R0.5	S-.5	R1
5-year	55	46	44	38
10-year	52	43	42	36
15-year	52	43	42	36
20-year	52	44	42	36
30-year	52	44	42	36
40-year	52	44	42	36

Even if one were to rely solely on the low-modal R family of curves, the R0.5 curve has a better ranking than the R1 curve in the Company's analyses.[103] The R0.5 exhibits a 7 to 8-year longer ASL than the R1 curve.[104] Based strictly on the review of the statistical analyses of Company specific data, there is no basis for the selection of a 35-year ASL as proposed by the Company.

Q. WHAT ARE THE SPECIFIC ITEMS OF INFORMATION PROVIDED BY THE COMPANY'S TECHNICAL PERSONNEL THAT THE COMPANY REFERENCED IN ITS DEPRECIATION STUDY?

A. The Company's technical personnel

> "suggest an average life of 25 to 30-years for XLPE which makes up 80% of the cable in SCE system. Even though replacements may be tree retardant XLPE which has a slightly longer life, it will be a long time before it will have an impact, if ever, as TRXLPE cable makes up only 3% of the cable. The other part of this account is mainly switches which operations people say have an average life of 15 to 35-years." (Emphasis added).

Around 1974, Cross-Linking PE (XLPE) was first used to extend the cable service life.[105] The Company claims that based on discussions with cable experts, field data,

[103] Id.
[104] Id.
[105] SCE-8, Chapter XI, Part 2, un-revised workpapers page 7.

review of Material Performance Failure Reports, and engineering judgment, it concludes that the estimated useful life of XLPE is between 25 and 30 years.[106] Finally, as it pertains to underground cables, the Company's technical personnel hope that an increase in ASL will occur over the next several years as the Tree-retardant XLPE ("TR-XLPE") becomes a more significant percentage of the entire system.[107]

Q. IS THERE OTHER INFORMATION APPLICABLE TO THIS ACCOUNT OBTAINED FROM TECHNICAL SUPPORT PERSONNEL?

A. Yes, there is information applicable to switches, older cable, and other investment.[108] However, the impact that older cable, switches, and other investment might have on the overall useful life of this account should be very limited given that combined, they represent approximately 15% of the investment.[109] Moreover, the Company admits that "it is difficult to estimate the average service life of the other underground components, such as circuit reclosers and Preferred-Emergency (PE) gear."[110] Therefore, the non-cable investment should not have had a significant or meaningful impact on the determination of the ASL for this account.

Q. HAS THE COMPANY INCORRECTLY INTERPRETED THE COMPANY'S TECHNICAL PERSONNEL'S INPUT?

A. Yes, at least with respect to the impact of TR-XLPE cables. As previously noted, the Company assumes that TR-XLPE cable makes up only 3% of the cable in the system as a matter of linear footage.[111] However, this type of cable most likely makes up approximately 17% of the investment.[112] The recognition of the much higher level of dollar investment in TR-XLPE cable versus the linear feet is critical from a

[106] Id.
[107] Id.
[108] Id. Also, SCE-8, Chapter XI, Part 2 revised workpaper page 191.
[109] Company's response to TURN 3-13a.
[110] SCE 8, Chapter XI, part 2, page 8.
[111] SCE-8, Chapter XI, Part 2 revised workpaper page 181; Company's response to TURN 3-13d.
[112] As noted by the Company on SCE-8, Chapter XI, Part 2, page 7, starting in 1998 the Company made the TR-XLPE cable its standard cable. The additions to this account from 1998 through 2000 were approximately $345 million, as shown on SCE-8, Chapter XI, Part 2 revised workpaper page 191, and the relationship cable investment is to the total investment in this account, as set forth in the Company's response to TURN 3-13a yields slightly over a 17% level of investment associated with TR-XLPE cable.

depreciation standpoint, because the SPR analysis is based on an analysis of dollars of additions and retirements, not the linear feet of additions and retirements. Therefore, the longer ASL anticipated for the TR-XLPE cable by the Company technical personnel should result in some recognizable level of longer ASL for the investment in this account.

Q. HAS THE SPR ANALYSIS ACTUALLY RECOGNIZED A LONGER ASL ATTRIBUTABLE TO THIS NEW INVESTMENT?

A. Yes, I believe so. A review of the SPR results indicates that the 5-year experience band reflects an increase of 2 to 3 years in ASL from that exhibited by the top fitting 4 curves when compared to the 10-year experience band. Given that the investment for the TR-XLPE cable is by far more heavily represented in the 5-year band than any other experience band, one would expect to see the recognition of its impact on the ASL begin to appear in the shorter experience band, as it apparently has.

Q. WHAT DO YOU RECOMMEND FOR THIS ACCOUNT?

A. I recommend a 43-year ASL with a corresponding R0.5 dispersion pattern. I believe this is a much more realistic and appropriate ASL than is proposed by the Company, but is still conservative in favor of the Company.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. The composition of the Company's investment in this account has changed over time. Prior to 1965, the Company installed Paper Insulated Lead Cover ("PILC") cable exclusively in its distribution system.[113] Then in the late 1960s, the Company began installing High Molecular Weight PE ("HMWPE"). This type of cable was used until around 1974 when the Company began installing its XLPE cable, which now comprises approximately 80% of the linear footage of distribution cable for the Company. It is this progression of different types of cable that exhibit different ASLs which explains the significant increase in ASL derived from the Company's current SPR analysis compared to its previous SPR analysis set forth in its 1995 depreciation

[113] SCE 8, Chapter XI, part 2, workpaper page 7.

study. The 1995 depreciation study relied on data through 1992.[114] Given the Company technical personnel's life expectation for HMWPE cable of only 15 to 20 years, and the fact that it was installed approximately 30 years ago, its retirement over time would have greatly impacted the previous depreciation study. However, with 8 years of additional data reflected in the current depreciation study, the impact of HMWPE should be greatly diminished. In fact, based on the Company technical personnel's life expectancy for HMWPE cable, there should be very little remaining investment of this type on the system. Therefore, life expectancy for the remaining investment should be that associated with the XLPE and the TR-XLPE cable.

The changing type of investment in this account also helps explain why there is such an appreciable difference in ASLs between the top 4 best fitting curves (38 to 55 years corresponding to the 5-year experience band). Given that the depreciation parameters established in this proceeding will apply to remaining plant in service, the shorter ASLs must be discounted, as they are overly impacted by some level of HMWPE cable retirements during each of the experienced bands analyzed. Additionally, appropriately recognizing that for depreciation purposes the investment in the new TR-XLPE cable is not 3%, but probably much closer to 17%, the shorter ASL should also be discounted in recognition of the longer expected ASL for this new investment. Giving less weight to both extremes of ASLs out of the 4 top fitting curves reasonably leaves a 42 to 44-year ASL, with the 43-year ASL I recommend being right in the middle. In addition, my 43-year ASL recommendation falls well within the bounds of reasonable expectations by the industry.[115]

In summary, proper recognition of the type of investment remaining, the type of investment retired during the last 10 to 15 years associated with HMWPE cable, the various statements made by the Company's technical personnel, and industry information all confirm that the Company's proposed 35-year ASL is inadequate and the 43-year ASL is much more appropriate and realistic.

[114] SCE-14, Chapter VII, Part 2, page 219.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $17,851,000 reduction to the Company's annual depreciation expense on a stand-alone basis.

G. Account 369-Distribution Services

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 369- SERVICES?

A. The Company has proposed retaining the currently approved 35-year ASL, but modifying the survivor curve from a R0.5 to a R1 curve.[116]

Q. WHAT IS SCE'S BASIS FOR ITS PROPOSED LIFE PARAMETERS?

A. It appears the Company relied on a combination of statistical analysis and input from technical personnel. It also appears the Company relied on industry information, given that it approximates the Company-proposed life parameters.[117]

Q. IS THE R1 CURVE THE BEST FITTING CURVE FROM THE COMPANY'S STATISTICAL ANALYSES?

A. No. The R1 curve is the 4th best fitting curve.[118] The R1 curve also exhibited ASLs ranging from 37 years to 42 years, with the longer ASLs being indicative of more recent experience bands.[119]

Q. WHAT WERE THE RESULTS FROM THE BEST FITTING SURVIVOR CURVES?

A. As shown in the table below, the 3 best statistical fitting survivor patterns indicate ASLs ranging from a low of 41 years to a high of 56 years. In other words, approximately the lowest ASLs exhibited in the longer experience bands (20, 30 and

[115] SCE-8, Chapter XI, Part 2 revised workpaper page 182.
[116] SCE-8, Chapter XI, Part 2 revised workpaper page 205.
[117] Id.
[118] SCE-8, Chapter XI, Part 2 revised workpaper page 208.
[119] Id.

40-years) for the top 3 fitting curves equal or exceed the highest ASL indicated by the R1 curve proposed by the Company.

ACCOUNT 369 LIFE CURVE COMBINATIONS

	SC	R0.5	S-.5	R1
5-year	56	48	47	42
10-year	52	45	44	39
15-year	50	44	42	38
20-year	49	43	42	38
30-year	48	42	41	38
40-year	48	42	41	37

As can be seen in the table above, the R1 curve produces ASLs approximately 4 to 14 years shorter than the 3 better fitting curves. Thus, from a statistical analysis standpoint, the Company's life parameters are too low.

Q. WHAT SPECIFIC INFORMATION DID TECHNICAL PERSONNEL PROVIDE?

A. According to the Company's workpapers, technical personnel indicated that a 30 to 35-year ASL was applicable for both underground and overhead services.[120] However, this statement does not appear to be consistent with the Company's interview notes, which indicate that copper overhead services have an estimated ASL of 45 to 55 years, while the newer aluminum triplex services have estimated ASLs of 30 to 35 years.[121] The interview notes further state that "when everything is underground, the equipment will show longer lives."[122] Therefore, while copper makes up a small percentage of the investment in this account, the recognition that underground services will have a longer ASL than overhead services (presumably

[120] Id. at revised page 205.
[121] Id. at page 9.
[122] Company's response to TURN 3-4 attachment.

referring to aluminum triplex rather than copper services), indicates something greater than a 35-year ASL based on the information provided by technical personnel. This is especially true given the fact that, contrary to the impression left by the interview notes, underground services comprise approximately 65% of the investment in this account, even though overhead services comprise 70% of the number of services. The Company's interview notes reflect input based on the number of services, rather than a dollars of investment standpoint. Given that life analyses are based on a dollar basis rather than a unit or quantity of services basis, it is easy to see the confusion on the part of the Company.

Q. WHAT DO YOU RECOMMEND FOR THIS ACCOUNT?

A. I recommend a 44-year ASL with a corresponding R0.5 as a conservative estimate in favor of the Company for the life parameters for this account.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on a proper recognition that underground services comprise the majority of dollars of investment and will continue to increase in comparison to the amount invested in overhead services in the future.[123] In addition, a closer review of the historical data and the results of the SPR analysis show that longer ASLs than those proposed by the Company are indicated. Next, approximately 60% of the investment in this account has been added in the last 15 years.[124] Therefore, a review of the results from the shorter SPR experience bands is appropriate. The shorter bands indicate higher ASLs, and further indicate trends towards higher ASLs for the investment in this account. These results are consistent with the increase in underground versus overhead services, and the recognition of the high level of retirement activity that transpired from the mid-80s through the early 1990s, but which has significantly tapered off during most of the 1990s.[125] These higher levels of retirement during the mid-80s through the early 1990s were due to

[123] Company's response to TURN 3-16b.
[124] SCE-8, Chapter XI, Part 2 revised workpaper page 205.
[125] Id. at page 215.

two programs that appear to have been completed.[126] The diminished level of retirement activity, in conjunction with much greater levels of additions, are reflected in the longer ASLs that are recognized in the shorter experience bands. During the on-site interviews, technical personnel further confirmed that retirement activity associated with bare wire is associated only with overhead services. Thus, as more of the account becomes associated with underground services, one less retirement force will be experienced. Therefore, while a longer ASL would be indicative of: (i) the better fitting curves and the trends in the data that reflects the switching from overhead to underground, and (ii) the completion of prior major replacement projects, I have elected to remain conservative in favor of the Company until more historical data attributable to underground investment becomes available. In future depreciation studies, the life should be lengthened further if the SPR results continue to show such longer ASLs.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation reduces the Company's annual requested depreciation expense by $11,642,000 on a stand-alone basis.

H. Account 370-Distribution Meters

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 370-METERS?

A. The Company has proposed reducing the ASL for meters from 39-years to 30-years, and changing the dispersion pattern from an SC curve to an R2 curve.[127]

Q. WHAT IS SCE'S BASIS FOR ITS PROPOSED SIGNIFICANT CHANGE?

A. It appears the Company combined the effects of its statistical analysis and industry data with the expectation of its technical personnel for a shorter life because of switching to electronic metering in order to arrive at a 30-year ASL.[128]

[126] Company's response to TURN 3-16d.
[127] SCE-8, Chapter XI, Part 2 revised workpaper page 217.
[128] Id.

Q. DO YOU AGREE WITH SCE'S PROPOSED LIFE PARAMETERS?

A. No. I believe the Company has not properly interpreted the results of its SPR analyses on the industry data. I recommend a 28-year ASL, which is 2 years shorter than the Company's proposed level.

Q. PLEASE FURTHER EXPLAIN YOUR BASIS.

A. The critical issue here is the change in the mix of the investment from mechanical metering to electronic metering. Given that these two types of metering equipment apparently have dramatically different expected ASLs, one would normally expect the Company to perform separate SPR analyses on each investment. However, the Company admits that it cannot segregate investment between mechanical and electronic metering.[129] Left with this less than desirable situation, one has to turn to historical data and interpret it as best one can given the changing type of investment and the timing of such investment.

Q. WHAT STATISTICAL INFORMATION CAN BE OBTAINED FROM THE RESULTS OF THE SPR ANALYSIS?

A. The SPR analyses demonstrate dramatically different quality of statistics for individual survivor patterns over time.[130] The 5 and 10-year experience bands indicate mid to high-modal curves, while longer experience bands indicate low modal curves. Again, this can be expected given the change in the mix of the investment in this account. The lack of homogeneity of the type of investment results in less than consistent results between experience bands over long periods of time. However, recognizing that the introduction of electronic metering generally began between 10 and 15 years ago, I believe the results of the shorter experience band should be given more weight since it is indicative of the downward trend that will be experienced as more of the investment in the account becomes related to electronic metering. The 5-year experience band indicates ASLs ranging from 27 to 29-years. Thus, a 28-year ASL is a reasonable overall expectation.

[129] Company's response to TURN 3-17b.

Q. HOW DOES YOUR RECOMMENDATION COMPORT TO INDUSTRY INFORMATION?

A. I am aware that utilities reporting to the industry survey in the past quite often have long lead times between updating of depreciation parameters. Therefore, the 32-year industry ASL average most likely does not reflect the more current impact that electronic meters would have on the ASL for the industry. Again, as a greater percentage of meters become electronic, the ASL should decrease.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommended 28-year S3 curve results in an increase in annual depreciation expense of $3,881,000 on a stand-alone basis for 2003. Further, I recommend that the Company segregate its investment into the two different types of meters and analyze each separately for the next depreciation study.

I. Account 373-Street Lighting and Signal System

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 373-STREET LIGHTING AND SIGNAL SYSTEM?

A. The Company has proposed a 35-year ASL with a corresponding R0.5 dispersion `pattern. This represents an increase from the existing 31-year ASL and a change from the currently approved SC dispersion pattern.[131]

Q. WHAT IS THE BASIS FOR SCE'S PROPOSED LIFE PARAMETERS?

A. The Company apparently modified the ASLs obtained from its statistical analysis due to a poor conformance index. It did so by giving weight to industry statistics and conversations with operations personnel.[132]

Q. WHAT DID INDUSTRY STATISTICS INDICATE?

[130] SCE-8, Chapter XI, Part 2 revised workpaper page 220.
[131] SCE-8, Chapter XI, Part 2 revised workpaper page 229.
[132] Id.

A. Industry statistics indicated a low-modal left curve with an L0 being the most predominant.[133]

Q. WHAT INFORMATION DID THE DEPRECIATION ANALYST OBTAIN FROM TECHNICAL PERSONNEL?

A. Interview notes indicate that technical personnel stated that "retirements are slowing down – no new technology to effect luminaries – not replacing poles as much anymore."[134] The Company also indicated that it has a new philosophy to replace component parts of street lighting equipment rather than to repair them.[135] It should be noted that the interview notes do not reflect any mention of the new philosophy set forth in the Company's depreciation study.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED LIFE PARAMETERS?

A. No. The Company's proposed estimated ASL is based on a dollar weighting of 45-years of poles, 15-year for luminaries, and 35-years for cable.[136] Unfortunately, the Company could not provide any documentation for such estimates other than to state that they were provided verbally to in-house personnel or were based simply unsubstantiated estimates by in-house personnel based on experience.[137] In addition, the Company's 35-year estimate for cables is based on its proposed life parameters for distribution Account 369-services. As discussed previously, the Company's estimate for distribution services of 35-years in inadequate, and a more appropriate longer ASL has been recommended.

Q. WHAT DO YOU RECOMMEND FOR THIS ACCOUNT?

A. I recommend a 38-year ASL with a corresponding R0.5 survivor curve. My recommendation is based on a review of the results of various SPR band analyses, the Company's admission that retirements are slowing, that no new technology is

[133] Id.
[134] Company's response to TURN 3-4 attachment.
[135] SCE-8, Chapter XI, Part 2 revised workpaper page 229.
[136] SCE-8, Chapter XI, Part 2 workpaper page 10.

effecting luminaries, and that the Company is not replacing poles to the same extent that it has in the past. In addition, I have relied on the recognition that the Company did change out investment in this account at a much greater pace during the early to mid-1980s.[138] This earlier activity most likely corresponded to the change in technology for luminaries (incandescent to mercury vapor, to sodium vapor) that the industry experienced during similar time frames. Finally, consistent with the Company's practice in its 1995 depreciation study, I relied more heavily on the 5-year experience band in order to reflect recent growth and de-emphasized unusual retirements in the early to mid-1980s.[139]

Therefore, when the better fitting life parameters are reviewed in conjunction with the stable technology and lack of replacement programs necessary for this investment, and further taking into consideration longer life expectations for cable as I have recommended for Account 369, a 38-year ASL is more appropriate.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $776,000 reduction to the Company's annual depreciation expense on a stand-alone basis.

J. Account 390-Structure and Improvements

Q. WHAT HAS THE COMPANY PROPOSED FOR GENERAL PLANT ACCOUNT 390-STRUCTURES AND IMPROVEMENTS?

A. The Company has proposed a 6-year reduction in ASL to a 30-year level, and has also proposed changing the dispersion pattern from an R3 to an R5.[140]

Q. WHAT IS SCE'S BASIS FOR ITS CHANGE IN LIFE PARAMETERS?

[137] Company's response to TURN 3-18, part 2, subparts d and e.
[138] SCE-8, Chapter XI, Part 2 revised workpaper page 239.
[139] 1995 depreciation study, SCE 14, Part 2, workpaper page 275.
[140] SCE-8, Chapter XI, Part 2 revised workpaper page 246.

A. The Company concluded that historical retirement activity was adequately consistent to rely on an SPR analysis.[141] Then, based on the statistical analysis which showed a high order R curve, the Company selected an R5 curve with a corresponding 30-year ASL.[142]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The Company's exclusive reliance on the SPR results fails to adequately consider what is reflected in both the additions and retirements associated with this account.

Q. PLEASE EXPLAIN FURTHER.

A. At the end of 2000 (the end of the depreciation test period), the Company had approximately $425 million of investment in this account.[143] The 10 largest structures on a dollar basis booked in this account reflected approximately 73% of that balance.[144] The structures consist primarily of multi-story steel and concrete buildings constructed from the 1970s to the 1990s.[145] Structures of this nature have expected lives much greater than 30-years (unless the Company can demonstrate something extremely unusual for these buildings compared to similar type structures elsewhere). Yet, it appears the Company elected to accept without question the results of the SPR analysis. Such analysis inappropriately captures the retirement activity of only some of the investment. It does not capture the life characteristics of the majority of investment. This situation occurs when items lacking homogeneity are included in one account.

A review of the major retirements that have occurred indicate a significant clustering around the replacement of roofs, carpeting, ceiling tiles, HVAC duct work, control or security systems, or leased facilities.[146] Obviously, these retirements are not the

[141] SCE-8, Chapter XI, Part 2 un-revised workpaper page 243.
[142] Id. at revised page 246.
[143] Id.
[144] Company's response to TURN 2-14.
[145] Id.
[146] Company's response to TURN 4-12b.

retirement of the entire structure. This is no different in nature from the recognition of interim retirements for generating facilities. The Company practices a life span approach for that investment and recognizes that pumps, motors, etc. will have to be replaced at generating facilities while the entire generating facility continues to operate. Apparently, for office buildings the Company did not recognize the similarities of interim retirements versus the retirement of the entire investment at a single location.

Q. DO OTHERS IN THE INDUSTRY UTILIZE SPR ANALYSES FOR THE INVESTIGATION OF LIFE PARAMETERS FOR THIS ACCOUNT?

A. Yes. However, it has been my experience that either the level of interim retirements have not distorted the overall ASL to the extent that it has for the Company, or that others recognize the lack of homogeneity in the process and make appropriate compensation during the evaluation phase of a depreciation study. This reaction can be seen based on the results of the Company's survey of depreciation statistics. There, the Company recognizes that the industry exhibits in excess of a 40-year ASL.[147]

Q. IS IT PROBABLE THAT THE DOLLAR WEIGHTING OF THE INTERIM TYPE RETIREMENTS COULD REDUCE THE EXPECTED OVERALL ASL TO THE LEVEL PROPOSED BY THE COMPANY?

A. No. If one assumes a very minimal life span of 50 years for concrete and steel structures and that 70% of the investment is associated with structures, then the dollar weighted ASL would already exceed the 30-year life proposed by the Company, not giving any weight to the remaining 30% of the investment in items such as roofs, HVAC duct work, carpeting, etc.

Q. BASED ON YOUR REVIEW OF THE INTERIM RETIREMENT TYPE ACTIVITY FOR THE COMPANY, WHAT TYPE OF LIFE IS EXHIBITED?

[147] SCE-8, Chapter XI, Part 2 revised workpaper page 247.

A. After a review of some of the major interim retirements that the Company identified, it would appear that roofs can be expected to last approximately 15 years, while internal components such as carpeting, ceiling tile, and duct work in excess of 20 to 25 years, with monitoring and fire protection equipment lasting possibly as little as 10 years.[148]

Q. WHAT IS YOUR RECOMMENDATION FOR THIS ACCOUNT?

A. I recommend a 50-year ASL with a corresponding S2 survivor curve. My recommendation is based on a review on the type of investment in the account, SPR analyses, industry comparative data, my experience and judgment, and an effort to be conservative in favor of the Company. Indeed, Company technical personnel interviewed on-site could not identify why its office building and other structures could not reasonably last for at least 50 years.

As previously noted, the Company's exclusive reliance on the results of its SPR analysis is misplaced. The SPR analysis recognizes the retirements associated with roofs, parking lots, HVAC duct work, etc. and not the actual concrete and steel structure, which obviously will have a much longer ASL. The retirement of an entire building is much more critical to the proper determination of the overall ASL than is the retirement of minor components. Indeed, a review of the major items of dollars retired since 1989 demonstrates that there is very limited data applicable to the retirement of a complete facility.[149] Moreover, during the on-site interviews with Company technical personnel, the Company described how the limited retirements of entire facilities were associated with "atypical" situations.

From a common sense standpoint, a 30-year ASL for steel and concrete buildings appears to be extremely short. The Company's largest single investment in this account is its general office building located in Rosemead. That building was placed

[148] Company's response to TURN 4-12b.

[149] Company's response to TURN 4-12b. The only examples seem to be the 1998 retirement of the Ontario airport facility in the amount $673,517 and the retirement of a structure at the Long Beach office building during 2000.

in service in 1971.[150] The Company's proposal for a 30-year ASL would imply that this facility should have already reached its ASL. Yet the Company admits that "[t]here are no plans for retirement [of this investment] at this time."[151] Moreover, during on-site interviews technical personnel stated that a study performed in 1998 that analyzed plans for 10 years in the future did not identify the retirement of this, or any other, building. I believe that this type of information clearly begs for a more thorough interpretation of the various items of information and factors available to establish a more realistic ASL.

Q. IN YOUR OPINION, WOULD A LONGER ASL ALSO BE APPROPRIATE?

A. Yes. Realistically, the Commission, if so inclined, would be well within reasonable bounds to increase the ASL to 60 years or longer. Such longer ASLs would still give more than adequate weight to the interim retirements that will transpire for office building such as replacement of roofs, carpeting, AC systems, etc.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in an $8,134,000 reduction to annual depreciation expense on a stand-alone basis.

SECTION IV: MASS PROPERTY SALVAGE ANALYSIS

1. General

Q. WHAT IS NET SALVAGE?

A. Net salvage, as defined in FERC's Uniform System of Accounts ("USOA"), is as follows:

> Net salvage value means the salvage value of property retired less the cost of removal.[152]

[150] Company's response to TURN 2-14.
[151] Id.
[152] Title 18 CFR pt 101, Definitions 19.

"Salvage" and "cost of removal" are defined in Title 18 CFR pt 101 as follows:

> Salvage value means the amount received for property retired, less any expenses incurred in connection with the sale or in preparing the property for sale; or, if retained, the amount at which the material recoverable is chargeable to Materials and Supplies, or other appropriate amount.
>
> Cost of removal means the cost of demolishing, dismantling, tearing down or otherwise removing gas plant including the cost of transportation and handling incidental thereto.

In other words, "net salvage" is simply the value received for the sale, reuse, or reimbursement of retired property (gross salvage) less the cost of retiring such property (cost of removal), whether the retirement reflects demolition of the item of plant or only the accounting transaction for retiring an item of property in place (abandonment).

Q. CAN YOU ILLUSTRATE USING AN ACTUAL EXAMPLE OF HOW SCE'S PROPOSED NET SALVAGE IMPACTS REVENUE REQUIREMENTS?

A. Yes. For Account 364 - Distribution Poles, Towers and Fixtures, the Company has requested a negative 175% net salvage. Given the plant balance as of December 2000 was $676,565,849, the Company's net salvage figure would result in approximately $1.2 billion of revenue requirement over the life of the investment above the recovery of the original $677 million investment.[153] The annual depreciation rate would increase to 6.17% to recover all proposed amounts. Absent the Company-calculated negative net salvage, the annual depreciation falls to only 1.23%.[154] The difference in rates applied to the $677 million plant balance for 2000 would result in over a $33 million annual revenue requirement impact for this account alone. For the 2003 test year, the impact would be greater.

[153] SCE-8, Chapter XI, Part 1, workpaper page 138.
[154] Id., with a zero level of net salvage.

Q. WHAT PERIOD HAS THE COMPANY CHOSEN TO ANALYZE ASSOCIATED WITH ITS NET SALVAGE ANALYSIS?

A. The Company has analyzed a 15-year period, 1986 through 2000.[155]

Q. HAVE YOU REVIEWED ALL THE INFORMATION PRESENTED BY THE COMPANY IN SUPPORT OF ITS NET SALVAGE REQUEST?

A. Yes. The information provided is inadequate to support or demonstrate the appropriateness of its request for an overall negative 45% net salvage.[156] SCE's depreciation study includes over $5.6 billion for negative net salvage related to mass property over the life of the investment.[157] The Company's request represents a 74% increase in negative net salvage when compared to existing net salvage both applied to the end of 2000 plant.[158]

Q. PLEASE SUMMARIZE YOUR RECOMMENDATION CONCERNING SCE'S PROPOSED NET SALVAGE VALUES FOR MASS PROPERTY.

A. The net salvage reflected in SCE's depreciation study is unreasonable, excessive and generally unsubstantiated. SCE's net salvage analysis is flawed and results in excessive levels of negative net salvage or inadequate levels of positive salvage. I recommend a reduction to SCE's depreciation expense based on recommended adjustments to its proposed net salvage levels. The stand-alone impact of my net salvage recommendations is a reduction of $146.7 million in annual depreciation expense from SCE's 2003 test year request.

Q. WHAT ACCOUNTS ARE YOU RECOMMENDING CHANGES TO FOR NET SALVAGE?

A. I am recommending changes to 10 mass property accounts. Those adjusted accounts are listed below.

[155] SCE-8, Chapter XI, Part 3.
[156] SCE-8, Chapter XI, Part 1, workpaper pages 138-139.
[157] Id. Mass property includes electric transmission, distribution, and general plant.
[158] ($5.671 billion - $3.253 billion)/ $3.253 billion = 74%.

COMPARISON OF NET SALVAGE %				
ACCOUNT	EXISTING	SCE'S PROPOSAL	TURN'S RECOMMENDATION	CHANGE FROM SCE'S PROPOSAL
353 Transmission Station Equipment	15	-5	5	10
354 Transmission Towers & Fixtures	-60	-85	-30	55
355 Transmission Poles & Fixtures	-50	-115	-50	65
356 Transmission Overhead Conductors & Devices	-50	-95	-35	60
364 Distribution Poles, Towers & Fixtures	-100	-175	-60	115
365 Distribution Overhead Conductors & Devices	-110	-120	-70	50
367 Distribution Underground Conductor & Devices	-55	-60	-15	45
368 Distribution Line Transformers	10	-10	5	15
369 Distribution Services	-60	-100	-45	55
390 General-Structures & Improvements	-5	-10	50	60

Q. WHY DO YOU BELIEVE SCE'S PROPOSED NET SALVAGE LEVELS ARE INAPPROPRIATE?

A. There are numerous problems with SCE's proposals. In part, the bases for my recommended changes are:

- SCE has failed to justify its allocation of costs between costs of removal and the installation cost of replacement plant.
- SCE has failed to recognize significant amounts in its APFD that it segregates into a category entitled "Other Items." Based on Company supplied information, there is no basis to have excluded such amounts from the net salvage analysis. Recognition of these amounts would further reduce the negative level of net salvage proposed by the Company.
- SCE has recognized but failed to properly adjust for the inclusion of higher cost of removal beginning in 1997 associated with reliance on outside contract labor to perform retirement activities. This results in more negative net salvage proposals than are warranted.
- SCE has failed to properly recognize for certain accounts the relationship of the account investment mix compared to the

investment mix of the annual retirements. This failure to properly recognize investment mixes can render the historical data base less useful for predicting what will transpire when the Company retires the majority of investment in an account in the future.[159]

- SCE has failed to adequately recognize, or to recognize at all in some cases, the likely impact of economies of scale as it retires a greater portion of plant on an annual basis in the future.

2. <u>Incorrect Accounting for Cost as Cost of Removal</u>

Q. DOES THE COMPANY'S HISTORICAL DATA BASE INCLUDE INCORRECT AMOUNTS AS COST OF REMOVAL?

A. Yes. While the Company cannot provide the costs it claims are associated with removal activity in conjunction with a replacement, it appears that a significant amount of its cost of removal is accounted for incorrectly.[160]

Q. WHY DO YOU BELIEVE THIS TO BE THE SITUATION?

A. Normally when a retirement occurs for a utility such as SCE, it is associated with the replacement of plant. Situations such as a pole breaking or wire snapping requires the replacement of the pole or the replacement of the broken wire in order to continue providing safe and reliable service to its customers. Such work appears on a single work order covering the replacement activity and all associated removal work. When such replacement activities result in a retirement, the Company charges some portion of the replacement work order cost to cost of removal rather than the entire cost as an increase in the dollar level of addition associated with the replacement.

Q. DOES SCE FOLLOW THE USOA AS IT APPLIES TO THIS SITUATION?

[159] For example, the Company's reliance on data reflecting a disproportionate level of circuit breaker retirements in an account where overhead conductors make up the majority of the investment artificially increases the level of negative net salvage. See discussion for Account 356, below.
[160] Company response to TURN 4-25, Part 2, g.

A. No, not in my opinion. The definitions to the plant instructions set forth in the USOA indicate that the Company is not properly following accounting procedure for replacement activity.

Q. WHAT DEFINITIONS ARE YOU REFERRING TO?

A. According to the USOA, replacing or replacement "means the construction or installation of electric plant in place of property retired, together with the removal of the property retired."[161] (Emphasis added) This definition clearly notes that replacement activity includes the costs associated with the removal of the property retired. Therefore, when the USOA defines the cost of removal as "the cost of demolishing, dismantling, tearing down, or otherwise removing electric plant including cost of transportation and handling incidental thereto" it must be limited to those situations where there is no associated replacement.[162] The Company's net salvage analysis includes cost associated with the removal of property retired, which should be booked as an increase in new plant cost rather than in the accumulated provision for depreciation as a cost of removal.

Q. DOES THIS TYPE OF ACCOUNTING HAVE AN IMPACT ON RATE BASE?

A. No. Rate base remains the same whether a $100,000 cost incurred is booked as additional plant in service item or as cost of removal in the APFD.

Q. WHAT DIFFERENCE DOES THE MANNER IN WHICH SUCH COSTS ARE BOOKED MAKE IN THE RATE SETTING PROCESS?

A. The incorrect booking of costs to cost of removal rather than as additional cost to a new plant addition overstates the cost of removal and thus reduces net salvage. Since the net salvage analysis relies on a very small sample in comparison to total plant in service the impact is significantly magnified in the depreciation analysis. While

[161] 18 CFR Part 101, Definition 30 A.

[162] Therefore, when USOA Plant Instructions 10B(2) states that cost of removal shall be charged to the depreciation account, it applies to actual costs that appropriately meet the preceding definitions. The costs incurred in replacement activity are addressed in the replacement definition of the USOA. Further, the reference in instruction 10B(2) to retirement of plant "with or without replacement" appropriately applies to the retirement dollars noted in the same sentence, not to the last sentence in that instruction. This approach is also consistent with USOA Plant Instruction 2(A).

$100,000 of cost may have a relatively small impact if incorrectly included in rate base, a $100,000 cost inappropriately recorded in a particular account as cost of removal may actually result in millions of dollars of additional depreciation expense being inappropriately charged to ratepayers during current periods.

Q. PLEASE EXPLAIN WHY THE REVENUE REQUIREMENT IMPACT OF THE SAME $100,000 COST INCURRED IS DIFFERENT WHEN IT IS HANDLED AS REDUCTION IN THE COST OF A PLANT ADDITION VERSUS NET SALVAGE.

A. Assume that the plant account in question has an outstanding gross plant balance of $100,000,000. Further, assume that the Company's proposed level of retirements, gross salvage, and cost of removal during the historical period reviewed for net salvage purposes are $1,000,000, zero and $150,000, respectively. Finally, assume a 10-year ASL utilizing the whole life technique and no existing reserve deficiency or surplus.

The net salvage relationship from the Company's approach would be a negative 15% [($0-$150,000) / $1,000,000]. The negative 15% applied to the $100,000,000 depreciable balance would produce a $15,000,000 total net salvage requirement, or $1.5 million per year over the 10-year life. Alternatively, if the $100,000 booked as cost of removal were instead booked as $100,000 of additional plant costs, the annual impact would drop to only $500,500 per year, or approximately a million dollars less annually.[163] Since rates may not be changed for several years, the impact to customers is multiplied for each year between rate cases.

Q. WHAT ADJUSTMENT HAVE YOU MADE TO THE COMPANY'S NET SALVAGE ANALYSIS TO CORRECT THIS INAPPROPRIATE ACCOUNTING?

[163] Net salvage would drop to a negative 5% [($0-$50,000) / $1,000,000]. The depreciable balance would increase to $100,100,000 [$100,000,000+$100,000]. Total net salvage would equal $5,005,000 [$100,100,000 x .05]. Annual requirements would equal $500,500 [$5,005,000 / 10 years].

A. I have made no explicit numerical adjustment, largely because the Company contends that it does not have the information to quantify the actual impact of such situation. I am referencing it here to identify another problem which may result in overstating cost of removal utilized for depreciation purposes. In fact, given that the Company's proposals for net salvage are the most negative or one of the most negative values for many accounts compared to an industry survey, this accounting problem is very likely part of the underlying cause for this situation.

Q. CAN YOU PLACE SCE'S NET SALVAGE REQUEST FOR ITS MASS PROPERTY ACCOUNTS INTO PERSPECTIVE WITH THE INDUSTRY?

A. Yes. There are 25 mass property accounts for which SCE has proposed net salvage and for which it has also calculated an industry average comparison.[164] For 22 of these 25 accounts, the Company proposes net salvage levels more negative or less positive than its calculated industry average for the same account. That represents 88% of the accounts. Moreover, the Company's proposed level equals or exceeds the most extreme industry reported levels for 11, or 44%, of the accounts.[165] If the industry average were used to set the utility's total net salvage level, the resulting figure would be $4.3 billion lower than the Company's figure. In other words, SCE's proposal is 4.2 times the industry average level. SCE's proposal deviates from the industry average to such an extent that it requires substantial and meaningful support and justification before it can be considered credible.

3. "Other Items" APFD Category

Q. HOW DOES THE COMPANY CATEGORIZE AMOUNTS IN ITS APFD?

A. SCE's net salvage workpapers sets forth the categorization of accumulated provision for depreciation ("APFD") into four areas. Those four categories are retirements, cost of removal, salvage, and "Other Items".[166]

[164] SCE-8, Chapter XI, Part 1, workpaper page 19 and Part 3, various pages.
[165] Id.
[166] SCE-8, Chapter XI, Part 3, various pages.

Q. WHAT DOES SCE REFLECT IN ITS "OTHER ITEMS" CATEGORY?

A. The Company creates and utilizes an "Other Items" category as a category to account for miscellaneous reserve transactions, including various types of reimbursements as well as amounts associated with sales, condemnations, plant write-offs, and underground conversions. [167]

Q. DOES THE COMPANY INCLUDE PORTIONS OF THE "OTHER ITEMS" CATEGORY IN ITS NET SALVAGE ANALYSIS?

A. Yes. The Company includes all reimbursable amounts on a pro forma basis.[168] This means the Company excludes sales, condemnations, plant write-offs, and underground conversions from its net salvage analysis.

Q. CAN THE COMPANY IDENTIFY WHICH CATEGORIES THE REMAINING AMOUNTS CORRESPOND TO?

A. No. The Company claims that the requested information is not available.[169]

Q. WHAT IS THE COMPANY'S BASIS FOR NOT INCLUDING THE REMAINING "OTHER ITEMS" IN ITS NET SALVAGE ANALYSIS?

A. The Company claims that the remaining amounts associated with sales, condemnations, and plant write-offs do not represent reimbursements but simply reflect accounting offsets to the net book value.[170] In addition, the Company claims that the underground conversion contributions do not represent recurring business practice, and thus apparently have been eliminated because they are not representative of future events.

Q. DO YOU AGREE WITH THE COMPANY'S CLAIMS?

[167] Company's response to TURN 4-18.
[168] Id.
[169] Company's response to TURN 17-3a.
[170] Company's response to TURN 17-3b.

A. No, not in total. I do agree that non-recurring types of events should not be reflected in the net salvage analysis since the purpose of the analysis is to establish a net salvage level applicable to future time periods.

Q. WHAT SUPPORT AND JUSTIFICATION HAS SCE PROVIDED FOR ITS CLAIMED BASIS FOR EXCLUDING THE REMAINING "OTHER ITEMS"?

A. Almost entirely none, despite TURN's request for such support or justification.[171] The only support was limited to undergrounding costs, and even there the Company simply claims that it is based upon a Commission decision without even identifying the decision. As for the remaining "Other Items", the Company provided no justification whatsoever.

Q. DO YOU BELIEVE THE "OTHER ITEMS" AMOUNT SHOULD BE INCLUDED IN THE NET SALVAGE ANALYSIS?

A. Based on the information provided by the Company, I believe the amount should be included. Sales and condemnations can reasonably be expected to continue to occur in the future. While they may occur at a higher level than previously, they may also occur at a lower level. Therefore, without any other documentation, the historical level provides an acceptable proxy. As it pertains to plant write-offs, the Company has not provided any documentation associated with what these write-offs pertain to. Therefore, even if these amounts may not be appropriately reflected in the net salvage analysis, there is no way to segregate them from any other component contained therein.

Q. WHAT IS YOUR RECOMMENDATION REGARDING THESE AMOUNTS?

A. Given the Company's general failure to provide any support, justification, or documentation regarding its exclusion of these amounts from the net salvage analysis, I recommend their incorporation into the analysis. I further recommend that the Commission order the Company to maintain records in sufficient detail in the future to clearly identify what each of the various "Other Items" amounts corresponds to and

[171] Company's response to TURN 17-3c.

to provide full and complete support and justification for their treatment in future net salvage analyses. It should further be noted that the inclusion of these amounts in the net salvage analysis reduces the Company's proposed negative net salvage levels from the extreme levels proposed compared to the industry averages. The lack of information that the Company has available regarding these amounts and its extreme position compared to the industry further justify the inclusion of the "Other Items" amounts at this time.

4. <u>Higher Costs Due to Outside Contractors/Overtime</u>

Q. DOES THE USE OF OUTSIDE CONTRACTORS RESULT IN HIGHER COST OF REMOVAL?

A. Yes. The Company has referenced its reliance on outside contractors as one reason it has historically experienced high cost of removal.[172] The Company further admits that in recent years, the level of contractor usage has been increasing due to a growing volume of work requirements.[173] This increase in reliance on outside contractors began in 1997. This is significant because the use of contract labor "tends to be more expensive than SCE labor."[174]

Q. HAS THE HISTORICAL PERFORMANCE OF RETIREMENT RELATED WORK PAID AT AN OVERTIME RATE RESULTED IN HIGHER COST OF REMOVAL?

A. Yes. As the work requirements increase resulted in the need for outside contractors, so did the level of work performed by SCE employees paid on an overtime basis.

Q. IS THIS SITUATION ANTICIPATED TO CONTINUE INDEFINITELY?

A. No. As part of the justification for large expenditures on software projects, SCE relies on increased efficiencies that should result. In fact, SCE makes several statements along this line, including the following:

[172] SCE-8, Chapter XI, Part 3, revised workpaper page 271.
[173] Company's response to TURN 17-6.
[174] SCE-8, Chapter XI, Part 3, workpaper page 30.

- Under our existing systems, work is calculated and scheduled in man-days which is not as accurate as scheduling in man-hours. We want to move to scheduling in hours to improve the utilization of our construction crews. Scheduling by man-hours allows more work to be scheduled each day. This will enable us to schedule a full eight hours of productive work.[175] (Emphasis added).
- The focus of WMS is to design and implement improvements in the TDBU work management processes, utilize features from both transmission and distribution systems and work practices. We can achieve significant reductions in cost, while at the same time improving the quality and timeliness of our work.[176] (Emphasis added).
- The WMS project will improve our scheduling, allow us to enhance our productivity measurement standards, and to redesign our material handling routines. These improvements will contribute to more efficient use of our field construction and maintenance crews. Because these crews work on both capital and expense projects, we expect to save on our O&M and capital expenditures. The reductions in field construction and maintenance crews will come largely from reduced use of contractor crews. Our own crews currently have more work than can be handled internally. This results in expenditures for overtime and the hiring of contract crews to perform overflow work. Therefore, we do not expect reductions in SCE crews, but we will experience a reduction in contractor crews.[177] (Emphasis added).
- Outage Management Software (Pre 1995) – In a storm situation, teams would be formed and assigned sections of a given area or city. Each team would print out the trouble calls and sort them by meter book number and location. The teams had to manually look up the addresses of the trouble orders in a Thomas Brothers map book to find the city and geographic location. Once the address was found, the team searched for the distribution circuit that served the area in question. There could be several circuits serving one area, so this was a very time-consuming effort. A person might have to look up numerous circuit maps before they found the affected equipment which related to the specific customer's outage. The only way to confirm that the outage information was correct was for the crew in the field to actually go to the location and find the problem. This was time-consuming and inefficient because the manual system was prone to errors,

[175] SCE-6, Volume 6, Chapters I-V, page 117.
[176] Id. at 124.
[177] Id. at 147.

> despite the best efforts of the people in our Service Center. The manual process was very labor intensive and inefficient. Crews were often sent out more than once to the same trouble location because it was assumed to be part of a previously identified outage. This resulted in unnecessary delays in assigning crews to some problem locations. It was extremely difficult to locate and manage crews and to track the hours each crew had worked.[178] (Emphasis added).

Q. HOW HAVE YOU RECOGNIZED THIS INFORMATION IN YOUR ANALYSES?

A. I attempted to remove the specific impact of these activities in order to produce a more appropriate and realistic level of cost of removal that should occur in the future. However, the Company could not provide the specific contract labor removal costs.[179] Therefore, I normalized the 1997 to 2000 cost of removal levels to the 1990 to 1996 levels where appropriate. This approach addresses the increase in cost of removal historically due to both a greater reliance on outside contractors and increased levels of overtime for SCE employees.

5. <u>Economies of Scale</u>

Q. IS SCE'S HISTORICAL NET SALVAGE DATA BASE REPRESENTATIVE OF REASONABLE FUTURE EXPECTATIONS?

A. No. The Company's historical data base, as it applies to net salvage, reflects a situation in which relatively few retirements have transpired when compared to the level of retirement activity that will occur in the future on an annual basis. In other words, in future years as a greater level of the Company's investment approaches its ASL, a larger amount of investments will retire on an annual basis. This greater level of annual retirements should result in a reduction to the per unit cost of removal as economies of scale are realized. Depreciation analysis should recognize this

[178] Id. at pages 159-160.
[179] Company's response to TURN 17-6.

information. In general, the Company's approach limits itself to an analysis of historical data without proper evaluation of future expectations.

Q. ARE YOU AWARE OF ANY SOURCES THAT CONCUR WITH YOUR CONCEPT OF ECONOMIES OF SCALE?

A. Yes. The National Association of Regulatory Utility Commissioners ("NARUC") in their publication *Public Utility Depreciation Practices* indicates, among other things, that while future cost of removal may be logically higher than past costs, this premise does not necessarily indicate that the percentage cost of removal will increase over time. Moreover, the publication acknowledges that as labor costs increase over time so do the number of items to be removed, thus making it more economical in many cases to invest in special tools, which actually result in an overall decrease in cost of removal per item removed.[180] The appropriate depreciation rates in the future should reflect such a recognition of future economies of scale.

Q. ARE THE GAINS IN PRODUCTIVITY REFERENCED IN SUPPORT OF SIGNIFICANT EXPENDITURES FOR NEW SOFTWARE ALSO APPLICABLE TO THE CONCEPT OF ECONOMIES OF SCALE?

A. Yes, as previously noted in my testimony.

6. Account Specific Adjustments

A. Account 353-Transmission Station Equipment

Q. WHAT HAS THE COMPANY PROPOSED FOR TRANSMISSION ACCOUNT 353-STATION EQUIPMENT?

A. The Company has proposed a negative 5% net salvage. This is a substantial reduction from the currently approved 15% positive net salvage.[181] This proposed

[180] 1996 edition at pages 160 and 161.
[181] SCE-8, Chapter XI, Part 3 workpaper page 203.

change results in more than a $10 million per year increase in revenue requirements.[182]

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSED CHANGE FROM A POSITIVE TO A NEGATIVE NET SALVAGE?

A. The Company relied on a review of the most recent 5-year historical data to arrive at a gross salvage of 11% and a cost of removal of 14%. That result is a negative 3%, and the Company rounded to a negative 5%.[183] Further, the Company assumes that the higher cost of removal "can be due to higher environmental costs."[184] Finally, the Company states that "[m]ost retirements have been of circuit breakers which are in such poor condition at time of retirement there is no salvage value."[185] (Emphasis added).

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. I recommend a positive 5% net salvage for this account.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is also based on a review of the Company's historical data, but I give recognition to the fact that most of the recent retirements have been of circuit breakers that have no salvage value. I also recognize the impacts on the data due to the "Other Items" component of the APFD.

Q. PLEASE DISCUSS THE SIGNIFICANCE OF THE CIRCUIT BREAKERS IN THE DETERMINATION OF YOUR RECOMMENDED NET SALVAGE LEVEL.

A. The Company recognizes that circuit breakers make up most of the retirements in recent periods. Moreover, the Company relied on a 5-year experience band in determination of gross salvage and cost of removal. What the Company failed to

[182] SCE-8, Chapter XI, Part 1 workpaper page 139.
[183] SCE-8, Chapter XI, Part 3 workpaper page 203.
[184] Id.
[185] Id.

discuss was that circuit breakers comprise only about 10% of this account.[186] Next, the Company's historical data indicates a trend towards a lower level of gross salvage, with one of the lowest levels being 1999, where the Company experienced only a 4.58% gross salvage level.[187] When this particular year is investigated more thoroughly, one realizes that the Company retired the greatest number of 500 KV circuit breakers during 1999.[188] While the Company was able to identify $3.2 million in 1999 attributable only to material cost for such retirements, it could not identify the total dollars of retirements.[189] Thus, even without knowing the total level of retirements associated with these circuit breakers, we do know that a substantial amount of the total recorded retirement amount during 1999 was associated with circuit breakers rather than transformers. The Company has relied upon a non-representative time period, one in which the retirement of circuit breakers (with a gross salvage value of zero) is represented disproportionately compared to its level of investment in this account. While the trend in net salvage on its face appears to be downward or to a more negative level, either relying on a longer time frame to capture more of the transformer retirements, or eliminating 1999, the year in which the greatest level of circuit breakers were retired, would yield approximately a zero or slightly positive value. Such a value would be a more representative selection for net salvage.[190]

Q. ARE THERE OTHER CONCERNS ASSOCIATED WITH THE COMPANY'S HISTORICAL DATA?

A. Yes. The Company has not included millions of dollars in the APFD for this account in its net salvage analysis.[191] Recognition of <u>most</u> of these amounts as gross salvage

[186] Company's response to TURN 3-29a and SCE-8, Chapter XI, Part 2 revised workpaper page 35 ($165,742,101 / $1,628,703,790 = 10.2%).
[187] SCE-8, Chapter XI, Part 3 workpaper page 203.
[188] Company's response to TURN 4-15, Part 2, subpart d.
[189] Company's response to TURN 3-29b.
[190] SCE-8, Chapter XI, Part 3 workpaper page 204.
[191] SCE-8, Chapter XI, Part 3 workpaper pages 207-209.

would result in approximately a positive 5% net salvage.[192] In addition, the Company's failure to properly account for costs incurred when plant is retired and replaced with new plant has artificially increased cost of removal and thus reduced the level of net salvage. It is worth noting that during the on-site discussions with technical personnel of the Company, no one could identify what has changed since the 1995 depreciation study that explains why there is such a significant change in the level of net salvage.

Q. GIVEN THESE FACTS, WHY ARE YOU RECOMMENDING ONLY A POSITIVE 5% NET SALVAGE?

A. I am recommending a positive 5% net salvage for this account in order to remain conservative in favor of the Company. This recommendation only reflects the results of the historical data,[193] which in theory should be more representative of the mix of investment in the account rather than the inflated level of circuit breaker activity reflected in the recent data relied on by the Company. To the extent the Commission believes it is more appropriate to recognize other problems (e.g., charging costs to costs of removal rather than the cost of a replacement addition) with the Company's historical data base at this time, it should increase the net salvage to a positive 10% value.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation reduces depreciation expense by $6,110,000 on a stand-alone basis.

B. <u>Account 354-Transmission Towers and Fixtures</u>

Q. WHAT HAS THE COMPANY PROPOSED FOR TRANSMISSION ACCOUNT 354-TOWERS AND FIXTURES?

[192] The reason only <u>most</u> of the amounts were included is due to a $25 million amount in 1998, which I did not include. To the extent this amount were also included, it would result in a much greater positive level of net salvage.
[193] Excludes the $25 million amount in 1998 in "Other Items".

A. The Company has proposed a negative 85% net salvage. This compares to the previously approved negative 60% net salvage.[194]

Q. WHAT IS THE COMPANY'S BASIS FOR INCREASING THE LEVEL OF NEGATIVE NET SALVAGE?

A. The Company appears to rely solely on a review of its historical data, in particular relying on the 10-year shrinking bands.[195]

Q. DO YOU BELIEVE THIS APPROACH IS REASONABLE?

A. No. According to the Company, there were very few retirements associated with this account.[196] I believe this is something of an understatement given the fact that there was only a 0.36% retirement of plant compared to the existing plant balance over the entire 10-year band the Company relied on to develop its estimate.[197] This level of retirement activity does not rise to a reasonable level of materiality. It simply reflects too small of a sample to be given any meaningful consideration.

Q. EVEN THOUGH THE LEVEL OF MATERIALITY IS INADEQUATE, DOES IT NOT PROVIDE SOME INDICATION OF THE LEVEL OF NET SALVAGE FOR THIS INVESTMENT?

A. Yes, but only when properly interpreted. For example, the Company admits that "[m]ost retirements in [the] account are due to storm damage which usually requires work to be completed rapidly on an overtime basis and by outside contractors."[198] (Emphasis added). In other words, the cost of removal reflected in the very limited level of retirement activity is skewed towards atypical activity compared to what would normally be anticipated at a normal end of life for the majority of the investment.

[194] SCE-8, Chapter XI, Part 3 workpaper page 2.
[195] Id. at page 211.
[196] Id.
[197] Id.
[198] Id.

Q. IS THIS A SITUATION WHERE THE CONCEPT OF ECONOMIES OF SCALE COMES INTO PLAY?

A. Yes. The Company proposes an S6 curve with a 60-year ASL for this account, which indicates that retirements would peak at an annual level of 8.7% of the additions of any given vintage. This peak annual level of retirement is over 240 times the average annual level the Company experienced during the entire historical 10-year period it relied on to establish its proposal.[199]

Q. HOW DOES THE COMPANY'S PROPOSED NEGATIVE 85% NET SALVAGE COMPARE TO INDUSTRY STATISTICS?

A. The Company admits that its proposal "[t]ends to be at high end of industry average."[200] Actually, it is at the highest point of the industry data.[201] In fact, SCE's proposal is 3 to 4 times the industry average.[202] Even though the Company recognizes that its proposal is at the highest end of industry comparative data, and that the account has very few retirements, these facts apparently had no bearing on its proposal. This represents flawed evaluation of available data, which leads to an inappropriate proposal.

Q. WHAT DO YOU RECOMMEND FOR THIS ACCOUNT?

A. I recommend a negative 30% net salvage. I believe that this is a conservative estimate in favor of the Company. I believe the negative 30% net salvage, which is still more negative than the industry average, should set the maximum the Commission should allow based on the available information.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on a review of historical data, taking into consideration the Company's recognition that recorded cost of removal is inflated due to reliance on overtime and outside contract labor in storm-related situations. In my opinion, it is

[199] 8.7% / (.36% / 10 years) = 242.
[200] SCE-8, Chapter XI, Part 3 workpaper page 211.
[201] Id. at page 214.
[202] Id.

inappropriate to seek basically the highest negative net salvage level exhibited by the industry based on a database the Company knows is skewed by such factors. In addition, the database is extremely limited and cannot be given significant weight absent any other form of confirmation. In this instance, the industry data indicates a significantly less negative net salvage level (in the negative 20% range).[203]

In addition to industry data, recognition of the excessive level of labor costs as previously discussed for the years 1997 through 2000, and recognition of the "Other Items" component of the APFD would result in a Company specific historical data level closer to a negative 30%.[204] Finally, while no specific impact has been associated with the concept, the Company has, in my opinion, employed inappropriate allocation of costs to cost of removal, as described earlier. To the extent this concept were to be reflected in my analysis, it would result in a less negative net salvage than I recommend here.

Q. DID YOU ALSO RELY ON THE CONCEPT OF ECONOMIES OF SCALE?

A. No. While economies of scale will most likely result in a lower per unit cost for cost of removal, I have not specifically further reduced the Company's negative net salvage for this consideration. However, it should be recognized that the negative 30% could be supported through reliance on the concept of economies of scale, if the Commission were uncomfortable relying on the recognition of "Other Items" amounts reflected in the APFD.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation would result in a $7,003,000 reduction in the Company's annual depreciation expense on stand-alone basis.

[203] SCE-8, Chapter XI, Part 3 workpaper page 214.

C. Account 355-Transmission Poles and Fixtures

Q. WHAT HAS THE COMPANY PROPOSED FOR TRANSMISSION ACCOUNT 355-POLES AND FIXTURES?

A. The Company is proposing a negative 115% net salvage. This compares to the currently approved 50% negative net salvage.[205]

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL TO MORE THAN DOUBLE THE NEGATIVE NET SALVAGE FOR THIS ACCOUNT?

A. The Company relied on a review of the historical data for the past 5 years. The Company's review indicates negative net salvage at "well over –100%."[206] The Company also believes the increase in cost of removal is due to contractor costs and environmental costs.[207]

Q. IS THERE OTHER INFORMATION THE COMPANY REFERENCED REGARDING NET SALVAGE FOR THIS ACCOUNT?

A. Yes. The Company also stated that it "[m]ay see some leveling off in future due to economies of scale with infrastructure program."[208] In other words, the Company believes that there may be less negative net salvage in the future, as cost of removal per unit may go down with economies of scale.

In addition, the Company stated that the industry shows high negative net salvage. However, what is more important and what the Company failed to specifically state is that its proposed negative 115% net salvage far exceeds the highest level reported by any other utility in its industry survey.[209]

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[204] Relying on the relationship of cost of removal to retirements for the period 1997-2000, the period during which the Company claims to have employed outside contractors, as compared to similar relationship exhibited during the balance of the 1990s.
[205] SCE-8, Chapter XI, Part 3 workpaper page 2.
[206] SCE-8, Chapter XI, Part 3 workpaper page 219.
[207] Id.
[208] Id.
[209] Id. at page 222.

Q. DID THE COMPANY PROVIDE ANY UNDERLYING SUPPORT OR DOCUMENTATION ASSOCIATED WITH ITS CLAIMED INCREASE IN COST OF REMOVAL FOR THIS ACCOUNT DUE TO CONTRACTOR COSTS OR ENVIRONMENTAL COSTS?

A. No.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. I believe the 115% negative net salvage is not justified. It is worth reiterating that the Company's proposed level is approximately 45% higher than the highest value reported in the industry. Indeed, it is almost 4 times the industry average level.[210] Given this situation, it is unreasonable to increase the level of negative net salvage so dramatically based on the limited information and support provided by the Company.

Q. WHAT DO YOU RECOMMEND FOR THIS ACCOUNT?

A. I recommend the retention of the existing negative 50% net salvage as a very conservative estimate in favor of the Company. The negative 50% net salvage is approximately 1.6 times the industry average.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. There are several concerns in addition to the simple fact that the Company's proposal on its face appears to be quite excessive. The Company admits that economies of scale may have an impact in the future. As more removal activity is undertaken on a planned basis, the negative level of net salvage should decrease (i.e., a less negative value). In addition, the Company admits that it relies on contract labor, "which tends to be more expensive than SCE labor."[211] While the Company believes it will be in a position of relying on outside labor for some unidentified period in the future, it is unreasonable to expect customers or the Company to incur such unnecessary higher costs for long periods of time. Moreover, the Company admits to a reduction in the level of outside contractors in the near term future as part of the justification for its

[210] Id. at page 222.

significant expenditures on new software.[212] To the extent less expensive in-house labor is used to perform such activities (and not at overtime levels), it will result in a reduction in the level of cost of removal, and thus a less negative level of net salvage. Elimination of the potential impact of contractor labor and overtime premiums would produce an approximate negative 50% net salvage over both a 5 or 10-year period.[213]

Q. IS THERE ANOTHER PROBLEM WITH SCE'S HISTORICAL DATA?

A. Yes, I believe so. The Company could not provide a specific level of allocation between cost of removal and the cost of installing new plant in situations where replacement activity occurs.[214] However, a review of the activities the Company would charge as cost of removal in a replacement situation indicates that SCE allocates too great a level of costs incurred to cost of removal rather than as cost of the replacement addition. This would result in significant overstatement of cost of removal and the creation of excessive levels of negative net salvage. This situation undoubtedly is part of the reason the Company's historical data is so dramatically different than those of the rest of the industry. The Company has failed to demonstrate or explain why its values are credible when they differ so from the rest of the industry, especially when the rest of the industry is subject to the same environmental concerns and considerations that the Company must face. Moreover, during the on-site interviews with SCE technical personnel, no one could identify and changes since the 1995 depreciation study that would explain the significant increase in negative net salvage.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation would result in a $5,622,000 reduction to the Company's annual depreciation expense on a stand-alone basis.

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[211] Id. at page 30.
[212] SCE-6, Volume 6, Chapter I -V.
[213] Contract labor impact estimated by measuring relationship of 1997 through 2000 cost of removal to retirements compared to the same relationship for the 1990s prior to 1997.
[214] Company's response to TURN 4-19, Part 2f.

D. Account 356-Transmission Overhead Conductors and Devices

Q. WHAT HAS THE COMPANY PROPOSED FOR TRANSMISSION ACCOUNT 356-OVERHEAD CONDUCTORS AND DEVICES?

A. The Company has proposed a negative 95% net salvage for this account. This compares to the existing negative 50% net salvage.[215]

Q. WHAT IS SCE'S BASIS FOR ITS SIGNIFICANT PROPOSED INCREASE IN NEGATIVE NET SALVAGE?

A. The Company notes several factors. First, it notes that the salvage market for investment in this account has deteriorated due to the Asian economy and that less copper conductors are being scrapped. The Company further states that it is using "a lot of contractor labor for removal, much of this retirement work is related to storm damage done on premium time, which tends to drive up the cost of removal."[216] Finally, the Company states that due to fluctuation in the data, it relied on a 10-year trend.[217]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED SIGNFICANT INCREASE IN THE NEGATIVE NET SALVAGE?

A. No, I do not. While the Company identified general reasons why its costs appear to be excessive, the end result appears to simply rely on a mechanical review of historical data. This represents flawed evaluation of available data, which leads to an inappropriate proposal.

Q. WHAT DO YOU RECOMMEND?

A. I recommend a negative 35% net salvage for this account. My recommendation is based on a review of historical data, giving more specific recognition to the most current year, which reflects the most significant annual level of retirement activity

[215] SCE-8, Chapter XI, Part 3 workpaper page 2.
[216] Id. at page 227.
[217] Id.

during the past decade.[218] In addition, my recommendation is closer to the industry levels (negative 22 to 26%).[219] Finally, I also considered the impact on gross salvage due to the Company's treatment of the "Other Items" component of the APFD.[220]

Q. ARE THERE OTHER BASES FOR YOUR RECOMMENDATION?

A. Yes. While I have not further reduced my recommended level of negative net salvage for the Company's reliance on contract labor for purposes of removing plant, and the fact that much of the retirement activity to date has been due to storm damage, I do believe these items are significant. They have caused the historical data base to include excessive costs compared to what can reasonably be expected in the future. In addition, as discussed previously, the high level of negative net salvage reflected in the historical data is undoubtedly due in part to the Company's allocation of costs between cost of removal and the cost of the new replacement investment. The Company's request for significant increases in cost of removal, especially when its costs exceed the industry average by a wide margin, warrants presentation of detailed and documented support and justification. The Company has failed in this respect. In fact, during on-site interviews, SCE technical personnel could not identify any changes that would explain the significant change in net salvage since the 1995 depreciation study.

Q. DOES YOUR RECOMMENDATION ALSO REFLECT ECONOMIES OF SCALE?

A. Yes. Based on my review of historical data, the 2000 level of retirements is approximately 4 times the level of retirement activity experienced during 1998 or 1999. In those two years, the Company experienced significant levels of net salvage (i.e., -168% and –274%, respectively).[221] In 2000, net salvage was a negative 33%. Therefore recognizing the reduction in cost of removal when larger amounts of

[218] Id.
[219] Id. at page 230.
[220] Id. at pages 231-233.
[221] Id. at page 227.

retirement activity occur also recognizes, to some extent, the impact of economies of scale.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation would result in a $13,406,000 reduction in the Company's depreciation expense on a stand-alone basis for 2003.

E. Account 364-Distribution Poles, Towers, and Fixtures

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 364-POLES, TOWERS, AND FIXTURES?

A. The Company has proposed a negative 175% net salvage. This compares to the currently approved negative 100% net salvage level.[222] The Company's proposed change would impact revenue requirements in excess of $15 million per year.[223]

Q. WHAT IS THE COMPANY'S BASIS FOR SUCH A SIGNIFICANT INCREASE IN NEGATIVE NET SALVAGE?

A. The Company claims that cost of removal is very high due to contract labor and high environmental cost. The Company also states that salvage has been decreasing since the Company no longer handles retired poles. In addition, the Company notes that the current trend of high cost of removal "could decrease some due to economies of scale as replacement programs accelerate in the future."[224] The Company also indicates that a number of companies report in excess of a negative 100% net salvage for this account as an apparent basis for support of its negative 175%.[225] Finally, the Company notes that it relied on a 10-year average review of the historical data to establish the actual parameters used to determine the negative 175% level.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED INCREASE?

[222] SCE-8, Chapter XI, Part 1 workpaper page 3.
[223] A 75 percentage point increase in negative net salvage times the plant balances, divided by a 34.8-year remaining life, as set forth on SCE-8, Chapter XI, Part 1 workpaper page 138.
[224] SCE-8, Chapter XI, Part 3 workpaper page 271.

A. No. I recommend a negative 60% net salvage as a conservative estimate in favor of the Company.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. A significant portion of the Company's request appears to be attributable to the recent reliance on outside contractors which results in an increase in labor costs compared to what would be the situation when the Company retains adequate in-house personnel.[226] Comparing the cost of removal relationship to retirements for the period prior to 1997, when the Company began relying more heavily on outside contractors, to the 1997-2000 period yields an approximate 90 percentage point increase in cost of removal.[227] The historical data must be adjusted for this issue.

Next, a review of the Company's workpapers indicates that there are substantial amounts reflected in the Company's APFD that are not counted as gross salvage by the Company.[228] Given the Company's identification of what these other items could be, it appears the Company's accounting for depreciation purposes is inappropriate.[229] The historical data must be adjusted for this issue.

The Company's historical data is also skewed due to its allocation of costs incurred during replacement activity. When asked to provide all support and justification for its allocation of costs between cost of removal and the cost of the replacement investment, the Company simply stated that "[a]s these activities are associated with the removal of the assets, they are accounted for as cost of removal."[230] In other words, the Company's seems to suggest that however it chooses to allocate costs is the correct way. This position is simply inappropriate.

[225] Id.
[226] SCE-8, Chapter XI, Part 3 workpaper page 271, and Company's response to TURN 4-24 part 2f.
[227] SCE-8, Chapter XI, Part 3 workpaper page 271.
[228] SCE-8, Chapter XI, Part 3 workpaper pages 277 and 278.
[229] Company's response to TURN 4-18.
[230] Company's response to TURN 4-24, part 2d.

Q. HAVE YOU REQUESTED THE INFORMATION PERTAINING TO THE LEVEL OF REPLACEMENT ACTIVITY REFLECTED IN THE COMPANY'S HISTORICAL DATA?

A. Yes. I requested information relating to the number of poles retired without replacement during the past 10 years. However, the Company stated that the data was not available without conducting a burdensome study.[231] In other words, the Company does not know the level of retirements reflected in its historical database associated with replacement activity. Given the Company's customer base is not shrinking, it is reasonable to expect that most pole retirements are made in conjunction with a replacement pole.

Q. GIVEN THE POTENTIAL PROBLEMS IN THE COMPANY'S HISTORICAL DATA, WHAT LEVEL OF NET SALVAGE WOULD BE INDICATED BY THE INDUSTRY?

A. The Company has measured the industry average as approximately a negative 38% to a negative 48%.[232] Therefore, the Commission could adopt a negative 50% net salvage and still be in a reasonable and appropriate range.[233] This position is reinforced given that during the on-site interviews, Company technical personnel could not identify reasons for the significant change in net salvage since the 1995 depreciation study.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation of negative 60% would result in a $24,836,000 annual reduction to the Company's depreciation expense on a stand-alone basis.

F. Account 365-Distribution Overhead Conductors and Devices

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 365-OVERHEAD CONDUCTORS AND DEVICES?

[231] Company's response to TURN 4-24, part 1c.
[232] SCE-8, Chapter XI, Part 3 workpaper page 274.
[233] SCE-8, Chapter XI, Part 3 workpaper page 274.

A. The Company has proposed a negative 120% net salvage. This compares to the existing approved level of negative 110% net salvage.[234]

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. The Company relied on a historical 10-year average from its shrinking band analysis for both gross salvage and cost of removal.[235] In addition, the Company again cited the decline in the scrap metal market.[236] Finally, the Company recognizes that removal costs have risen due to the use of contract labor on most retirements and the fact that copper conductor makes up a smaller percentage of the investment today.[237]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The Company's proposal appears to be quite excessive, as does the existing approved level. I recommend an 70% level of negative net salvage for this account.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. First, it is important to note that the use of outside contractors appears to have increased the cost of removal by approximately 27 percentage points when data in the 1990s prior to the initiation of the use of contract labor is compared to the 1997 through 2000 period.[238] For the previously stated reasons, it would be unreasonable to continue to expect outside contract labor or SCE employees paid at overtime rates to be utilized for extended periods of time. However, the Company still has other problems associated with its proposal. Those include significant dollar amounts reflected under "Other Items" in SCE's net salvage workpapers.[239] When these amounts are more properly classified as gross salvage, it further reduces the negative level of net salvage reflected in the historical database.[240]

[234] SCE-8, Chapter XI, Part 3 workpaper page 3.
[235] Id. at page 279.
[236] Id.
[237] Id. at page 31.
[238] SCE-8, Chapter XI, Part 3 workpaper page 279.
[239] SCE-8, Chapter XI, Part 3 workpaper pages 284 and 285.

The Company's allocation of cost incurred associated with replacement activity also has a potential significant impact for this account. Again, the Company simply states that these are the activities that should be cost of removal as its explanation for why it selects certain activities as cost of removal rather than costs associated with new replacement plant.[241] This is not an explanation, but rather a mere reiteration of its belief and practices.

Q. ARE THERE OTHER CONCERNS ASSOCIATED WITH THE COMPANY'S RELIANCE ON HISTORICAL DATA?

A. Yes. The investment in this account is comprised of approximately 79% overhead conductors, while circuit breakers make up approximately only 2%. However, the recent retirement activity indicates that a disproportionate level of retirements is associated with circuit breakers.[242]

Additionally, the quantity of conductor retired during the more recent periods, a period when high cost of removal has been incurred, corresponds to the lowest quantity of cable being removed since 1987.[243] Therefore, concerns regarding economies of scale also are at issue for this account as it pertains to the Company's proposal.

Q. WHAT ARE THE INDUSTRY INDICATIONS?

A. The Company's proposal <u>exceeds the highest</u> level of negative net salvage it identified from its industry review, and not by a small amount.[244] The industry level as measured by the Company indicates a value between negative 20% and negative 30% as being the average. Moreover, the dispersion for the industry indicates anything above a negative 70% to be more of an outlier.

[240] The combined impact of contract labor and "Other Items" results in approximately a negative 95% net salvage over both a 5 and 10-year band.
[241] Company's response to TURN 4-25, Part 2g.
[242] Company's response to TURN 4-25, Part 1i.
[243] Company's response to TURN 3-12a.

Q. PLEASE SUMMARIZE THE BASIS OF YOUR RECOMMENDATION.

A. Given the very problematic historical data the Company relied upon, there can be no doubt that the Company's proposed level is excessive. The only question is what is a more appropriate and realistic net salvage level for this account. My recommended level is approximately 2 to 3 times the industry average, and is equal to or higher than all values reported in the industry survey, with the exception of one outlier.[245] That outlier is SCE itself. My recommendation is based not only on the identifiable corrections to the Company's database, but also on consideration of impacts for which there is no specific information available from the Company. The 70% negative net salvage is very conservative in favor of the Company. The Commission would be well within reasonable bounds if it chose to adopt a negative 30% or 40% level.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation reduces the Company's annual depreciation expense by $10,866,000 on a stand-alone basis.

G. Account 367-Distribution Underground Conductors and Devices

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 367-UNDERGROUND CONDUCTORS AND DEVICES?

A. The Company has proposed a negative 60% net salvage. This compares to the existing negative 55% net salvage level approved by the Commission.[246]

Q. WHAT IS THE BASIS FOR THE COMPANY'S PROPOSAL?

A. The Company relied on a 10-year analysis of historical data for its proposal. The Company further indicated that its change-out program for reclosers and switches will result in less future salvage but higher cost of removal.[247]

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[244] SCE-8, Chapter XI, Part 3 workpaper page 282. Note the one extreme value between a (110) – (119) is SCE's 1992 value.
[245] Id.
[246] SCE-8, Chapter XI, Part 3 workpaper page 3.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. In my opinion, the Company's proposal suffers from several deficiencies. Once again, the higher level of cost of removal during more recent periods appears to be attributable to the Company's reliance on outside contractors. As previously discussed, it is unreasonable to expect the Company to continue charging ratepayers excessive levels of labor costs for an extended period of time. For this account, the cost of removal relationship during the period when the Company relied on outside contractors was 22 percentage points greater than the prior period back to 1990.[248]

As is the situation for other accounts, the Company also carries a substantial amount of dollars in the "Other Items" category associated with the APFD.[249] Based on the Company's description of what is contained in "Other Items," there should be no reason why this amount is not considered gross salvage.[250]

Q. WHAT IS THE RESULTING NET SALVAGE FOR THIS ACCOUNT, CORRECTING FOR THESE TWO ITEMS?

A. The resulting net salvage would be approximately negative 40% rather than the Company's proposed negative 60%.

Q. DOES THIS LEVEL OF NET SALVAGE RESULT IN AN APPROPRIATE LEVEL FOR RATEMAKING PURPOSES?

A. No. There are still further problems with the Company's historical database. The Company's allocation of costs between cost of removal and cost of a new addition in instances where replacement activity occurs appears to be arbitrary and unsubstantiated. The over-assignment of costs to cost of removal rather than to cost of the new replacement item distorts the historical data and causes the net salvage to be more negative than it would otherwise be.

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[247] SCE-8, Chapter XI, Part 3 workpaper page 295.
[248] Id.
[249] SCE-8, Chapter XI, Part 3 workpaper pages 299-301.
[250] Company's response to TURN 4-18.

Q. ARE THERE OTHER CONCERNS APPLICABLE TO THIS ACCOUNT?

A. This is another instance in which the historical net salvage is not reflective of the mix of the investment in the account. For example, cabling comprises approximately 87% of the investment in the account.[251] However, the retirement activity for the period provided by the Company indicates that cabling comprises only approximately 60% of the retirements in the historical database.[252] Thus, the historical database skews the net salvage results from what might be representative if the percent of cable retirements mirrored the level of cabling in the account. This is reinforced by the Company's admission that "[s]witches being retired now are smaller and lighter, resulting in less scrap metal."[253] This implies there would be a different level of scrap value if cabling were to comprise a larger percentage of historical retirements.

Q. ARE THERE OTHER CONCERNS WITH THE COMPANY'S HISTORICAL DATABASE?

A. Yes. The Company notes that "newer switches will not accepts lead cable, so when the newer switches are installed, all the lead cable contiguous to the switches also needs to be replaced. This results in high removal cost."[254] In response to a data request, the Company further explains this situation as one in which they have stopped installing PILC cable in 1967. Therefore, when switches installed with this type of cabling are replaced, it is highly desirable to replace the PILC cabling at the same time.[255] The fact that the Company stopped installing PILC cabling around 1967, in conjunction with the estimated 35-year ASL proposed by the Company for this account, would imply that the average remaining level of investment in this type of cable should be small. This was confirmed during on-site interviews with SCE technical personnel. Therefore, there should be a reduction of this type of high cost of removal situation in the future.

[251] Company's response to TURN 3-13a.
[252] Company's response to TURN 4-26, Part 1b.
[253] SCE-8, Chapter XI, Part 3 workpaper page 32.
[254] Id.

Q. WHAT LEVEL OF NET SALVAGE DO YOU RECOMMEND FOR THIS ACCOUNT?

A. I recommend a negative 15% net salvage for this account. My recommendation is based first on the fact that nothing more negative than a negative 40% net salvage level is appropriate given the identifiable corrections to the Company's database (i.e., "Other Items", and elimination of higher contract labor costs). Unfortunately, the state of SCE's data means there is no way to specifically quantify the additional impacts of unknown allocation of costs between cost of removal and new plant additions, correction for the difference between the mix of retirement investment versus the remaining investment in this account (i.e., switches versus cable), and the fact that there should be relatively little additional PILC cable removed in the future when switches are installed. A reasonable alternative is to make a further reduction to an approximate negative 15% net salvage. This level is based on a review of industry information, as reported by the Company.[256] The industry average as measured by SCE is between a negative 5% and negative 15%.[257]

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a reduction of $31,821,000 to the Company's annual depreciation expense on a stand-alone basis.

H. Account 368-Distribution Line Transformers

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 368-LINE TRANSFORMERS?

A. The Company has proposed a negative 10% net salvage, compared to the existing approved positive 10% net salvage.[258]

[255] Company's response to TURN 4-26, Part 2e.
[256] SCE-8, Chapter XI, Part 3 workpaper page 290.
[257] Id.
[258] SCE-8, Chapter XI, Part 3 workpaper page 3.

Q. WHAT IS THE COMPANY'S BASIS FOR THIS CHANGE FROM A POSITIVE TO A NEGATIVE LEVEL OF NET SALVAGE?

A. The Company relied on a review of historical data from its 5-year shrinking band analysis. Further, the Company noted that technical personnel stated that there should be less salvage since changes in the design have resulted in less copper contained within the equipment.[259]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED CHANGE?

A. No. It is important to place the Company's proposed change in proper perspective. The 20 percentage point change in net salvage will result in over a $20 million per year increase in annual revenue requirements. After review of the available information, I recommend a positive 5% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. As a first step, the Company's historical database must be modified to reflect the impact of the "Other Items" in the APFD that it failed to include in gross salvage. This would result in a net salvage value somewhere between a negative 5% and a positive 1%.[260] Again, the Company's allocation of cost in situations where replacement activity occurs is inappropriate and overstates the level of cost of removal. Further, the Company's references to less copper contained in the Company's equipment is questionable since the Company cannot identify the amount of copper that comprises its existing investment, the copper investment retired during the past 10 years, or the copper level of investment added during the last 10 years.[261] Given the problems with the Company's data, a review of industry information provides additional insight to a reasonable level of net salvage.

Q. WHAT DID THE COMPANY STATE REGARDING INDUSTRY INFORMATION RELATING TO NET SALVAGE FOR THIS ACCOUNT?

[259] SCE-8, Chapter XI, Part 3 workpaper page 303.
[260] SCE-8, Chapter XI, Part 3 workpaper pages 307-309, and page 303.
[261] Company's response to TURN 4-27, Part 1, subparts a, b, and d.

A. While the Company states in its write-up that "[i]ndustry statistics show a lot of negative net salvage, up to –75%",[262] the Company's industry information yields a different conclusion. In fact, the majority of the industry surveyed report a zero or positive level of net salvage, with the average being approximately a negative 5%.[263] However, the average is skewed by what appears to be the negative 75% outlier referenced in the Company's write-up. Other than this one large negative value, the next highest negative value is less than 50%.[264] In fact, the industry information indicates that more utilities report a positive value rather than a negative value for net salvage. Given the industry indications, the quantifiable corrections to the Company's historical database, and further adjustment due to replacement accounting being warranted, I recommend a positive 5% net salvage.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation reduces annual depreciation expense by $17,851,000 on a stand-alone basis.

I. Account 369-Distribution Services

Q. WHAT HAS THE COMPANY PROPOSED FOR DISTRIBUTION ACCOUNT 369-SERVICES?

A. The Company has proposed a negative 100% net salvage for this account. This compares to the currently approved negative 60% net salvage.[265]

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. SCE relied more on a 10-year shrinking band analysis of historical data to smooth out the trend for its proposal.[266] The Company also reported higher cost of removal in 1997 and 1998 due to the effects of El Nino. The more severe storms associated with

[262] SCE-8, Chapter XI, Part 3 workpaper page 303.
[263] Id. at 306.
[264] Id.
[265] SCE-8, Chapter XI, Part 3 workpaper page 3.
[266] Id. at 311.

El Nino required higher labor costs and increased time to effect repairs as compared with performing the same work under non-storm conditions.[267]

Q. DO YOU AGREE WITH SCE'S PROPOSED NET SALVAGE LEVEL?

A. No. The Company's increase of 40 percentage points in its negative net salvage proposal results in over a $10 million annual increase in revenue requirements.[268] Based on my analysis, I recommend a negative 45% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. The Company's reliance on a 10-year shrinking band without adjustments is inappropriate. The Company admits that the 1997 and 1998 amounts are excessive due to the effects of El Nino. In addition, to the extent the Company relied on outside contract labor during this period, it further inappropriately increased the level of cost of removal. Adjusting the 1997 through 2000 period to correct for these events, and recognizing the "Other Items" amounts in the APFD appropriately as gross salvage, would result in an approximate negative 70% net salvage rather than the Company's proposed negative 100%.[269] However, there are still problems with the Company's historical database.

Q. WHAT OTHER PROBLEMS ARE REFLECTED IN THE COMPANY'S HISTORICAL DATABASE?

A. The Company has arbitrarily assigned costs between cost of removal and additional cost to plant in situations where replacement activity occurs. Unfortunately, the Company could not identify the amount of historical retirements attributable to replacement activity. Given that the Company is an ongoing growing concern, I would expect the vast majority of the retirements being associated with replacement activity. Therefore, further reduction in the negative level of net salvage is appropriate.

[267] Id at 32.
[268] SCE-8, Chapter XI, Part 1 workpaper page 138.
[269] 1997 and 1998 net, salvage was limited to the average of 1999 and 2000.

Q. WHAT DID INDUSTRY INFORMATION YIELD REGARDING THIS ACCOUNT?

A. The Company's write-up referenced that all industry statistics were negative for this account, with many over a negative 100% net salvage.[270] This statement is contradicted by SCE's workpapers, which clearly indicate that 4 out of 57 utilities in its survey reported positive values.[271] Further, what the Company did not note in its write-up was that the industry average overall was a negative 40 to a negative 45%, including the impact of one outlier utility that reported almost a 200% negative net salvage. Moreover, that one outlier utility reported only a negative 17% net salvage for underground services rather than almost a negative 200% for overhead services. Given that the majority of SCE's investment in this account is underground, the Company's review of industry information is skewed to a more negative position. Moreover, this datum had a disproportionate impact on the average, given that the next greatest level of negative net salvage was between 120 and 129%.[272] The Company's proposed negative 100% would place it in the highest 10% of negative net salvage values reported by the industry. Given the Company's problems with its historical database, I believe a negative 45% net salvage is more appropriate for the investment in this account. My recommendation for a negative 45% net salvage still leaves the majority of the industry reporting a less negative net salvage, thus indicating the conservative aspect of my recommendation.[273]

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation would reduce annual depreciation expense by $15,522,000 on a stand-alone basis.

[270] SCE-8, Chapter XI, Part 3 workpaper page 311.
[271] Id. at page 314.
[272] Id. at 314.
[273] Id.

J. Account 390-General Plant Structures and Improvements

Q. WHAT HAS THE COMPANY PROPOSED FOR GENERAL PLANT ACCOUNT 390-STRUCTURES AND IMPROVEMENTS?

A. The Company has proposed a negative 10% net salvage. This compares to the negative 5% net salvage previously approved by the Commission.[274]

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

A. The Company relied on a 15-year review of historical retirement data as the basis for its negative 10% net salvage.[275]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The Company's proposal relies on historical data reflecting the retirement activity associated with items such as roofs, carpeting, ceiling tiles, air-conditioning systems, and, for the most part, other non-structural items. As discussed in the life analysis portion of my testimony for this account, the vast majority of investment in this account is associated with multiple story steel and concrete structures. Therefore, the Company's historical analysis is misplaced from the perspective of the vast majority of the actual investment in this account.

Q. WHAT ARE YOU RECOMMENDING FOR THIS ACCOUNT?

A. I am recommending a positive 50% net salvage, which is a very conservative estimate in favor of the Company. My recommendation does not rely on the historical net salvage data, since it is not at all representative of the vast majority of investment in this account. My analysis relies on a more specific review of the investment in this account, as well as appropriate expectations of positive values associated with the disposition of concrete and steel office structures after 30 to 40 years of use. My analysis avoids the mistake reflected in the Company's analysis, since I recognize that the historical data relied on by the Company is not for the structures and improvements, but rather for the ancillary components.

[274] SCE-8, Chapter XI, Part 3 workpaper page 3.

Q. HAVE YOU CONTACTED COMMERCIAL REAL ESTATE BROKERS?

A. Yes. The information obtained from commercial real estate brokers in the Los Angeles area confirms that office space or commercial buildings in the area of the Company's general headquarters have appreciated rather than depreciated over time. This is typical of office space in major metropolitan areas. In fact, an office park built in the late 1970's, approximately 1 mile from the Company's general offices, is currently for sale at a rate of approximately $123 per square foot. If this dollar per square foot amount is applied to the Company's General Office Building 1, it would yield a sale price in excess of $81 million. This $81 million sale price would be in excess of 140% of the original office building value of $56.8 million.[276] Thus, the Company's claim for a negative 10% net salvage is specifically refuted not only by logic, but also by actual office building sale price listings within a one-mile radius of the corporate offices.

Q. DID YOU MAKE AN OFFER TO TAKE OWNERSHIP OF PACIFIC GAS AND ELECTRIC COMPANY'S ("PG&E") OFFICE BUILDINGS IN APPLICATION 97-12-020?

A. Yes. In that proceeding, PG&E requested a negative 55% net salvage for its general plant account 390-Structures and Improvements. In that proceeding, I offered to have PG&E transfer title of its corporate office to me at no cost, and in return, I would allow PG&E use of the facilities for free if it paid the upkeep and taxes, and promised to move out of the facilities when the building reached 120% of their proposed ASL. That offer would have saved ratepayers a tremendous amount of money by not having to pay negative net salvage for the removal of the office buildings and other structures, and give that utility office space solely for the cost of operation, maintenance, and tax expenses. In other words, all parties would benefit.

I am prepared to make that same offer to SCE. SCE has also proposed a 30-year ASL for this account. 120% of the ASL would be a 36-year period. Given that the

[275] SCE-8, Chapter XI, Part 3 workpaper page 337.

Company placed its General Office Building 1 in service in 1971, my offer would allow the Company to stay in that facility until the end of 2006. Moreover, the Company will not have to be concerned about possibly incurring up to $5.7 million of negative net salvage associated with this building, and thus would not need to charge ratepayers for such costs. Moreover, I am prepared to take advantage of other buildings SCE would be willing to offer on comparable terms. However, as was the case in PG&E's rate proceeding, I do not believe this Company will accept my offer either, since it is based on the very unrealistic premise that the Company will in fact incur negative net salvage for these structures, rather than being able to sell them for well above book value.

Q. WHAT ARE YOU RECOMMENDING FOR THIS ACCOUNT?

A. Assuming the Company does not take me up on my offer to transfer title of the buildings, I would recommend nothing less than a positive 50% net salvage at this time. This amount is significantly below the level of net salvage that would be obtained using the office park within 1 mile of the Company's headquarters as a comparable sales entity. However, if the Commission were inclined to adopt a positive net salvage of 100% to 140%, it would be well within reason and information in the record to do so.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation will result in a $14,842,000 reduction to the Company's annual depreciation expense on a stand-alone basis.

SECTION V: <u>STEAM PRODUCTION PLANT</u>

Q. WHAT HAS THE COMPANY PROPOSED FOR ITS FOUR CORNERS GENERATING INVESTMENT?

[276] Company's response to TURN 2-14, item number 1.

A. The Company has proposed a 45-year life span along with a .0025 interim retirement rate for its life parameters, and a negative 5.1% net salvage.[277]

Q. WHAT LEVEL OF DEPRECIATION EXPENSE DO THESE PARAMETERS PRODUCE?

A. The Company is requesting $9,634,000 of annual depreciation expense related revenue requirements associated solely with its Four Corners generation investment.[278]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSALS?

A. No. SCE's proposals are not consistent with industry experience, especially Company specific experience.

Q. PLEASE EXPLAIN WHAT YOU ARE REFERRING TO.

A. It is unrealistic at this point in time to consider a 45-year life span appropriate for a large coal-fired generating facility. However, the real lapse in logic is associated with the Company's proposal to continue collecting through negative net salvage an amount for the demolition of its investment in Four Corners. Whether or not it was appropriate in the past to collect negative net salvage for this investment, the fact that the Company has in recent years sold older and less efficient generating resources for significant positive levels of net salvage, and the fact that it had a potential sale price in excess of the net book value of its share of Four Corners, completely dispels that notion.

Q. WHY IS THIS SIGNIFICANT?

A. The Company's proposed negative net salvage effectively assumes that the Four Corners units will be demolished at the end of a 45-year life span. Moreover, it attempts to collect in current rates the cost of such future demolition without any consideration of the more likely alternative for the sale of the generating facility at some point in the future. This struthious approach to determining future net salvage

[277] SCE-8, Chapter XI, Part 1 workpaper page 133.

warrants at least some explanation, given that the Company has sold the vast majority of its other generating facilities for well above net book value. The Company's proposal has to be considered not only a worst case scenario but one with very limited probability of occurrence.

Q. HAS THE COMPANY SOLD MANY GENERATING UNITS IN THE PAST?

A. Yes. SCE has sold approximately 60 generating units (at approximately a dozen stations) beginning in the late 1997.

Q. WHAT IS THE COMPANY'S ACTUAL HISTORICAL EXPERIENCE ASSOCIATED WITH THE SALE OF GENERATING FACILITIES?

A. The Company claimed that the information regarding age, gross salvage, cost of removal, and dollars of retirements associated with generation that it previously sold was "not available."[279] In spite of the Company's inability to provide information regarding major transactions which have occurred within the last 4 to 5 years, I have determined that the average age of the Company's gas-fired units at the time of sale was in excess of 33 years, with 9 of the generating units having already obtained an age equal to or greater than 45 years. Moreover, the Company was able to obtain an average of 2.2 times net book value of the generating facilities at the time of sale. In other words, rather than incurring a negative net salvage at the time of retirement, the Company received more than 2 times net book, or a significant positive level of net salvage. Company-specific historical activity clearly demonstrates that it simply did not have to incur the cost of removal associated with the dismantlement of generating stations as it had previously estimated.

Q. IF SCE WERE TO RECEIVE 2.2 TIMES NET BOOK VALUE FOR ITS INVESTMENT IN THE FOUR CORNERS GENERATING STATION, WOULD IT RESULT IN A POSITIVE OR NEGATIVE NET SALVAGE?

A. It would result in a significant level of positive net salvage. In fact, based on Company estimated levels of plant and APFD as of the end of December 2002, this

[278] Id. at page 16.

would be equivalent to a positive 45% gross salvage rather than the 5% negative net salvage it is proposing.[280]

Q. WHAT BREAK-EVEN GROSS SALVAGE WOULD THE COMPANY NEED TO OBTAIN IF IT WERE TO SELL ITS SHARE OF FOUR CORNERS AS OF THE END OF 2002?

A. The Company would need to obtain an approximate 20% gross salvage level as of the end of 2002 in order to recover the remaining net book value it has estimated for the Four Corners investment. This is less than half of the gross salvage it would receive if it were able to sell the Four Corners generating facility at a sales price equivalent to the 2.2 times net book value, the level it obtained from selling it gas-fired generation. It should be noted that as of the end of 2002, the Four Corners generating units would be approximately the same age as the average age of its gas-fired generating units it sold during the past 4 to 5 years.[281]

Q. ARE YOU AWARE OF ANY REASON THAT WOULD REQUIRE THE COMPANY TO DISMANTLE THE FOUR CORNERS GENERATING FACILITY RATHER THAN SELLING THE FACILITY?

A. No.

Q. ARE YOU AWARE OF OTHER COAL-FIRED UNITS THAT HAVE BEEN SOLD DURING THE PRIOR 4 TO 5 YEARS?

A. Yes. Many coal-fired units have been sold during the past 4 to 5 years. Most of the units that I am aware of were older than the current age of the Four Corners units, yet I am unaware of any that received a sale price less than net book value. Many sold for up to 3 times net book value at the time of sale.

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[279] Company's response to TURN 9-8 and 9.

[280] SCE-8, Chapter XI, Part 1 workpaper page 20. Net investment of ($94.694 million x 2.2) / $464.729 million of depreciable plant balance = 44.8%.

[281] Four Corners Units 4 and 5 went into service in 1969 and 1970, respectively. Thus, at the end of 2002, the units would have an average age of approximately 33 years.

Q. WHAT CONCLUSION HAVE YOU DRAWN FROM THE VARIOUS ISSUES THAT IMPACT NET SALVAGE?

A. The Company's proposal reflects a low probability worst case scenario. In other words, the Company wants customers to pay for the total demolition of the Four Corners facility when, in my opinion, the likelihood of such an occurrence at the end of a 45-year period is remote. At the very least, SCE's proposal would leave it with a beneficial ownership interest (at no direct cost to itself) in a site that has transmission access, water rights, etc. available for future generating facilities.

I am aware that AB 6X, enacted in early 2001, prohibits the sale or transfer of utility-owned generation through the end of 2005. But there is no basis for presuming that sale prices in 2006 and beyond will be so substantially different from the sale prices seen through 2000, including the price offered for SCE's share of this plant. As previously noted, the Company has sold a significant number of gas-fired generating facilities during the past 4 to 5 years. On average, these units had achieved the same age as the Four Corners units are currently. Moreover, the Company was able to obtain 2.2 times net book value on average for the sale of such generating facilities. Reliance on actual history as a proxy would result in an approximate 45% gross salvage rather than the negative 5% net salvage the Company proposes. The significant potential for obtaining positive salvage is also demonstrated by others in the industry selling coal-fired units during the same time frame and SCE's own proposal to allocate to Four Corners $300 million of the total $550 million sale price it had negotiated for its interest in that plant and the Palo Verde Nuclear Generating Station in 2000.[282] In all instances that I am aware of, those utilities selling coal-fired units obtained net book value or greater, with many up to 3 times net book value.

Therefore, the Company's proposal is extremely skewed and lacks credibility. Based on statements made by SCE's technical personnel during on-site interviews, the Company did not give any weight to the concept of selling generating facilities. Alternatively, I believe it is not only reasonable to consider a possible sale, but it is

[282] CPUC Application No. 00-05-024.

the most probable situation. Absent realistic consideration of the future sale of the investment, customers will be overcharged in rates set in this GRC for the recovery of the investment.

Q. WHAT IS YOUR RECOMMENDATION?

A. A positive 45% level of gross salvage would be reasonable and appropriate, given the Company's historical experience for gas-fired generating units, and the normal relationship of coal-units being more costly than gas-fired generating units. However, such a situation would result in negative depreciation expense. Therefore, I recommend a zero level of depreciation expense as the first step for the Company's investment in the Four Corners generating facility.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY NEGATIVE DEPRECIATION EXPENSE.

A. A 45% positive salvage as of the end of 2002 for the Company's investment in the Four Corners generating facilities is equivalent to a sale price of approximately $209 million.[283] The $209 million amount would be approximately $114 million greater than the Company's estimated net book value as of that time.[284] Thus, the Company would have over-recovered its investment after including the impact of salvage. Given that the concept of depreciation is to recover only 100% of what the Company is entitled to, after taking into consideration net salvage, the proper treatment would be to credit customers for such over recovery during the remaining life of the facility. A credit (that is, negative depreciation over the estimated remaining life) would bring the Company and customers back into equilibrium (i.e., the Company recovers its net investment and customers pay the costs of the service they have obtained from the investment).

Q. HAVE YOU EVER ENCOUNTERED NEGATIVE DEPRECIATION?

A. Yes. While it is uncommon, it has occurred. I have seen it proposed by utilities in circumstances where a utility has recovered more than it should have. This situation

[283] Estimated depreciable plant balance of $464.729 million x 45%.

normally does not occur since utilities update depreciation expense on a relatively constant basis and attempt to correct for prior forecasting errors in the life and salvage parameters.

Q. WHY DO YOU PROPOSE A ZERO LEVEL OF DEPRECIATION IF IT APPEARS A NEGATIVE LEVEL IS WARRANTED?

A. First, my recommendation is a first step and very conservative in favor of the Company. Second, my recommendation is in conjunction with the Company being ordered by the Commission to perform a detailed analysis of alternatives to the demolition of the Four Corners generating facility at the time of retirement. Such analysis should be presented in the Company's next rate proceeding. Absent such an order, I would recommend a negative depreciation rate for 2003, which would compensate customers for the overpayments they have made historically. Viewed differently, my initial step recommendation effectively weights the probability of dismantlement versus sale of the generation facility on an approximate 50/50 basis. In other words, if one were to assume an approximate 45% gross salvage through sale, and that a sale has an equal probability of occurring as the Company's proposed demolition of the Four Corners site, with a corresponding negative 5% net salvage, it would produce approximately a zero level of remaining depreciation expense to be recovered at this point in time.[285]

Q. IN THE EVENT THE COMMISSION HAS CONCERNS REGARDING EITHER A NEGATIVE DEPRECIATION EXPENSE OR A ZERO LEVEL OF DEPRECIATION EXPENSE FOR THE COMPANY'S INVESTMENT IN THE FOUR CORNERS GENERATING FACILITY, IS IT APPROPRIATE TO GRANT THE COMPANY'S REQUEST AS PROPOSED?

A. No. If the Commission, for whatever reason, is not comfortable with a zero or negative level of depreciation expense for the Four Corners generating facilities, it

[284] SCE-8, Chapter XI, Part 1 workpaper page 20. $209.128 million - $94.694 million.

[285] The average of a positive 45% with a negative 5% yields a positive 20% net salvage. A positive 20% net salvage times the $464.729 million of depreciable plant = approximately $99 million of salvage. This amount is approximately $6 million greater than the net book value of $94.694 million. The analysis assumes that there would be very limited levels of cost of removal associated with the sale.

still must make some significant modification to the Company's request. In my opinion, an absolute minimum level of adjustment would be one that reflects a more realistic life span and no further negative net salvage allowable at this time.

Q. WHAT DO YOU BELIEVE IS A MORE APPROPRIATE LIFE SPAN FOR THE FOUR CORNERS GENERATING FACILITY?

A. Given the transmission access, access to coal, access to water rights, industry practices, etc., there is a high probability of the generating facility lasting for a significantly longer period of time than the Company proposed 45-year life span. In my opinion, 60 or 70 years would not be out of the question. Obviously, such life continuation would require additional investment (i.e., additional interim retirements). However, as the industry has already recognized, the economics of longer operation for large coal-fired generating facilities should justify continued operation for an extended period of time.

Q. HAS THE COMPANY PREVIOUSLY EXTENDED THE ESTIMATED LIFE SPAN OF THE FOUR CORNERS GENERATING FACILITY?

A. Yes. SCE initially began depreciating this facility under an assumed 35-year life span.[286] In fact, it relied on this shorter life span for approximately the first 23 years of the generating facility's service life.[287] The Company, like many other utilities, increased its estimate of life span for major generating facilities as it became obvious over time that such units would easily meet and exceed the original estimates. In fact, as of the end of 2000, these units would have almost reached the 35-year estimated initial life span previously relied on by the Company.

Q. ARE YOU AWARE OF OTHER UTILITIES THAT HAD LIFE SPANS FOR THEIR GENERATING FACILITIES GREATER THAN 45 YEARS?

[286] Company's response to TURN 9-6.
[287] Id.

A. Yes. For example, some of the coal-fired units that were sold during the last 4 or 5 years were sold at ages equal to or greater than 45 years of operation.[288]

Q. WHAT IS YOUR ALTERNATIVE RECOMMENDATION AS IT PERTAINS TO LIFE SPAN?

A. My alternative recommendation is, at a minimum, that the life span be increased to 50 years. Even though other utilities have already proposed 50-year life spans, and generating units have been sold after obtaining approximately upper 40-year life spans, something greater than 50 years can reasonably be expected for large coal-fired generating facilities. The Commission would be well within reasonable bounds to increase the life span for the Four Corners generating facilities to 55 or even 60 years at this time if it were so inclined in this proceeding.

Q. WHAT IS THE IMPACT OF YOUR ALTERNATIVE RECOMMENDATION ON SERVICE LIFE?

A. My recommendation would result in a $2.466 million reduction to the Company's annual depreciation expense on a stand-alone basis for 2003.

Q. DO YOU PROPOSE A FURTHER ALTERNATIVE RECOMMENDATION ON NET SALVAGE?

A. Yes. An additional alternative recommendation would be the elimination of any negative net salvage attributable to the Four Corners generating facilities. As discussed previously, the Company has sold other generating facilities and obtained above net book value or a positive net salvage. Given SCE's far greater experience with plant sales as compared to its experience with generation plant demolition, setting net salvage at zero is more consistent with the likely disposition of the plant.

Q. PLEASE EXPLAIN WHY YOU BELIEVE THAT EVEN A MINIMUM RECOGNITION OF POTENTIAL SALE OF THE FOUR CORNERS

[288] For example, Sunbury 3 had obtained an age of 48 years of operation at the time it was sold. Moreover, it was sold along with other units at a $239 per Kw sales price.

GENERATING UNITS WOULD REQUIRE NO LESS THAN A ZERO LEVEL OF NET SALVAGE.

A. Assuming the 2.2 net book value sale price as a conservative estimate of what the Company might be able to obtain, based on historical sales of its gas-fired facilities, then it would only take a 10% possibility of sale versus the demolition alternative to break even. In other words, if the Commission believes there is only 1 out of 10 chances that the unit could be sold versus being demolished, then a zero level of net salvage or some positive level should be adopted.[289]

Q. WHAT IS THE IMPACT OF YOUR ALTERNATIVE NET SALVAGE RECOMMENDATION?

A. My recommendation would result in a $1.722 million reduction to the Company's annual depreciation expense on a stand-alone basis for 2003.

Q. IS THERE AN INTERACTIVE IMPACT BETWEEN YOUR NET SALVAGE AND LIFE SPAN ALTERNATIVE RECOMMENDATIONS?

A. Yes. The longer alternative life span I have proposed of 50 years will lessen the impact of the change to a zero level of net salvage. The combined interactive impact of my two alternative recommendations for the Four Corners generating facility would result in a $3.769 million reduction to the Company's annual depreciation expense and result in a 1.26% annual depreciation rate to be applied beginning in 2003.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, to the extent that I have not addressed an issue, method, concept, etc., does not or should not be taken as my acceptance of the Company's position regarding that issue, method, concept, etc.

[289] The 2.2% net book value produces an approximate 45% positive net salvage. Assigning a 10% probability to this positive level of net salvage and a 90% probability to the Company's proposed approximate negative 5% net salvage results in a zero overall level of net salvage.