Report on Various Results of Operations Issues in Pacific Gas & Electric Company's 2014 General Rate Case Phase I

Prepared Testimony of

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California Public Utilities Commission

Application 12-11-009

May 17, 2013

DIRECT TESTIMONY OF
JACOB POUS

ON BEHALF OF THE UTILITY REFORM NETWORK

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DIRECT TESTIMONY AND EXHIBITS OF JACOB POUS

ACRONYMS

AICPA	American Institute of Certified Public Accountants
ALG	Average Life Group
ASL	Average Service Life
CFR	Code of Federal Regulations
CI	Conformance Index
COMMISSION or CPUC	California Public Utilities Commission
COMPANY or PG&E	Pacific Gas & Electric Company
DUCI	Diversified Utility Consultants, Inc.
EPR	Ethylene-Propylene Rubber
FERC	Federal Energy Regulatory Commission
HMWPE	High Molecular Weight Polyethylene
NARUC	National Association of Regulatory Utility Commissioners
REI	Retirement Experience Index
SCE	Southern California Edison Company
SCG	Southern California Gas Company
SDG&E	San Diego Gas & Electric
SPR	Simulated Plant Record Balance method
SSD	Sum of Squares Difference
TURN	The Utility Reform Network
USOA	FERC Uniform System of Accounts
XLPE	Cross-Link PE

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SECTION I: INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jacob Pous and my business address is 1912 W Anderson Lane, Suite 202, Austin, Texas 78757.

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 Appendix A.

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 clie nts. DUCI provides utility consulting services to municipal governments with utility systems, to end -users of utility services , and to regulatory bodie s 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. Appendix A also includes a list of proceedings in which I have previously presented testimony. I have testified on behalf of The Utility Reform Network ("TURN") in previous general rate cases ("GRC") before the California Public Utilities Commission ("CPUC" or the "Commission"), including the Pacific Gas & Electric Company ("PG&E") 1999 and 2003 test year GRCs and Southern California Edison Company's ("SCE") 2003 and 2012 test year GRCs and the 2012 test year GRCs for Southern California Gas Company ("S CG") and San Diego Gas & Electric Company ("SDG&E") rate case . 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 400 utility rate proceedings in the United States and Canada. Also worthy of note i s

that I have testified on behalf of the staff of five different state regulatory commissions and one Canadian regulator.

Q. WHAT IS YOUR PROFESSIONAL BACKGROUND?

A. I am a registered professional engineer. I am registered to practice as a Professional Engineer in the State of Texas, as well as numerous other states.

Q. ON WHOSE BEHALF ARE YOU PROVIDING THIS TESTIMONY?

A. I am providing testimony on behalf of TURN.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address several depreciation issues raised by PG&E in its test year 2014 General Rate Case filing submitted to the Commission. My testimony will address the following depreciation issues: (1) Mass property net salvage, (2) Mass property average service life ("ASL"), and (3) Corrections to hydroelectric plant values that the Company identified in its errata filing.

Q. PLEASE PROVIDE AN OVERVIEW OF YOUR TESTIMONY.

A. The Company proposed depreciation rates that would produce a total of $1,922,557,794 of depreciation and amortization expense as estimated for plant as of December 31, 2011.[1] The proposed depreciation rates are based on a depreciation study performed by Gannett Fleming, Inc. The Gannett Fleming analyses are based on data through 2009 for plant as of December 31, 2011.[2] After review of the Company's filing, workpapers, data responses, other available information (including two days of interview with Company personnel during a prior case), and applying my judgment and experience, I conclude that the Company's request is unreasonable. I recommend adjustments totaling $459 million for plant as of December 31, 2011, as shown on the attached Schedule (JP-1). The key points and corresponding approximate stand-alone impacts of each are as follows:

[1] Exhibit (PG&E-2) Chapter 11 pages 11-2 through 11-10.
[2] Exhibit (PG&E-2) Chapter 11 pages 11-1 and 11-18.

- Mass Property Net Salvage – The Company's depreciation calculations for its electric, gas, and common mass property accounts include approximately $25 billion of negative net salvage expected to be experienced over the remaining life of the utility's plant investment. I n this area of the depreciation study, Gannett Fleming's proposals in many instances are much more negative than any other industry value. Gannett Fleming basically relies on the results of mechanical averaging of historical data without adequate assessment of the validity of underlying the data. The historical database that Gannett Fleming relies on for its PG&E -specific statistical analysis has a number of flaws including an accounting error that PG&E is still attempting to correct. In addition, the Company's historical database reflects an unsubstantiated allocation of 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 many of Gann ett Fleming's net salvage proposals. Based on a review of all the information made available, and my experience and judgment, I recommend adjustments to net salvage for 10 mass property accounts. The stand -alone impact of these various adjustments results in a $324 million annual reduction to the utility's proposed depreciation expense for plant as of December 31, 2011.

- Mass Property Life – For its proposed ASL and corresponding dispersion curve for each account, Gannett Fleming relied almost exclusively on the results of its semi-actuarial life analyses, and, to a far lesser extent, industry data. A review of the various mass property accounts identifies numerous problems with Gannett Fleming's proposed life parameters for mass property. In particular, the Company often ignore d the best fitting statistical results of its life analyses and gave significant weight to the existing life parameters developed years ago. Based on a review of all the information made available, and my experience and judgment, I recommended longer ASLs or different dispersion patterns for 10 accounts. The stand -alone impact of the various mass property life recommendations results in a $174 million reduction to the utility's proposed plant as of December 31, 2011 depreciation expense.

- Hydroelectric Plant – PG&E has identified a reduction of $2.9 million in annual depreciation expense in its errata filing.

- Combined impact of Mass Property Recommendations – The total impact of the life and net salvage 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 the attached Schedule (JP-1), the combined impact on mass property depreciation expense due to my recommendations is a $456 million reduction for the test year plant as of December 31, 2011 as compared to PG&E's proposal. In addition, $2.9 million further reduction is warranted due to Company identified errors for hydroelectric plant.

SECTION II: DEPRECIATION

Q. WHAT IS DEPRECIATION?

A. There are two commonly -cited definitions of depreciation. The first comes from the Federal Energy Regulatory Commission ("FERC"):[3]

> '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 gas 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 c auses 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.

The second definition, from the American Institute of Certified Public Accountants ("AICPA"), is similar:

> 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.

[3] Title 18 of the Code of Federal Regu lations ("CFR") Part 201, Definition 12.

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

A. The whole life and the remaining life technique are the most commonly used formulas. The whole life technique is as follows:

Depreciation Rate %=(Original Cost−Net Salvage)/Average Service Life/Original Cost

The remaining life technique is as follows:

Depreciation Rate %= (Original Cost−Accumulated Provision For Depreciation−Net Salvage)/Remaining Life/Original Cost

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

Q. ARE THERE ADDITIONAL CONSIDERATIONS IN DEPRECIATION 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."

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, or equal life groupings. The average life group ("ALG") procedure is used by the vast majority of utilities.

Q. BRIEFLY DESCRIBE WHAT IS MEANT BY "TECHNIQUE."

A. There are two main categories of techni ques with various sub -groupings: 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 10-year life would imply a 10% depreciation rate over the life of the plant). The remaining life technique recognizes that depreciation is a forecast or estimation process that is never precisely accurate and that requires true -ups in order to recover exactly 100% of what a utility is entitled to over the enti re 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 OTHER?

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

Q. GENERALLY SPEAKING, WHAT IS NET SALVAGE?

A. Net salvage is the value obtained from retired property (the gross salvage) less the cost of removal. Net salvage can be either 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 le ss 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 (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 o f the property's life will still leave the utility whole (110% - 10% = 100%).

SECTION III: MASS PROPERTY NET SALVAGE ANALYSIS

A. 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.[4]

"Salvage" and "cost of removal" are defined in Title 18 of the CFR part 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, dismantli ng, 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 or property in place (abandonment).

[4] Title 18 of the CFR Part 101 Definition 19.

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

A. Yes. For Account 365 – Electric Distribution Overhead Conductors and Devices, the Company requests a negative 200% net salvage. Given the plant balance of $3.4 billion as of December 2011, the Company's proposed net salvage results in approximately $6.8 billion of revenue requirements over the life of the investment above the recovery of the original $3.4 billion investment.[5] Dividing PG&E's proposed $6.8 billion by its proposed remaining life of 30.53 years results in an annual revenue requirement impact of over $220 million for this account alone. For the higher plant balance in the 2014 test year, the impact would be greater.

Q. WHAT PERIOD HAS THE COMPANY CHOSE TO ANALYZE FOR ITS NET SALVAGE ANALYSIS?

A. The Company has analyzed a 20-year period, 1990 through 2009.[6] Gannett Fleming did have data through 2011 but had concerns regarding the accuracy of the 2010 and 2011 figures and chose not to use such data.

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

A. Yes. I've carefully reviewed the testimony and workpapers, and have requested substantial amounts of additional information that, in my experience, is necessary in the performance of a depreciation study. To the extent the utility provided substantive responses to those data responses, I also reviewed and considered that information.

Q. WHAT GENERAL CONCLUSION HAVE YOU REACHED BASED ON YOUR REVIEW?

A. The information PG&E has provided is inadequate to support or demonstrate the appropriateness of its request for an overall negative 95% net salvage for electric and gas

[5] Exhibit (PG&E-2) Chapter 11 page 11-4.
[6] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-490 for example.

distribution property.[7] PG&E's depreciation study includes $25 billion for negative net salvage related to electric and gas mass property over the life of the investment.[8]

Q. PLEASE SUMMARIZE YOUR RECOMMENDATION CONCERNIN G PG&E'S PROPOSED NET SALVAGE VALUES FOR MASS PROPERTY.

A. PG&E's net salvage analysis is flawed and insufficiently substantiated and, as a result, proposes excessive levels of negative net salvage or inadequate levels of positive salvage. I recommend a reduction to PG&E's depreciation expense based on recommended adjustments to many of its proposed net salvage levels. The stand-alone impact of my net salvage recommendations is a reduction of $ 324,208,952 million in annual depreciation expense based on plant as of December 31, 2011.

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.

Mass Property Net Salvage

Account	Existing	Company Proposed	TURN Recommended	Impact[9]
362 – Electric Distribution	-15%	-40%	-15%	$17,358,581

[7] Exhibit (PG&E-2) Chapter 11 pages 11-4 and 11-7.
[8] *Id.* Mass property includes electric transmission, electric and gas distribution, and common general plant.
[9] Impacts are calculated based on EOY 2011 plant levels. The impacts will be greater when the recommended net salvage values are applied to 2014 plant levels.

Station Equipment				
364 – Electric Distribution Poles, Towers, and Fixtures	-80%	-150%	-100%	$44,944,344
365 – Distribution Overhead Conductors and Devices	-77	-200	-110	$99,658,726
366 – Electric Distribution Underground Conduit	-20%	-100%	-20%	$46,711,849
367 – Electric Distribution Underground Conductors and Devices	-40%	-50%	-35%	$17,395,145
368.01 – Electric Distribution Line Transformers – Overhead	-6%	-25%	-15%	$7,356,870
369.01 – Electric Distribution Services – Overhead	-75%	-135%	-75%	$12,702,500
376 – Gas Distribution Mains	-52%	-65%	-50%	$9,194,570
380 – Gas Distribution Services	-105%	-180%	-105%	$52,940,719
390 – Common Plant Structures and Improvements	-10%	-10%	+25%	$15,945,647

Q. WHY DO YOU BELIEVE PG&E'S PROPOSED NET SALVAGE LEVELS ARE INAPPROPRIATE?

A. There are numerous problems with PG&E's proposals. For example:

- PG&E failed to adjust the historical database for its net salvage proposals to correct for known errors, and to remove temporary abnormally high levels of labor cost.

- PG&E failed to justify its allocation of costs between costs of removal and the cost of installation of replacement plant , even though that allocation has a substantial impact on the amount of the recorded costs of removal.

- PG&E failed to adequately recognize, or to recognize at all in some cases, the likely cost reduction impact of economies of scale as it retires a greater amount of plant on an annual basis in the future.

- PG&E failed to adjust the historical database in making its proposal for higher cost of removal attributable to situations where emergency failure of investment may have occurred on a

disproportionate basis. Company personnel have acknowledged that replacement of plant associated with emergency situations normally results in higher cost of removal. The Company's development and implementation of inspection and maintenance programs should reduce the number of replacements in the future that occur due to such failures.

- For certain accounts PG&E failed to recognize the relationship of the account investment mix compared to the investment mix of the annual retirements. This failure to have the analysis recognize the difference between investment and retirement mixes can render the historical database less useful for predicting what will transpire when the Company retires the majority of investment in an account in the future.[10]

- PG&E has failed to properly adjust for the inclusion of higher cost of removal associated with reliance on overtime pay for in-house personnel and premium charges for outside contract labor to perform retirement activities. This results in more negative net salvage proposals than are warranted if, going forward, it is reasonable to conclude that PG&E will reduce its reliance on such higher-priced labor options.

B. Failure to Normalize Data

Q. DOES GANNETT FLEMING RELY HEAVILY ON THE HISTORICAL AVERAGE OF NET SALVAGE ASSOCIATED WITH RETIREMENTS?

A. Yes. Gannett Fleming relied on a 20-year historical database for the period 1990-2009 in analyzing net salvage. Quite often, Gannett Fleming relied on the overall average for the 20-year period while in other instances relied on more recent average values within the same database.

Q. IS IT APPROPRIATE TO RELY ON HISTORICAL AVERAGES?

A. Yes and no. Historical averages can provide useful tool for estimating future expected net salvage when utilized properly. However, it is not appropriate to overly rely on historical averages without adequate investigation to determine the validity of the data contained therein as it applies to future expectations.

[10] For example, the Company's reliance on data reflecting a disproportionate level of complex pole installations to assign cost of removal to simple pole retirements. See discussion for Account 364 herein.

Q. HAS GANNETT FLEMING IDENTIFIED OR DESCRIBED IN SUFFICIENT DETAIL ITS INVESTIGATION OF HISTORICAL DATA TO DETERMINE WHETHER THOSE DATA ARE AN APPROPRIATE PROXY FOR PREDICTING FUTURE NET SALVAGE EXPECTATIONS FOR EACH ACCOUNT?

A. No. Indeed, the only time that Gannett Fleming describes making any meaningful investigation of the historical data, it was for a period outside the time frame it actually relied upon for net salvage expectations. In providing information associated with the calendar years 2010 and 2011, Gannett Fleming did question the resulting net salvage values. Based on limited investigation, it was determined that a problem exists with the Company's historical database.[11]

Q. HAS THE COMPANY DEMONSTRATED THAT THE BALANCE OF ACCOUNTS IN ITS DEPRECIATION ANALYSIS DO NOT ALSO SUFFER FROM THE SAME INFIRMITY AS IDENTIFIED FOR GAS DISTRIBUTION ACCOUNTS 376 AND 380?

A. No. What is clear with the Company's recorded net salvage information is that the correction of the problem can only result in a less negative net salvage to the extent the problem exists in each account.

Q. DOES THE HISTORICAL DATABASE RELIED UPON BY GANNETT FLEMING ALSO INCLUDE OTHER SITUATIONS THAT REQUIRE ADJUSTMENT?

A. Yes. For example, the Company identifies that it has increased the crew size for electric distribution repair and maintenance activity to include apprentice and pre-apprentice employees. Such increase in labor is done effectively for training purposes on a temporary basis. While this practice is in place, repair and maintenance costs are higher than they would be absent the practice. The Company admits that once these apprentices

[11] The problem is the Company's failure to properly transfer retirement activity from one computer software program to another, thus resulting in significant overstatement of negative net salvage in the two instances for gas plant in service identified and discussed later.

and pre -apprentices become adequately trained and become journeymen linemen, the need for the overstaffing will no longer be required and labor costs associated with cost of removal will decline.

Q. DID GANNETT FLEMING ADJUST THE HISTORICAL DATABASE IT RELIED UPON TO REMOVE SUCH TEMPORARY INCREASES IN LABOR COSTS?

A. No. Instead, it appears Gannett Fleming overemphasized these particular periods of time in the development of its proposed net salvage values for certain accounts.

Q. ARE THERE OTHER PROBLEMS WITH GANNETT FLEMING'S MECHANICAL APPROACH OF RELYING ON HISTORICAL AVERAGES WITHOUT INVESTIGATION OF WHAT IS CONTAINED THEREIN?

A. Yes. The above noted problems, along with other problems, are reflected in the account specific discussions contained later in my testimony.

C. Gradualism

Q. WHAT IS THE CONCEPT OF GRADUALISM?

A. The concept of gradualism normally reflected in utility ratemaking is one where there is a recognized need to change values , but the change is allowed to occur over time rather than all at once.

Q. DOES GANNETT FLEMING EMPLOY THE CONCEPT OF GRADUALISM?

A. Yes, but not consistently . Gannett Fleming employs the concept basically in its life analysis portion of the depreciation study (and then does so excessively). Gannett Fleming fails to apply the concept to any meaningful extent in the net salvage portion of the depreciation study.

Q. HOW DID GANNETT FLEMING TREAT THE TWO MAIN COMPONENTS OF ITS DEPRECIATION STUDY INCONSISTENTLY?

A. As discussed elsewhere in the testimony, for many distribution accounts, the Company limited the increase in ASL to two year when the statistical analyses indicated much larger increases in ASL were warranted. It specifically identified the criteria of not being prepared to increase ASL from the existing 40-year level more than two years, or a five percent increase in life expectations. However, when it comes to decreasing negative net salvage values (that is, making them more negative), Gannett Fleming basically discards the concept of gradualism. For example, Gannett Fleming proposes a change to a -100% net salvage for Account 366 – Electric Distribution Underground Conduit from the existing -20%. This proposed change represents a value 500% times the existing value. Put in proper relationship, Gannett Fleming wants to limit life increases to a 5% level but is more than prepared to increase net salvage many hundreds of percent at the same time in the same study.

Q. DOES GANNETT FLEMING'S INCONSISTENT TREATMENT OF THE CONCEPT OF GRADUALISM RESULT IN HIGHER DEPRECIATION EXPENSE IN ALL INSTANCES?

A. Yes. Gradualism is employed in the life portion of Gannett Fleming's depreciation analysis to limit the lengthening of ASLs, where such lengthening decreases depreciation expense, all else equal. Alternatively, employing concept of gradualism in the net salvage portion of the depreciation study would limit the increases to depreciation expense, all else equal. Gannett Fleming's inconsistent practices in this regard always result in higher depreciation expense than would be the situation if gradualism were consistently employed or ignored.

D. <u>Inappropriate Allocation of Installation Costs to Cost of Removal</u>

Q. HOW DOES THE COMPANY ESTABLISH COST OF REMOVAL AMOUNTS REFLECTED IN THE NET SALVAGE ANALYSIS?

A. The Company employs two different methods. In those relatively rare instances in which retirement occurs without replacement activity, 100% of the costs are assigned to cost of removal. In those instances where replacement activity occurs, the Company assigns a portion of the overall replacement work order costs to cost of removal.

Q. ARE THE VAST MAJORITY OF RETIREMENTS ASSOCIATED WITH REPLACEMENT ACTIVITY?

A. Yes.

Q. ARE THERE REASONS FOR CONCERN WITH THE COMPANY'S ALLOCATION PRACTICE?

A. Yes. For example, the Company admits that it recently has been installing more complex electric distribution poles.[12] The cost to install more complex poles is higher than that of installing less complex poles as was the case in the past. However, since the Company assigns a percentage of the overall replacement work order costs to cost of removal, it has created an inappropriate impact on the establishment of appropriate net salvage values.

For example, assume that PG&E has determined that 20% is the assigned value to cost of removal for a replacement work order that includes the cost to retire an old pole. If the replacement pole is a relatively complex pole and the entire cost is $14,000, then $2,800 is assigned to cost of removal. But if the replacement of a less complex pole results in a $7,000 total work order cost, then the assigned cost of removal is only $1,400. The same pole is retired in both instances, yet the Company's allocation approach assigns a higher cost ($1,400 in this example) to the same retirement activity simply due to the installation of a complex pole versus a less complex pole. In other words, the Company's procedure may be easier to implement, but it can result in inappropriate levels of cost of removal being recorded.

Q. HAS GANNETT FLEMING TAKEN SUCH CONSIDERATIONS INTO ACCOUNT IN ITS NET SALVAGE ANALYSIS?

A. Not in any way that appeared in the testimony, the depreciation study, or in the responses to TURN data requests. Instead, Gannett Fleming relies largely if not entirely on the mechanical results of historical averages in making its net salvage proposals.

[12] More complex means more switches and attachments than a simple pole as was installed in the past.

E. Economies of Scale

Q. WILL GREATER DOLLAR LEVELS OF RETIREMENT ACTIVITY OCCUR IN THE FUTURE?

A. Yes. PG&E's recorded retirement activity represents a very small portion of the total plant recorded in each account. In future years as a greater level of the Company's investment approaches its ASL, a greater amount of investment will actually retire on an annual basis. This greater level of annual retirement should result in reductions to the per-unit cost of removal as economies of scale are realized. Depreciation analysis should recognize this information ; the purpose is to forecast reasonable depreciation expense, with the forecast reflecting what the utility is likely to experience going forward. Unfortunately, the Company's approach generally limits itself to analyzing recent historical data without properly evaluating or adjusting for future expectations.

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

A. Yes. The National Association of the Regulatory Utility Commissioners ("NARUC") in their publication *Public Utility Depreciation Practices* indicates, amount 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.[13] The appropriate depreciation rates in the future should reflect future economies of scale.

Q. ARE YOU AWARE OF OTHER SPECIFIC CONCEPTS APPLICABLE TO PG&E THAT FIT INTO THE CATEGORY OF PRODUCTIVITY SAVINGS BEING ACHIEVED DUE TO ECONOMIES OF SCALE?

[13] 1996 edition at pages 160 and 161.

A. Yes. Many utilities have expended large sums of money to implement new software systems. Many of these new software systems provide a basis for scheduling labor in a more efficient manner and assuring that the right equipment and material is taken to the site in order to reduce overall costs, which would include cost of removal. The efficiencies gained due to the expenditure of such sums is another form of economies of scale (i.e., larger levels of plant being retired justifying the expenditure of funds for the development of specialized tools such as computer software programs.)

F. Emergency And Unplanned Retirements

Q. DOES PG&E EXPERIENCE RETIREMENTS IN EMERGENCY SITUATIONS?

A. Yes. All utilities experience retirement of equipment at unplanned and inconvenient times.

Q. DOES IT COST MORE TO RETIRE THE SAME ITEM OF PLANT DURING EMERGENCY SITUATIONS?

A. Yes, typically. PG&E acknowledges that higher replacement cost, a portion of which is designated as cost of removal, is incurred during emergency events than during retirements carried out under a more planned schedule.[14]

Q. CAN YOU PROVIDE AN EXAMPLE OF WHY COST OF REMOVAL WOULD BE HIGHER DURING EMERGENCY SITUATIONS?

A. Yes. As a hypothetical, take the retirement of two poles installed at the same time at the same location and costing the same amount. One pole is struck by lightning during a storm occurring early on a Sunday morning during a holiday weekend. The other pole is removed as part of a scheduled project without incident at the end of its useful life. The labor costs associated with removal of that first pole will be at a multiplier many times the normal pay level, while the removal of the second pole is likely using labor at standard in-house rates. Since costs of removal are mostly labor-related costs, this is

[14]See, for example, Exhibit (PG&E-4) Chapter 16 page 16-17, Item 5. Reliability-Related Cable Replacement. There PG&E describes how replacing underground assets in a proactive manner avoids incurring higher emergency restoration costs, including overtime wages.

likely to have a large impact on the overall cost for each removal. This is but one example of the potentially significant difference of the cost of removals that incur for the same general type of activity, the retirement of identical poles. The cost for the removal of the first pole would also increase for other potential variables that might occur in conjunction with an emergency. For example, if the first pole noted above also happened to be located at a remote location where the terrain required additional crews or equipment to reestablish service to customers, costs would increase significantly.

Q. HAS THE COMPANY ATTEMPTED TO ADJUST ITS HISTORICAL DATABASE TO REFLECT A MORE REPRESENTATIVE COST FOR RETIREMENT OF EQUIPMENT IN SITUATIONS WHERE EMERGENCIES ARE NOT THE DRIVING FACTOR?

A. No. The Company cannot identify what percent of its historical database is associated with any particular cause of retirement.[15]

Q. IS IT REASONABLE TO ANTICIPATE THAT F UTURE RETIREMENTS WILL EXPERIENCE THE SAME PROPORTION OF RETIREMENTS DUE TO EMERGENCY OR UNANTICIPATED SITUATIONS AS HISTORICAL RETIREMENT?

A. No. As greater amounts of the investment in an account begin to reach their ASL and a greater level of retirement activity occurs, companies will implement greater levels of planned retirement activity , and the proportion of retirement activity due to emergency situations should be expected to be lower.

G. Investment Mix Versus Retirement Mix

Q. WHAT IS THE ISSUE ASSOCIATED WITH THE MIX OF INVESTMENT VERSUS RETIREMENT MIX?

A. The Company performed its analysis, in general, by account and in a few instances by subaccount where overhead and underground investment resided in the same FERC

[15] Response to TURN 63 -45 for example.

account. But most FERC accounts contain many different types of investment. Each of the different items of investment within an account can have a different net salvage associated with its retirements.

Q. HOW CAN THE DIFFERENT TYPES OF INVESTMENT IMPACT THE RESULTING NET SALVAGE FOR AN ACCOUNT?

A. Take Account 362 – Electric Distribution Station Equipment as an example. This account has over 50 different categories of investment.[16] Normally the vast majority of the investment is in transformers and switches. However, transformers may have far different salvage values and removal costs on a percentage basis than switches. Without knowing what type of plant investment is reflected in the actual dollars of retirement that the Company relied upon in establishing its net salvage proposal, one does not know if the majority of the retirements are associated with switches, breakers, and other types of devices that would provide little gross salvage and take more time to remove on a per unit basis than would be the situation if transformers comprised the highest category of retirements. This becomes a more important issue when one reviews the actual historical data for this account; the Company experienced levels of gross salvage during the 1990s and early 2000s, but has dropped to a zero level of net salvage from 2002 through the present.

By analogy, if one assumes a fleet of taxi cabs where 5% of the investment is in Yugos, and the remaining 95% of the investment is in Toyotas, analysis of historical retirement activity would yield skewed results if retirement of Yugos represented 60% of the historical activity and retirement of Toyotas represented only 40%. Since Yugos are no longer sold due to their poor quality, while Toyotas have captured a significant portion of the market due to their high quality, lack of recognition of such investment mix versus retirement mix would yield noticeably inaccurate expectations for future events. In setting depreciation rates for the future, the Commission is adopting a forecast of the costs of future events, that is, the retirement of plant currently in service. In doing so, proper correlation between the mix of investment in an account and the mix of

[16] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-456.

retirements analyzed for indications of the future must be performed if data is available, as it is for this Company.

H. Overtime and Outside Contractor Premium Payments

Q. DOES THE COMPANY PAY A PREMIUM FOR OVERTIME WORK?

A. Yes. My understanding is that t he Company pays its employees a premium for certain types of overtime work. Indeed, some of the preventative maintenance and safety programs proposed elsewhere in PG&E's GRC showing seem aimed at least in part at reducing costs by reducing overtime work.[17]

Q. DOES PG&E PAY A PREMIUM FOR OUTSIDE CONTRACTOR WORK?

A. Yes. Outside contractors are not limited to recovery of costs plus a set return on investment. Outside contractors can charge two to three times the normal rate for their overtime operations in responding to Company requests.[18]

Q. WAS THE COMPANY ABLE TO IDENTIFY THE PREMIUM PAYMENTS MADE FOR OVERTIME AND OUTSIDE CONTRACTORS IN ITS HISTORICAL DATABASE?

A. No. The Company has not identified any level of payments for overtime and payments to outside contractors during the historical database it relied upon to determine its net salvage proposals.[19]

Q. IN YOUR VIEW, WILL THE COMPANY CONTINUE TO INCUR PREMIUMS PAID IN ASSOCIATION WITH RETIREMENTS IN THE FUTURE?

A. Yes, but as a smaller proportion of the overall costs of removal . The Company will always incur some level of premium payments for retirement work in the future , as there

[17] For example, PG&E describes the work of its Safety Depar tment as aiming to avoid the potential for overtime. Exhibit (PG&E-7) Chapter 2, p. 2-1.
[18] *Id.*
[19] Response to TURN 6-11.

will always be some plant that fails at inconvenient times that causes overtime pay costs that might otherwise have been avoided . However, as a greater proportion of retirement work is performed by in-house personnel or on a planned basis, the level of such premium payments reflected in the historical values should decrease as a proportion of recorded costs of removal.

Q. HAVE YOU MADE SPECIFIC ADJUSTMENTS IN YOUR ANALYSIS ASSOCIATED WITH THIS SITUATION?

A. I have not specifically adjusted my recommendation to reflect the quantification of excess premium payments made by the Company. However, I took such information into account, along with all other information available, in exercising my judgment and arriving at my individual account recommendations.

I. Electric – Account Specific

Account 362 – Distribution Station Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 362 – DISTRIBUTION STATION EQUIPMENT?

A. The Company proposes a substantial increase in negative net salvage for this account. The Company proposes a -40% net salvage compared to the existing -15% net salvage.[20]

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

A. Gannett Fleming relied on an overall average of PG&E's historical database from 1990 - 2009. Gannett Fleming further noted that there has been no salvage recorded for this

[20] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-456.

account for an extended period of time.[21] In addition, through discovery, it was determined that Gannett Fleming also appeared to consider that it cost more to retire station equipment at indoor substations, but provided no further analysis of the impact of such information. Gannett Fleming also noted that there will be increased capital expenditures resulting in higher costs of removal, and even raised concerns regarding potential increases in costs to prevent spills or unwanted run-offs at work sites.[22]

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

A. No. The Company's proposal is more negative than warranted. I recommend retention of the existing -15% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation relies on a review of the Company's historical data. It also takes into account other facts that have an impact on the appropriate net salvage for this account.

First, it is necessary to place the Company's proposed change in proper perspective. PG&E's proposal to go from -15% to -40% for this account would produce an increase of more than $500 million in depreciation expense over the remaining life of the investment. On an annual basis this single proposal would increase the test year revenue requirement by more than $17 million. The Company provides very limited support for its proposal. Moreover, the proposal is inconsistent with the concept of gradualism employed in the life analysis portion of the depreciation study.

From a historical standpoint, it must be noted that the Company reported gross salvage in every year from the beginning of its database in 1990 through 2001. However, from 2001 through the present, it has not recorded a single dollar of gross salvage for retirements in this account.[23] I submit that as the Company has experienced problems elsewhere in its

[21] *Id.*
[22] Response to TURN 6-22 Attachment 2 and TURN 63-33.
[23] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-918.

accounting for property transactions, this represents yet another potential area of error.[24] Rather than unquestioningly relying on simple historical averages as the Company has performed, it should investigate and, as necessary, correct potential problems in its accounting system. For example, the retirement of any transformer should result in some amount of gross salvage, given that transformers contain large quantities of copper and the price of scrap copper is well over $3 per pound. Alternatively, to the extent the Company has not retired any transformers during the past decade, a situation hard to imagine, then the historical database would be inappropriately skewed to a negative level because the data do not reflect the impact of the retirement of transformers, even though a substantial portion of the Company's investment in this account (and the subject of future retirements) is in transformers. In addition, the absence of any recorded gross salvage in the last six or seven years is even more puzzling given the increase in the scrap metal price for copper, which has increased by hundreds of percentage points during that period. Given the continued expansion of the economies in China and India, the demand for scrap metal can reasonably be expected to remain high or increase, thus keeping pressure on higher scrap metal prices than existed in the early 2000s or before. Under these conditions, the absence of any recorded salvage value during this period should have appeared unrealistic or at least surprising and engendered further investigation.

The proposed level of negative net salvage should have set off a red flag as Gannett Fleming is fully aware that such a high level of negative net salvage is not only atypical for California utilities, but also for the industry as a whole. Indeed, Gannett Fleming notes in its study that SCE relies on a -10% net salvage,[25] and SDG&E relies on a -15% net salvage compared to the proposed -40% for PG&E. Moreover, Gannett Fleming's historical industry database yields an average net salvage of approximately negative 10% and does not identify a single value so negative as it proposes for PG&E out of almost 70 reported values.[26] Thus, from an industry standpoint, the Company's proposed -40% is so much more negative than that of other utilities that the Commission should find it unacceptable absent significant support and justification, which PG&E has not presented.

[24] TURN 63-18 for example.
[25] Increased to a -20% in CPUC Application 10-11-015 (D.12-11-051) for SCE pages 674-675 and 677-678.
[26] Response to TURN 6-8 Attachment 1.

In summary, given that transformers make up a sizeable portion of the investment in this account[27] and that the scrap price of copper has increased substantially in the last six to seven years, one would expect a less negative level of net salvage than currently exists. However, based on the information available at this time, a conservative value for depreciation purposes would be the retention of the existing -15%. In conjunction with this recommendation, I also recommend that the Commission order the Company to perform a detailed analysis of the reasons why the gross salvage values for the past decade have been zero even though there has been significant retirement activity, and the reasons why the Commission should expect the absence of any gross salvage value to continue into the future. Such information, along with all supporting documentation, should be submitted with the Company's next depreciation study.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's recommendation, my recommendation results in a $17,358,580 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendation results in an increase of $0 rather than $17.4 million under the utility's request.

Account 364 – Distribution Poles, Towers and Fixtures

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 364 – DISTRIBUTION POLES, TOWERS, AND FIXTURES?

A. Gannett Fleming proposes a substantial decrease (a more negative value) from the existing -80% to a -150% net salvage.[28]

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

[27] Response to TURN 63-17.
[28] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-475.

A. Gannett Fleming states that PG&E has little or no salvage value for disposal of poles and equipment. Gannett Fleming further states that disposal costs associated with poles removed is dependent on location due to local regulations. Gannett Fleming then notes that the database from 1990-2009 yielded a -149% net salvage and that such data reflects very large removal costs in recent years that are consistent with the pole replacement program. Finally, Gannett Fleming notes that the most recent percentage of net salvage is, in some cases, over 600% negative and that there are many utilities expecting negative net salvage in excess of 100%.[29]

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

A. No. The Company's proposal is unduly negative, in substantial part because it is not indicative of future trends. I recommend nothing greater than a -100% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. First, it is necessary to place the Company's proposal in perspective. The Company's request for an additional 70 percentage points in negative net salvage results in a $63 million annual revenue requirement increase based on plant as of December 31, 2011.[30] In addition, if the recent level of negative net salvage being reported (i.e., -911% in 2008 and -1,200% in 2009) were indicative of actual future costs, it would result in negative net salvage values that differ so greatly from the rest of the utility industry that there would be no comparative data whatsoever that even began to approach such values. In other words, the Company's historical database that Gannett Fleming relies upon for its significant movement in the level of negative net salvage is questionable on its face, and should have resulted in further investigation and analyses by the Company.

In order to better understand why the historical database yields such negative values, and why those values are not indicative of long-term expectations, it is necessary to understand how the Company develops its cost of removal. The Company's cost of

[29] *Id.* at workpaper WP 11-474.
[30] Exhibit (PG&E-2) Chapter 11 page 11-4 Calculation of Annual Accrual with a -80% rather than -150% net salvage.

removal is based on a cost estimation performed for an entire replacement work order. [31] There is no specific estimate made of the cost of removal activities associated with retirement of a pole. Instead, the Company relies on a cost estimate that utilizes an internally developed software program (Fast Flow Estimating) for determining the portion of the total cost of a given work order that should be assigned to cost of removal as a proxy for an estimate of the actual removal activities. [32] Therefore, to the extent the cost of installing a new pole increases, which it has, a fallout result of such situation is that cost of removal is assumed to automatically increase in proportion to the increase in the cost of the new installation. [33] Given that the cost to replace a pole is estimated to increase from $5,000 in 2001 to approximately $12,000 in 2014, application of a preset percentage estimator for cost of removal for a given work order will also increase the retirement cost to reflect the higher installation costs. [34] According to PG&E, there has been an approximate 1400% increase in the cost of installing a new pole during the past 10 years.[35]

In my view these circumstances cried out for further investigating the development of the percentage allocators applied to cost of removal associated with replacement work orders, and perhaps investigating the reason for significant increase in installation costs to assess whether the increased installation costs are likely to persist or are likely to produce higher costs of removal. But Gannett Fleming chose to review the historical database and reference net salvage values experienced by the industry as support for adoption of its proposed historical average.

It is not at all clear that Gannett Fleming was aware of or considered in its analysis two significant facts that should have resulted in moderation of the proposed level of increase. First, the Company has increased the normal crew size utilized for pole replacement projects by adding new apprentice and pre-apprentice employees to complement the

[31] Response to TURN 46-5(a) Step 2 and Step 3.
[32] Response to TURN 46-5 Step 2.
[33] Response to TURN 46-5(g).
[34] Response to TURN 46-10(a) and Exhibit (PG&E-2) Chapter 11 workpaper WP 11-474.
[35] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-474.

experienced Journeymen Linemen. [36] In addition, the number of complex pole projects has also increased, thus resulting in higher average costs of pole installations.[37]

The increased labor costs due to the addition of apprentices and pre-apprentices is a practice that is temporary in nature; "as these junior employees become journeymen linemen, PG&E will be a ble to reduce crew sizes to historic levels."[38] In other words, in order to train new employees to meet the system requirements, the Company has temporarily increased the size of the crews associated with its pole replacement program. This temporary increase in crew size is part of the reason for the dramatic increase to the cost to install new poles during recent years. Given the Company's practice of assigning an estimated standard percentage of the costs of a replacement work order in order to determine cost of removal, the increased labor cost for current training is reflected in the historic database as higher cost of removal. But the actual activities necessary to remove a pole have not changed as dramatically as the cost of the new installation with th is temporary cost of training for apprentices and pre-apprentices. Therefore, in the future, even under the Company's practice of assigning an estimated standard percentage of the total overall installation cost of a replacement work order to cost of removal, the total cost of removal should decline compared to that reflected in recent history.

Turning to the greater number of complex poles being installed in recent periods that the Company identified in discovery, this again supports a conclusion that any proposed increase in negative net salvage based on the recent historical data should have been modified to reflect this. More complex pole installations (i.e., those with additional materials installed on the poles such as switches, transformers, cut-outs, and raptor construction) will likely cost more to replace than a less complex pole installation. However, the Company's practice of assigning a n estimated standard percentage of the replacement work order to cost of removal resulted in a disproportionate level of such type of complex pole being reflected in recent years. Moreover, the average number of poles retired per year recently has declined significantly from the period from the last

[36] Response to TURN 46-10(b).
[37] *Id.*
[38] *Id.* at (c) (Emphasis added).

1990s through the mid 2000s. [39] The relationship of fewer poles being retired coupled with a larger number of complex poles being installed compounds the problem more so.

Turning to industry comparative data, one also finds a somewhat puzzling presentation by Gannett Fleming in its summary. As previously noted, Gannett Fleming noted that many utilities experience high cost of removal percentage well over -100%.[40] However, when Gannett Fleming's actual industry database is reviewed, one finds very limited levels of negative net salvage values of -100% or greater. [41] Indeed, Gannett Fleming's database identifies only three values more negative than a -100% out of 65 reported values. That means that only 5% of the reported industry reflects values even remotely as negative as proposed by Gannett Fleming in this case. In particular, Gannett Fleming does not report any values more negative than a -125%. The degree to which the -150% net salvage proposed by Gannett Fleming for PG&E deviates from the industry can best be identified by comparison with the average value recommended by Gannett Fleming elsewhere, which is -41%.[42] In other words, Gannett Fleming's proposal is many standard deviations beyond the mean and should be identified as an outlier.

Given the historical skewing of the database as noted above, retention of the existing -80% net salvage is an appropriate recommendation. However, in order to remain very conservative I recommend a -100% net salvage. In conjunction with my recommendation for a -100% net salvage, I also recommend that the Commission order the Company to perform a detailed investigation into the appropriate cost of removing a pole along with all support and justification associated with such investigation and present such information in the next depreciation study. My recommendation provides the Company with more than adequate financial recovery of current levels of cost of removal until such time as the Company can develop and present sufficient justification for realistic and appropriate cost of removal amounts for the investment in this account.[43]

[39] Response to TURN 63-25 18,149 average for 2005-2011 versus 29,866 average from 1997-2004.
[40] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-476.
[41] Response to TURN 28-3 Attachment 1.
[42] *Id.*
[43] Current levels of cost of removal being incurred are between $15 million and $23 million annually, as noted in Exhibit (PG&E-2) Chapter 11 workpaper WP 11-921. A -100% net salvage will yield approximately $90 million of

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $44,944,344 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the cu rrently authorized net salvage rate for this account, my recommendation results in an increase of $ 18 million rather than $63 million under the utility's request.

Account 365 – Distribution Overhead Conductors and Devices

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 365 – DISTRIBUTION OVERHEAD CONDUCTORS AND DEVICES?

A. The Company proposes a substantial decrease (a more negative value) in this account. The Company proposes a -200% net salvage compared to the existing -77% net salvage.[44]

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

A. Gannett Fleming relied on the overall average of PG&E's historical database from1990 - 2009. Gannett Fleming further noted that cost of removal "is extremely high and is continually increasing;" the overall average was -244% and the five -year average was over -500%.[45] From this information, Gannett Fleming concluded that the "data indicating (200) percent net salvage rate appropriately approximates the trend of increasing net salvage for this account." Gannett Fleming then cla ims that movement to a -200% is conservative considering the increase in the past five years.[46]

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

A. No. The Company's figure is too negative. I conservatively recommend a n increase to -110% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

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negative net salvage on an annual basis through depreciation rates, as calculated based on data in Exhibit (PG&E -2) Chapter 11 page 11-4.

[44] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-484.

[45] *Id.*

[46] *Id.*

A. This account represents the single largest dollar level of investment for any account on the Company's system.[47] As previously discussed, the Company's proposed -200% net salvage results in over $220 million in annual revenue requirements based on plant as of December 31, 2011. Of that, $136 million represents the revenue requirement impact of the Company's requested increase in this case. Proposed changes in revenue requirements of this magnitude demand substantial justification, which PG&E has not presented.

I have relied on the historical database to a lesser extent than did the Company, as is appropriate here. It is known that the Company's database contains errors in the level of reported retirements. Also known is that the recent years in the Company's historical database include much higher labor costs than the amounts likely to be incurred in the future due to the increase in crew size performing installation and removal activities in order to train apprentices and pre-apprentices. Considering those factors, the change proposed by Gannett Fleming for net salvage is not warranted.

Viewed from an industry comparative standpoint, the Gannett Fleming's proposed -200% represents an outlier, even when only measured against other California utilities. Indeed, in SCE's recent rate proceeding, the utility requested and received permission to change the prior existing -100% net salvage to a -110% net salvage.[48] The substantial difference between Gannett Fleming's proposal in this case and its own database for other utilities further illustrates the unusual level proposed for PG&E. Gannett Fleming's industry database does not contain a value for other utilities more negative than a -100% net salvage and reflects an overall average of approximately -35%. In other words, what Gannett Fleming is proposing for PG&E is approximately six times the average level it proposed for other utilities.

My recommendation also reflects a realistic application of the concept of gradualism. Reliance on some form of gradualism is especially important in this situation given the Company's poor historical database and the level of costs being recorded, not necessarily

[47] Exhibit (PG&E-2) Chapter 11 pages 11-2 through 11-10.
[48] CPUC Application 10-11-015; D.12-11-051, pp. 674-675 and 678-679.

incurred, for cost of removal. I n conjunction with my recommendation, I further request that the Commission order the Company to perform a detailed investigation of the actual costs (as distinct from allocated costs) incurred to retire overhead conductors rather than simply applying percent allocation factors to total replacement work order costs. Moreover, such investigation and analysis must demonstrate that the high level of negative net salvage being reported by PG&E, especially when compared to other utilities, is not due to unusual or inappropriate actions in cost of removal activities or the allocation of costs associated with replacement work orders. The Company must clearly identify what it is about its cost of removal practices for the investment in this account that leads it to seek a net salvage value far more negative than the average for all other utilities. The Company must also provide detailed support and justification for any conclusion it presents.

It is further worth noting that my recommendation for a -110% net salvage still provides the Company in excess of $120 million of annual negative net salvage based on plant as of December 31, 2011. This level of negative net salvage is 4.5 times the highest level of negative net salvage ever reported by the Company in any give n year and is 9.5 times the average level of negative net salvage experienced by the Company since 1990.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $99,658,726 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendation results in an increase of $ 37 million rather than $1 36 million under the utility's request.

Account 366 – Distribution Underground Conduit

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 366 – DISTRIBUTION UNDERGROUND CONDUIT?

A. The Company proposes a -100% net salvage.[49] This level represents a level five times the current -20% net salvage.[50]

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

A. Gannett Fleming relied on the average historical database from 1990-2009 which "indicated no salvage but very constant high cost of removal." [51] Gannett Fleming notes that the overall net salvage was a -102%, and the most recent five years was a -311% net salvage. From these items of information, Gannett Fleming concluded that "a move in that [more negative net salvage] direction is warranted."

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

A. No. The Company's proposal is too negative compared to the type of investment at issue and industry information. I conservatively recommend retention of the existing salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. Again it is necessary to place the Company's request in proper perspective. The Company's requested -100% net salvage amount would result in PG&E collecting $2.261 billion future negative net salvage costs . Using the requested 38.73-year remaining life for this account , this means the Company is requesting $58 million of annual revenue requirements associated solely for net salvage of the investment in this account as of the end of 2011.[52] This request for a $58 million annual revenue req uirement is 16 times the highest level of annual negative net salvage the Company has recorded for this account from 1990-2011.[53] Moreover, it is 50 times the average level of negative net salvage incurred during the last 22 years corresponding to the Comp any's historical database. [54] Further perspective is gained by a brief review of other California utilities, as noted by the Company in its depreciation study. Indeed, the Company identifies -20% net salvage

[49] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-494.
[50] *Id.*
[51] *Id.*
[52] Exhibit (PG&E-2) Chapter 11 page 11-4.
[53] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-925.
[54] *Id.*

for SCE and -40% net salvage for SDG&E.[55] Gannett Fleming's proposal in this case is 33% higher than the highest value it has recommended elsewhere.[56] The Commission and customers are entitled to significant support and justification when the Company proposes a value that represents an outlier compared to an industry benchmarking analysis. It must also be noted that Gannett Fleming failed to rely on the concept of gradualism for the net salvage proposals as it did for the life analysis portion of the same study.

Based on Company specific data, it appears that Gannett Fleming's recommendation fails to correlate the type of retirement activity with the corresponding negative net salvage. As noted in the Company's life analysis, "conduit is generally retired only when accidentally dug up due to relocations or upgrades;"[57] otherwise it is typically retired in place, a much lower-cost alternative. The experience reflected in the Company's database is likely to be disproportionately associated with emergency retirements. Emergency retirements normally result in unusually high levels of cost of removal given the very nature of the situation. However, in any instance, it is not expected that the vast majority of the $2.3 billion of investment in this account will be retired associated with emergency situations, relocation requests, or an unusually large number of small retirements.[58] As such, the historical database does not provide a valid basis upon which to project future costs for the vast majority of investment in the account. This is especially true when the historical database relied upon reflects less than one percent of retirement activity for the entire 22 years of historical data presented by the Company.[59] The Company's database is statistically not robust even absent consideration of the unusual activity reflected therein.

Next, given the limited level of historic retirement activity, it is worth investigating the years in which the greatest dollar level of retirement activity occurred for indications of any potential economies of scale. Indeed, two out of the 22 years in the Company's

[55] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-494.
[56] Response to TURN 28-3 Attachment 1.
[57] *Id.*
[58] Response to TURN 63-37 where PG&E notes over 10,000 work orders over a two-year period.
[59] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-925.

database reflect over 40% of the entire retirement activity during the two decade period.[60] When the two years with by far the greatest level of retirement activity are reviewed, the average negative net salvage declines to -40%. While a -40% net salvage is still a very high number, likely due to the inclusion of significant levels of emergency retirement situations, it at least produces a more realistic but high side starting point for the analysis. Gannett Fleming states that it does not rely on individual year values because of a concern relating to potential timing differences in the recording of values. [61] This concern has not been shown to have any meaningful impact. Indeed, Gannett Fleming and PG&E admit that neither has performed any analysis that would provide the Commission with the average or maximum time period between recording a retirement and the associated costs of removal and salvage.[62]

Another consideration for a much less negative level of net salvage than proposed by Gannett Fleming is the fact that underground conduit may in fact be abandoned in place in certain instances. Thus, the net salvage level associated with abandonment situations normally produces nominal levels of cost of removal and thus nominal levels of negative net salvage. But if PG&E's historical data for this account reflects a disproportionate amount of retirements other than abandonments in place, the resulting average would be an overly negative forecast going forward.

In summary, Gannett Fleming has not demonstrated that an increase to a level that is five times the existing level of net salvage is warranted. Moreover, Gannett Fleming fails to investigate the impact of emergency retirement situations on the historical database. Simply put, Gannett Fleming incorrectly assumes that the historical database is indicative of the future retirement scenarios for the entire $2.3 billion investment, especially given the statement in the life analysis portion of the depreciation study that underground conduit is normally not retired unless due to dig-ins or other unusual circumstances. Further red flags should have been seen when comparisons were made with other California utilities, and when Gannett Fleming considered its own experience working

[60] *Id.* for years 1999 and 2003.
[61] Response to TURN 63-36.
[62] Response to TURN 28-20.

with other utilities which has not yielded a value as negative as proposed in this case in all its prior proceedings. In addition, when the Company's proposal to collect over $58 million of annual costs for future net salvage is compared to the current cost of removal activity, which is closer to $1.5 million per year, further analysis and investigation should have been performed and presented. Therefore, while retention of the existing -20% net salvage would be reasonable and appropriate, a conservative rec ommendation of a -40% based on Company actual experience corresponding to the two years that reflect 40% of the entire retirement activity during the past 22 years is reasonable under the circumstances. In conjunction with my recommendation for such a high level of negative net salvage, I further recommend that the Commission order the Company to perform a detailed analysis of retirement activity and corresponding costs associated with underground conduit and present such analysis along with all support and justification in its next depreciation study.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $35,029,338 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendat ion results in a $ 0 change rather than a $35 million increase under the utility's request.

Account 367 – Distribution Underground Conductor and Devices

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 367 – DISTRIBUTION UNDERGROUND CONDUCTOR AND DEVICES?

A. The Company proposes a -50% net salvage. [63] This proposed level represents a more negative value than the existing -40%.[64]

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

[63] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-504.
[64] *Id.*

A. Gannett Fleming simply notes that there is a high level of gross salvage, but that cost of removal is even higher in its historical database. It further notes that the average for the period studied is -46% and the most recent five-year average is -60%. It then concludes that based on recent trends, the data "suggests" a net salvage level more negative than the presently authorized -40%.[65]

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

A. No. I recommend a -35% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is also based on a review of the Company's historical data, but tempered with Company-specific information and industry practices.

First, from a historical data standpoint, the level of retirement activity varies greatly depending on whether the retirements are due to an emergency failure of direct buried underground cable or planned replacement of cable in a conduit. In fact, Gannett Fleming's interview notes identify that when upgrading underground cable, the Company employs a process where it can "usually pull-out and pull-in" conductor when dealing with cable in a conduit.[66] In other words, limited digging is required to gain access to the cable in conduit, resulting in reduced levels of cost of removal for newer cable in conduit. For example, the year with the lowest dollar level of retirement activity during the past 15 years results in the highest level of negative net salvage.[67] Further, the second-lowest year of retirement activity during the past decade results in the second-highest level of negative net salvage.[68] These values appear to indicate emergency replacement situations or potentially a disproportionate level of retirement of direct buried cable, given that many years surrounding these values are in the upper -20% range.[69]

[65] *Id.*
[66] Response to TURN 6-22 Attachment 2.
[67] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-927 for 2009.
[68] *Id.* for 2010.
[69] *Id.*

This limited replacement effort when dealing with cable in conduit is important when dealing with replacement situations. [70] Recall the Company assigns a percentage of the entire work order cost to cost of removal. Therefore, as the Company admits, the overall cost of a replacement work order can be minimized by using the easier "pull-out and pull-in" process when dealing with cable in conduit, then cost of removal is reduced. Given that "since 1995 all underground cable is in conduit," [71] it stands to reason that overall the level of negative net salvage should become less negative in the future given well over 50% of the investment in this account has been added since 1994.

From an economies of scale standpoint, when the four years with the largest level of retirements over the past 10 years are reviewed, they yield a -32% net salvage. [72] This value compares to a -152% net salvage for the two years with the lowest level of retirement activity (about half the level of activity in the years with the largest level of retirements).

From an industry comparative standpoint, the proposed -50% net salvage is also unduly high. Gannett Fleming's database yields an industry average value less negative than -20% for its industry expectations. [73] Therefore, a small reduction from the existing -40% to a -35% is warranted at this time.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $17,395,145 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendation results in a decrease of $6 million rather than an increase of $12 million under the utility's request.

[70] Response to TURN 63-42.
[71] Response to TURN 6-22 Attachment 2.
[72] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-927 for 2003, 2005, 2007 and 2011.
[73] SCE did retain a -60% net salvage in its recent rate case.

Account 368 – DISTRIBUTION LINE TRANSFORMERS - OVERHEAD

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 368.01 – DISTRIBUTION LINE TRANSFORMERS - OVERHEAD?

A. The Company proposes -25% net salvage for this account.[74] This represents a value more than four times the existing -6% net salvage.[75]

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

A. While Gannett Fleming states that the overall database "indicated" -11% net salvage, Gannett Fleming also references that the five-year average is a -56%. Therefore, based on the most recent years, net salvage was increased to -25%.[76]

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

A. No. The Company's proposal is too negative. I recommend a -15% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is consistent between the life and salvage portions of the depreciation analysis. As noted in the life portion of the depreciation analysis, retirements in this account have been due to overload conditions that result in replacements either on a preventative basis or in failure mode, as well as due to deterioration and lightning strikes which normally are associated with emergency situations. As previously noted, when plant failures occur in such situations, it is normal to expect that the resulting cost of removal will be more negative in comparison to the planned replacement retirement situation associated with the vast majority of the investment in the future. In planned retirement situations, lower levels of overtime likely will be incurred, the appropriate replacement materials should be available on a timely basis, all of which results in an overall lower replacement cost work order, all else equal. This is significant since the Company allocates the overall replacement work order cost on a percentage basis to cost of removal.

[74] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-513.
[75] *Id.*
[76] *Id.*

Another consideration for limiting the increase to a -15% is the fact that the Company's updated database on an overall basis yields -14% net salvage if 2010 and 2011 are included.[77] The practice of relying on an overall database is one utilized by Gannett Fleming for numerous accounts in this proceeding. Further, limiting the increase to -15% provides a level of gradualism to the extent higher levels are actually appropriate, which they are not, based on the available information.

Another consideration is the fact that line transformers normally can be expected to have some levels of salvageable copper. Given that the price for scrap copper has increased hundred of percent in the last decade, and continues to remain at high levels, indicates the cost of removal percentages should become less negative in the long run due to the higher costs of scrap copper.

Further, Gannett Fleming's proposal for a -25% net salvage is at the high end of its own industry database.[78]

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $7,356,870 reduc tion in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendat ion results in an increase of $ 7 million rather than $ 14 million under the utility's request.

Account 369.01 – Distribution Services - Overhead

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 369.01 – DISTRIBUTION SERVICES - OVERHEAD?

[77] Exhibit (PG&E-2) Chapter 11 workpaper WP 11 -929.
[78] Response to TURN 28 -3 Attachment 1 with the exclusion of the singular outlier for Company 52.

A. The Company proposes a -135% net salvage.[79] This represents a substantially more negative net salvage value than the existing -75%.[80]

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

A. Gannett Fleming again relied on a historical average for a portion of its basis. The overall net salvage average was -56%, but Gannett Fleming noted that in the most recent f ive-year period the average had decreased to -177%. From this historical analysis, Gannett Fleming concludes that net salvage might be increased (become more negative) to reflect statistical analysis, but determined that a move to a -175% "is a large move, therefore at this time we will limit the increase and will recommend a -135% net salvage."[81]

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

A. No. The Company's proposal is too negative. I recommend nothing more negative than the current -75% negative net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. Again, it is necessary to place the Company's proposal in proper perspective. The Company's request for a -135% net salvage represents the most negative net salvage value identified by Gannett Flem ing for investment in this account both in California and in the industry.[82] Further, the Company's proposed 60 percentage point increase in negative net salvage results in an approximate $13 million annual increase in revenue requirement.

The Company's proposed substantial change is based on a review of five years of historical data without any meaningful investigation or discussion as to the representativeness of such limited time frame. Gannett Fleming's reliance on a more recent five-year period in fact is misplaced. The Company admits that it has increased its crew size to incorporate a temporary increase for new apprentice and pre -apprentice

[79] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-533.
[80] *Id.*
[81] *Id.*
[82] Response to TURN 28-3 Attachment 1.

employees.[83] This increase in crew size is temporary in nature, and as these junior level employees become journeymen linemen, the Company plans on reducing crew sizes back to historic levels, thus returning net salvage relationships to more realistic prior levels.[84]

Another consideration is the fact that the services retirements reflected in the Company's data base were typically replaced due to failures. Thus, the historic data appears to reflect a level of emergency retirement situations that is likely to be higher than the proportion going forward. It is expected that disproportionately high levels of negative net salvage were incurred due to the emergency situations, particularly due to corresponding overtime charges.

Review of the historical database updated through 2011 yields a -76% overall average.[85] Gannett Fleming relied on the overall database for other accounts; for this account it is even more appropriate given the unusual staffing levels reflected in recent historical data. Indeed, the retention of the existing -75% net salvage still leaves the Company near the high end of the industry range for net salvage and still yields a dollar level of negative net salvage on an annual basis greater than the Company has experienced in any annual period reflected in its 22-year historical database.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $12,702,500 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendation results in no increase rather than $ 13 million under the utility's request.

J. Gas – Account Specific

Account 376 – Gas Distribution Mains

[83] Response to TURN 46-10(b) and (c).
[84] *Id.*
[85] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-933.

Q. WHAT NET SALVAGE DOES THE COMPANY PROPOSE FOR ACCOUNT 376 – GAS DISTRIBUTION MAINS?

A. The Company proposes a -65% net salvage.[86] This represents a more negative value than the existing -52%.[87]

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

A. Gannett Fleming proposes a -65% value based on a review of the 1990 -2009 historical database. The average for that period was -63% and Gannett Fleming rounded the value up to -65%. Gannett Fleming states that recent years have shown a -100% cost of removal in a number of years and that management confirms that pipe generally is not salvageable. Gannett Fleming further notes that there is very little insertion of pipe in the replacement program and that most replacements require an open trench, increasing the cost of retiring the pipe being replaced. Gannett Fleming concludes its analysis by stating that the existing -52% is too low that that a -65% net salvage is more representative.[88]

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

A. No. Gannett Fleming's proposal is too negative based on the available information. I recommend a -50% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. The Company's presentation is predicated on a flawed database and fails to recognize corrected data available through 2011, the time period actually reflective of the data in the Company's depreciation study. When corrected Company data for the period 1990 through 2011 is reviewed in total, the Company's reported level of negative net salvage is reduced to -59%.[89] However, there has been no demonstration that the retirement pattern reflected in the overall historical period is representative of the future retirement expectations for current plant in service. Further, Gannett Fleming's mechanical averaging of many years of data does not capture trends in the data which may be

[86] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-671.
[87] *Id.*
[88] *Id.*
[89] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-953 and response to TURN 46-12. It must be noted that any additional correction of historical data should result in a further decline in the level of negative net salvage since the error is related to the underreporting of retirement dollars.

reflective of changes in the mix of plant or other changing situations. Indeed, the trend in the data is toward a less negative level of net salvage and is more indicative of -40% net salvage level.[90]

Another consideration is the level of retirement activity in any given year. Years with greater levels of retirement activity may be indicative of situations reflecting economies of scale or greater levels of planned retirements versus emergency related retirements. Cost of removal is normally higher in emergency replacement situations. A review of the historical data identifies four years with noticeably higher levels of retirement activity.[91] The average net salvage for those four years was -30%.[92] Such lesser levels of negative net salvage may be indicative of either economies of scale or fewer emergency related or unusual retirement projects, or fewer open trench replacements. In this case the years with higher levels of retirement activity should be more indicative of the negative net salvage that will be experienced by the vast majority of the $2.1 billion of investment in the account in the future. It must be noted that Gannett Fleming states that it does not rely on individual year values because of a concern relating to potential timing differences in the recording of values.[93] This concern has not been shown to have any meaningful impact. Indeed, Gannett Fleming and PG&E admit that neither has performed any analysis that would provide the Commission with the average or maximum time period between recording a retirement and the associated costs of removal and salvage.[94]

Yet another consideration for a less negative level of net salvage than proposed by the Company is comparison with industry information. Gannett Fleming's industry database for Account 376 yields an average negative net salvage of 35%.[95] In addition, the other two major California gas utilities have less negative levels of net salvage than proposed

[90] *Id.*
[91] Average annual retirement from 1990-2011 was $5.3 million. The highest four years of annual retirement activity averaged $11.6 million.
[92] *Id.* for the years 1998 through 2000, and 2010 ($13,901,949 of negative net salvage / $46,534,377 of retirement activity = -30% net salvage).
[93] Response to TURN 63-36.
[94] Response to TURN 28-20.
[95] Response to TURN 28-3 Attachment 2.

by the Company and average only -50%.[96] From an industry comparative standpoint, my recommendation for -50% net salvage is also excessively negative, but not to the same extent as is the Company's proposal.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $ 9,194,570 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendation results in a decrease of $1 million rather than an increase of $9 million under the utility's request.

Account 380 – Gas Services

Q. WHAT NET SALVAGE DOES THE COMPANY PROPOSE FOR ACCOUNT 380 – GAS SERVICES?

A. The Company proposes a -180% net salvage.[97] This represents a substantial increase in the level of negative net salvage from the existing -105% net salvage level.[98]

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

A. The Company's proposal is based on Gannett Fleming's review of historical data from 1990 through 2009. During this period, Gannett Fleming calculates a -182% net salvage average, with five years reporting over -250%. Gannett Fleming also considered that analysis of more recent year bands reflect an increasing trend in cost of removal which further resulted in its reliance on the rounded overall average of a -180%.[99] Gannett Fleming also claims that higher labor rates and potential environmental and situational concerns as factors.[100]

[96] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-671 and the -55% net salvage recently approved by the CPUC in Application 10-12-005 (D. 13-05-010) for SCG.
[97] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-701.
[98] *Id.*
[99] *Id.*
[100] Response to TURN 65-25.

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

A. No. The Company's proposal is unduly negative. I conservatively recommend retention of the existing -105% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. First, it is necessary to place the Company's request in proper perspective. Not only is the Company's requested -180% net salvage excessively negative compared to other California gas utilities, it is also excessively negative compared to the industry. For California utilities, the Company identifies -90% net salvage for SDG&E, and -85% for SCG.[101] In the test year 2012 GRC for SDG&E and SCG, the utilities proposed and the Commission adopted a negative net salvage rate of -80% for SDG&E and SCG, or 5 to 10 percentage points less negative than the prior values.[102] PG&E has not explained what it is about its gas service investment or the practices underlying the recorded removal costs and salvage that would produce such disparate figures for the major California gas utilities. Further, based on Gannett Fleming's industry database, the industry average for this account is approximately -70%.[103]

Another problem is that the net salvage database relied upon by Gannett Fleming reflects accounting errors. The Company failed to properly transfer retirements between various software systems, which resulted in erroneously reported lower levels of retirements.[104] Underreporting of retirements inflates the percentage level of negative net salvage for this and other accounts because the retirements are the denominator of the ratio. The overall database average for the 20-year period reviewed by Gannett Fleming declines by 26 percentage points after limited additional retirement activity for 2010 and 2011 are included.[105] However, the limited corrections still appear to overstate the negative level of net salvage reported in historical values. PG&E has not explained how the accounting errors appeared for the first time in 2010, so there is some question in my mind as to

[101] Exhibit (PG&E-2) Chapter 11 at workpaper WP 11-702.
[102] Application numbers 10-12-005 for SDG&E and 10-12-006 and SCG (D.13-05-010).
[103] Response to TURN 28-3 Attachment 2.
[104] Response to TURN 46-12.
[105] *Id.* and Exhibit (PG&E-2) Chapter 11 workpaper WP 11-959 which reflects a corrected overall database value of -165%.

whether the accounting errors began to appear earlier than 2010 and influenced the Company's recorded values that result in the requested level of net salvage, which place the proposed value in the position of being an outlier.

Yet another concern is Gannett Fleming's treatment of limited additional years of data. As previously noted, Gannett Fleming's practice for this account is to rely on the resulting averages of recorded historical transactions from 1990 through 2009. The failure to test the reasonableness of such a mechanized analysis results in unrealistic and inappropriate proposals. For example, PG&E relied on a 10-year mechanical averaging of historical transactions in its 1999 General Rate Case. This mechanical practice of simply averaging values without an explanation of the further investigation that was performed and what that investigation yielded caused the Company to propose a -350% net salvage in that case.[106] The Commission denied the Company's request in that case and retained the existing -120%. In the very next depreciation case, the 2003 General Rate Case, Gannett Fleming again relied on mechanical averaging of limited updated historical data. In that case Gannett Fleming changed its previous proposal of -350% to -85%.[107] In this case, Gannett Fleming still failed to present testimony describing a more thorough evaluation of the historical database to determine the difference s within the recorded transactions, but again proposes a substantial change in net salvage from a -105% to a -180%. Gannett Fleming's assumption that mechanical averaging of recorded transactions yields the appropriate net salvage ratio is not substantially different from the approach in PG&E's 1999 GRC that the Commission rejected. It would be inappropriate to adopt the results of that type of approach where, as here, the result is an additional $2 billion of net salvage over the life of the plant.[108]

The need to investigate and, if necessary, make adjustments for different periods of historical transactions is demonstrated by the fact that PG&E employs many different methods when replacing services.[109] Depending on the method employed the replacement

[106] CPUC Application 97-12-020, Exhibit 367 at page 92.
[107] CPUC Application A.02-11-017, Exhibit (PG&E-6) Chapter 10 workpaper 10-226.
[108] Exhibit (PG&E-2) Chapter 11 page 11-7 value of $2.6 billion times 75 % (180% - 105%).
[109] Response to TURN 65-24.

of a service can range from 20 man hours to 128 man hours, not taking into consideration special circumstances or overtime costs. [110] When variances of such magnitude exist, simple mechanical averaging of data can fail to produce an appropriate net salvage value. The analysis should identify and assess the impact of the different methods and, by extension, the resulting net salvage values.

In addition, the database for this account illustrates a particular challenge of developing a forecast of future cost of removal and gross salvage costs based on the retirement of a very small percentage of the total plant investment in the account. Here the annual level of retirement activity reflected in the database relied on by Gannett Fleming is very small in comparison to the plant in service. Under these circumstances, the Commission has cause to be concerned that the recorded retirements do not reach a level of materiality, and any conclusions drawn from the data lack sufficient support as a result. In fact, when the two years with the greatest dollar level of retirement activity are reviewed, the resulting net salvage values are a -35% and a -32%, respectively. [111] This means that, when more material levels of retirement activity are analyzed, the results indicate much less negative levels of net salvage, more indicative of what other utilities are experiencing. Those years with higher levels of retirement activity may also be indicative of the concept of economies of scale that can be expected to occur in the future when the higher levels of retirement activity are more regularly experienced. For this account, there is also the question of whether the recorded retirements represent a reasonably representative mix of retirement activity that can be expected in the future. In other words, many services are currently retired due to emergency situations (e.g., dig-ins) versus more planned retirement events (e.g., relocations). Under emergency situations, more negative levels of net salvage are expected due to the lack of preplanning and related level of unknowns, including potential high levels of overtime. I suspect that even the Company would agree that going forward, the proportion of the $2.5 billion of current investment in gas distribution services that is retired in emergency situations will decline, while the proportion that is retired as part of planned replacements will increase.

[110] *Id.*
[111] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-959.

Finally, even with retention of the existing -105% net salvage, the Company's net salvage level is extremely negative, not only in comparison to other California utilities but in particular to the industry. Therefore, in conjunction with my recommendation of a -105% net salvage, I further recommend that the Commission require the Company to perform a detailed investigation of why it is recording such high levels of negative net salvage (e.g., emergency situations, unexpectedly high levels of overtime, improper accounting, etc.) and present such analyses along with all support in its next deprecation study.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $ 52,553,020 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the currently authorized net salvage rate for this account, my recommendat ion results in n o increase rather than $ 53 million under the utility's request.

K. Common Plant – Account Specific

Account 390 – Common Plant Structures and Improvements

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 390 – COMMON PLANT STRUCTURES AND IMPROVEMENTS?

A. The Company proposes to retain the existing -10% net salvage for the investment in this account.[112]

[112] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-775.

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

A. Gannett Fleming calculated an overall average from its historic database and noted that it resulted in a -25% net salvage. It further noted that more recent years show the net salvage increased (became less negative) to a -17% based on a five-year average, with some years falling below -10%. Based on these items of information, Gannett Fleming elected to retain the existing -10% net salvage. When asked to provide a detailed explanation of how and why it recorded retirement, cost of removal and gross salvage values for a number of the years in the historical database, PG&E merely said that it "incurred retirement, cost of removal and gross salvage values … that are consistent with building and maintenance requirements." PG&E apparently could not provide any further explanation specifically supporting its historical cost of removal levels, other than it believes that such activity is indicative of what can be expected in the future.[113]

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

A. No. The Company's proposal is unrealistic based on the type of investment at issue. I believe that a positive 25% net salvage is an extremely conservative figure that in reality will significantly understate the net gain that the Company would obtain if it were to sell its buildings at time of retirement.

I renew the offer I have made in previous PG&E GRCs – rather than collect negative net salvage for its investment in Account 390, it should adopt a net salvage of 0% for this account. Once each of its buildings has reached 120% of the Company's assumed ASL, it should turn the building over to me, at no cost to the utility or its ratepayers. I will take responsibility for the cost of removal so that ratepayers do not have to incur any such proposed cost. As proposed, my recommendation would save customers over $112 million.

Q. CAN YOU EXPLAIN THE BASIS FOR YOUR ALTERNATIVE RECOMMENDATION?

[113] Response to TURN 65-32.

A. Yes. In the past GRCs the Company elected not to accept my offer. Assuming that is the case here, my alternative recommendation is the Commission adopt a positive 25% net salvage in recognition of the significant value the Company is likely to obtain when it does ultimately dispose of such facilities. An office complex in downtown San Francisco, with almost two million square feet, is an extremely valuable structure both now and well into the fu ture. In reality, for the San Francisco Bay area, as well as most other metropolitan areas, there has been a significant increase in the value of buildings located in the downtown core as many decades pass. Indeed, Bloomberg.com reported in December 2012 that occupancy costs surged 36.4% in downtown San Francisco to $90 a square foot due to demand from technology-industry tenants.[114] Given that the Company's general office complex is 1.8 million square feet implies that it could rent for as much as approximat ely $160 million annually. Such high potential for rental income makes it hard to imagine that PG&E could not find a buyer for its complex at the time of retirement and not only avoid tearing the complex down, but actually obtain a sizeable gain.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $ 15,945,647 reduction in annual depreciation expense based on plant as of December 31, 2011. As compared to the cu rrently authorized net salvage rate for this account, my recommendat ion results in a decrease of $ 16 million rather than no change under the utility's request.

SECTION IV: MASS PROPERTY – LIFE

A. General

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

[114] http://www.bloomberg.com/news/2012 -12-14/san-francisco-office-costs-increase-the-most-in-the-world.html.

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 annual depreciation expense. Alternatively, a shorter ASL will normally reduce the remaining life and increase annual depreciation expense. The dispersion pattern, as established by an Iowa Survivor curve, 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. Gannett Fleming has already provided information relating to Iowa Survivor curves that are used in the life analysis process; as such I do not repeat that information.

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 statistical 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, produces 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 for which historical retirement activity is reviewed. For example, plant placed in service from 1910 through 2009 would form a placement band (i.e., the historical database). A full experience band would simulate the retirement activity over the full time frame 1910 through 2009. Alternatively, a 10-year experience band might still rely on the full placement band but only review the annual retirement activity for the period 2001 through 2009. By reviewing varying lengths of experience bands, one can identify potential trends and changing patterns in life characteristics.

Q. WHAT EXPERIENCE BANDS DID THE COMPANY SELECT?

A. Gannett Fleming generally selected four experience bands. The four experience bands generally employed are the full band, a 1982-2009, a 1987-2009, and a 1992-2009 band.[115]

Q. PLEASE EXPLAIN THE SPR METHOD.

A. In the SPR method, an Iowa Survivor curve and ASL are selected as a starting point of the analysis and its survivor factors applied to the actual annual additions to produce a sequence of annual balance totals. These simulated balances are compared with the actual balances by statistical analysis. Through multiple comparisons, the mortality characteristics (as defined by an ASL and Iowa Survivor curve) that are the best match to the property in the account can be determined.

[115] Response to TURN 28-19 Attachments 1, 2, and 3.

The Conformance Ind ex ("CI") is one measure used to evaluate various SPR analyses. CIs are also used to evaluate the "goodness of fit" between the actual data and the Iowa Survivor curve being referenced. The sum of squares difference ("SSD") is a summation of the difference between the calculated balances and the actual balances for the band or test year being analyzed. The difference is squared and then summed to arrive at the SSD. The SSD is employed to calculate a CI.

The retirement experience index ("REI") gives an indication of the maturity of the account and is the percent of the property retired from the oldest vintage in the band at the end of the test year. REIs range from 0 to 100%. An REI of 100% indicates that a complete curve was employed in the simulation process. An REI less than 100% indicates that only a portion of the survivor curve was employed for calculating the CI value. The originator of the SPR method provided ranking ranges of values for CI and REI. The ranking relationship for CI proposed is shown below[116]:

CI Ratios	Value
Over 75	Excellent
50 to 75	Good
25 to 50	Fair
Under 25	Poor

The ranking relationship for REI proposed is shown below:

REI %	Value
Over 75	Excellent
50 to 75	Good
33 to 50	Fair
17 to 33	Poor
Under 17	Valueless

Depreciation analysts have used these measures in analyzing SPR results for nearly 60 years, since the SPR method was developed. Each of these statistics provides the analyst with a different perspective of the comparison between a band of simulated or cal culated

[116] Methods of Estimating Utility Plant Life, Publication No. 51 -23 by Edison Electric Institute at page 62.

balances and the observed or actual balances in the account being studied. One statistic is not necessarily superior over the other. REIs should be carefully considered to ensure that a mature curve is being used to estimate life, otherwise the results should not be accepted, even if the CIs are "excellent."

Q. DOES GANNETT FLEMING AGREE WITH AND FOLLOW THE RANKING CRITERIA FOR SPR RESULTS?

A. Yes and no. Gannett Fleming states it generally agrees with the above noted ranking criteria normally utilized throughout the industry. However, Gannett Fleming further claims it relied on informed judgment in addition to such criteria. [117] Many of the recommended life-curve combinations are different from the combination that ranks highest for a particular account.

Q. DO YOU AGREE WITH GANNETT FLEMING'S CHARACTERIZATION OF ITS APPROACH TO SPR RESULTS?

A. Yes and no. While I agree with the concept that informed judgment must always be employed, quite often I cannot agree with many decisions made by Gannett F leming to select something other than the superior fitting life-curve combinations based on CIs and REI values , due to inadequately-supported claims of informed judgment. In nearly all instances, Gannett Fleming's reliance on the phrase "informed judgment" to opt for a life-curve combination that is not the highest -ranked occurs as an attempt to justify a lower increase in ASL than is indicated by the CIs and REI values. Claims of "informed judgment" must be sufficiently explained and supported. Absent s uch explanation and support, the claims should be discounted and the recommended curve -life combination rejected in favor of more appropriate levels of ASL.

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, the existing parameter, the Company's proposals, and dollar impact of my recommendation for each

[117] Response to TURN 63 -9(a).

of the accounts where a change is being made are summarized in the table below and totals a reduction of $174,334,762 based on plant as of December 31, 2011 , as compared to the requested ASLs in the Gannett Fleming depreciation study.

Mass Property Life

Account	Existing	Company Proposed	TURN Recommended	Impact
362 – Electric Distribution Station Equipment	40R2.5	42R2	46S0	$10,620,685
364 – Electric Distribution Poles, Towers, and Fixtures	40R2	42R1.5	46R1	$24,452,346
365 – Electric Distribution Overhead Conductors and Devices	40R2.5	42R2	46R1.5	$37,454,434
367 – Electric Distribution Underground Conductors and Devices	39R4	42R3	52R2.5	$29,362,895
368.01 – Electric Line Transformers – Overhead	32R2.5	32R2.5	36R0.5	$16,584,260
368.02 – Electric Distribution Line Transformers – Underground	29S2.5	29R3	31S1.5	$1,864,723
369.01 – Electric Distribution Services – Overhead	47R3	49R3	56R2	$7,006,282
376 – Gas Distribution Mains	53S3	57R3	63R2.5	$9,459,696
380 – Gas Distribution Services	53R4	54R4	57S2.5	$11,333,643
390 – Common Plant Structures and Improvements	40R3	40R3	55R1.5	$12,553,020
391.01 – Common Plant Office Machines and Computer Equipment	5SQ	5SQ	6SQ	$13,642,778

Q. DO YOU HAVE OTHER CONCERNS THAT YOU WISH TO RAISE?

A. Yes. As discussed earlier in this testimony, Gannett Fleming applies the concept of gradualism very differently for purposes of ASL selection than it did for developing net salvage values.

Q. WHAT IS THE CONCERN YOU HAVE REGARDING THE COMPANY'S APPROACH TO GRADUALISM?

A. There is nothing wrong with the concept of gradualism. However, it must be applied reasonably and wisely. Unfortunately, Gannett Fleming has used the concept inconsistently between its life and salvage analyses, resulting in higher depreciation expense.

While statistical results from SPR analyses might indicate five- to 10-year increases in ASL are appropriate, Gannett Fleming relies heavily on the concept of gradualism to limit the increase in ASL often to two years.[118] Relying on Gannett Fleming's concept of gradualism could result in appropriate life characteristics not being allowed to reach their appropriate level for potentially many decades. For example, as discussed later, the life characteristics for wood poles are increasing not only for the Company but for the industry as a whole. The increase in life expectancy is due in part to better chemical treatments and inspection programs. If one assumes that a 50-year ASL could reasonably be established for the investment currently, yet Gannett Fleming restricts the increase in ASL to two years, resulting in a 42-year proposal, that could mean that customers would have to wait more than a decade before Gannett Fleming would ultimately reach the current expectation of 50 years. Moreover, it is anticipated that with continued better maintenance practices, inspection programs, and chemical treatments, poles will continue to experience lengthening in the overall ASL, especially giving the dramatic increase in the cost of replacing a pole. Thus, assuming that something akin to Gannett Fleming's concept of gradualism is maintained for the next four depreciation studies, by the time the authorized ASL catches up with the 50-year life indicated here, it is very likely that the future expected ASL will by then be something greater than 50 years.

B. Electric – Account Specific

Account 362 – Distribution Station Equipment

[118] For example, Gannett Fleming limited a larger warranted increase in ASL for Electric Accounts 362, 364, and 365 to two years based on the concept of gradualism.

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 362 – DISTRIBUTION STATION EQUIPMENT?

A. The Company proposes a 42R2 life -curve combination.[119] This proposal represents an increase in ASL from the existing 40R2.5 life-curve combination.[120]

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

A. Gannett Fleming notes that PG&E personnel "anticipate" that indoor substations will have lives of 20 to 25 y ears. Gannett Fleming further notes that SPR analysis "indicates an ASL of around 40 years. "[121] Nothing in the study further addresses the disparity between the PG&E "anticipated" figure and the product of the SPR analysis. But Gannett Fleming concludes tha t a 42R2 life -curve combination is "reflective of the life analysis." In response to discovery, it appears that Gannett Fleming placed some significance on expectations from Company personnel that transformers will have a life around 40 years, and the concept of gradualism.[122]

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

A. No. The Company's proposal is too short. I recommend a 46S0 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My proposal is based, in part, on a more accurate re view of the results of SPR analyses. In addition, I rely on information from Company personnel and recognize a life expectancy more in line with the mix of investment in the account.

First, it is necessary to correct the statement presented by Gannett Fl eming that represents a portion of the basis for PG&E's proposal. When Gannett Fleming states that SPR analyses "indicates" an ASL of around 40 years, that statement is not correct. The only way to arrive at such statement would be to not consider superior fitting curves based on both CIs and REIs resulting from the SPR analyses. The best -fitting curves with the

[119] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-456.
[120] *Id.* at workpaper WP 11-457.
[121] *Id.* at workpaper WP 11-456.
[122] Response to TURN 63-21.

highest CIs and excellent REIs do not decline to a 40-year ASL, but actually reach the 50- to 55-year range of results.[123] Thus, the statistical indications from the SPR analyses are more representative of a value around the upper 40-year to 50-year level rather than "around 40 years" as presented by Gannett Fleming in its depreciation study.

From a purely statistical standpoint, the best-fitting curve would be a 51L0.5 life-curve combination relying on the highest CI value with an REI of 90% or greater for the 1982-2009 band analyses.[124] However, reviewing the various results from different bands of SPR analyses, my recommended 46S0 life-curve combination represents a conservative analysis of historical data.[125] While Gannett Fleming limited the increase in ASL to two years or 5% of the currently authorized life (2/40), such concept of gradualism is inconsistent with much greater movements in the recommended negative net salvage proposals.

Another factor to be taken into account is the claim by the Company that its indoor substations are anticipated to have lives of 20 to 25 years. Through discovery, it was determined that only about 10% of the distribution substations are indoors.[126] Over a decade ago Gannett Fleming relied on this same concern in order to propose a reduction from the then-authorized 43-year ASL to a 39-year ASL.[127] Now, in spite of empirical data to the contrary, Gannett Fleming again relies upon the same information in order to unduly limit the necessary and appropriate increase in ASL. Furthermore, when the Company was requested to provide support for its claim that indoor substations only last for 20 to 25 years, it admitted that such claim was "incorrect."[128] Thus, Gannett Fleming did not have the benefit of knowing that the claimed life range for indoor substations is actually "30 to 50 years."[129]

[123] Response to TURN 28-19 Attachment 1.
[124] *Id.*
[125] *Id.*
[126] Response to TURN 6-22 Attachment 3.
[127] CPUC Application A.02-11-017 Exhibit (PG&E-6) Chapter 10, workpaper 10-74.
[128] Response to TURN 63-18.
[129] *Id.*

From an industry comparative standpoint, Gannett Fleming's experience averages aroun d 47 to 48 years for investment in this account. [130] Indeed, approximately 40% of Gannett Fleming's recommendations are for ASLs of 50 years or longer, with many values of 60 year or longer range.[131] In other words, absent unusual circumstances, life expectancy for the investment in this account can easily be expected to reach the mid - to upper-50-year range, or possibly longer. Even if one assumes only a 50 -year ASL for all but indoor substations, as reflected in Gannett Fleming's overall industry experience, and a corresponding 25-year ASL for indoor substations, the weighted average for PG&E would be about 46 years, or equivalent to the conservative estimate I recommend. The industry information reflecting longer lives, even over 60 years, should have called i nto question the impression attributed to Company personnel that they "expect" an ASL for transformers "around 40 years." [132] And given Gannett Fleming's experience with other utilities, the Commission could reasonably expect the firm to identify the fact th at the ASL recommended for PG&E for this account is below the usual level the firm recommends in its depreciation studies, and explain the basis for this difference.

In summary, while the Company recognizes that an increase in ASL is warranted, it has unduly limited the increase without a sufficient basis. Next, from a statistical standpoint, based on the best -fitting results of SPR analyses, an ASL in excess of 50 years is warranted, not the "around 40 years" claimed in Gannett Fleming's study. Further, from an industry comparative standpoint, again a longer ASL than that PG&E recommends is warranted. Therefore, my recommendation of an increase to 46 years with a corresponding S0 Iowa Survivor curve is conservative.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $10,620,685 reduction in annual depreciation expense based on plant as of December 31, 2011.

[130] Response to TURN 28 -3 Attachment 1.
[131] *Id.*
[132] Response to TURN 63 -21.

Account 364 – Distribution Poles, Towers and Fixtures

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 364 – DISTRIBUTION POLES, TOWERS, AND FIXTURES?

A. The Company proposes a 42R1.5 life -curve combination.[133] This represents a two -year increase above the existing 40R2 life-curve combination.[134]

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

A. Gannett Fleming identifies causes of retirements as being deterioration, storms, road widening, inadequacy, car accidents, and beautification. Gannett Fleming further notes that PG&E is planning on completing a backlog of pole replacements in 2012 and 2013. Gannett Fleming's SPR analysis "suggests an ASL around 40 years with a low mode type curves." Gannett Fleming further finds the 42R1.5 life -curve combination is "reflective of the best fit of the life analy sis."[135] In response to discovery, it appears that Gannett Fleming placed some significance on expectations from Company personnel that transformers will have a life around 40 years, and the concept of gradualism.[136]

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

A. No. The Company's proposal is unduly short. I recommend a minimum increase to a 46R1 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on the review of SPR results and available information applicable to the investment in this account.

From an SPR standpoint, Gannett Fleming's statement that its SPR analysis "suggests" an ASL of 40 years is simply inaccurate. There are numerous better fitting life -curve combinations compared to Gannett Fleming's pro posal, all of which result in mid -40 to

[133] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-474.
[134] *Id.*
[135] *Id.*
[136] Response to TURN 63-21.

low-50-year ASL indications, or significantly longer than suggested in Gannett Fleming's depreciation study.[137] While a strong argument can be made for a 49- or 50-year ASL based on actual SPR results, a conservative statistical selection of a 46R1 life-curve combination is still superior to the Company's proposal. While Gannett Fleming limited the increases in ASL to two years or 5% (2/40), such concept of gradualism is inconsistent with much greater movements in the recommended negative net salvage proposals.

In addition to the statistical analysis, it must be noted that all of the Company's wood poles are chemically treated.[138] Indeed, SCE believes that poles treated with the "Through-Boring" process can have life expectancies up to 70 years.[139] In addition, the Western Wood Preservative Institute states that wood poles can last up to 75 years with proper inspection and maintenance.[140] PG&E also recognizes "that poles can and do last beyond 75 years of age."[141] However, no matter what the Company's treatment practices are, it should exhibit longer life expectancies for its poles than the industry average since many utilities in the industry do not chemically treat all their poles. In addition, the Company has a pole inspection program in place where it inspects every pole every 10 years. While inspection programs result in an initial wave of early retirements, once past that wave of initial retirements, pole inspection programs should result in longer life expectancies for the remaining poles on the system (since the weaker or damaged poles have already been culled due to the inspection program). In particular, poles that the inspection program identifies as having limited levels of deterioration can be reinforced or chemically re-treated in order to lengthen the expected remaining life. The result of such inspection programs again should result in a longer life expectancy than reflected in historical data, and in industry averages where not all companies have had pole inspection programs that are as mature as PG&E's.

[137] Response to TURN 28-19 Attachment 1.
[138] Response to TURN 6-22 Attachment 2.
[139] CPUC Application 10-11-015 SCE 2010-2012 GRC at Exhibit No. SC E-10, Volume 3 workpaper page 351.
[140] Response to TURN 63-24.
[141] *Id.*

Another consideration for a longer ASL is the fact that the Company now employs additional efforts to extend the life of poles. In addition to the initial chemical treatment of poles, PG&E also performs "mechanical restoration to the upper portion of its poles in the form of applying epoxy filler for wood pecker repair, and installing pole top splices and split bolt kits to repair upper portion pole splits." [142] In addition, PG&E now employs "a practice of fully excavating and treating all Cellon-treated poles with a wood preservative below ground." PG&E now confirms that such actions have resulted in Cellon-treated poles having "a similar live expectancy to that of other poles." [143] In other words, current Company practices are resulting in longer ASLs than are reflected in the historical SPR analyses.

Turning to industry information as compiled by Gannett Fleming, one finds an industry ASL average of approximately 43 years. [144] However, Gannett Fleming reports numerous utilities for which it recommended ASLs of 50 years or longer. The better-supported trend in the industry due to better maintenance programs, chemical treatment, and inspection programs is for longer ASLs. The Company's proposed 42-year ASL is lower than the industry average, which includes unusually low outlier values.

In summary, whether viewed from a correct statistical interpretation of SPR results, recognition of chemical treatments applied to all poles, the benefits of inspection programs, or from an industry comparative standpoint, a longer ASL than proposed by the Company is warranted. While an upper 40- to 50-year ASL may be more appropriate, I conservatively recommend a limited increase to a 46-year ASL.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $24,452,346 reduction in annual depreciation expense based on plant as of December 31, 2011.

[142] Response to TURN 63-24.
[143] *Id.*
[144] Response to TURN 28-3 Attachment 1, where the industry average is reduced to the inclusion of a few utilities that claim to have ASLs in the 23- to 29-year range, which is more indicative of outliers or special circumstances.

Account 365 – Distribution Overhead Conductors and Devices

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 365 – DISTRIBUTION OVERHEAD CONDUCTORS AND DEVICES?

A. The Company proposes a 42R2 life -curve combination.[145] This represents an increase of two years in ASL from the existing 40R2.5 life-curve combination.[146]

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

A. Gannett Fleming notes that overhead conductors retired due to deterioration, inadequate capacity or clearance, road widening, and storms , and that deterioration is the most significant in coastal portions of the service territory due to corrosion. However, Gannett Fleming based its proposal on the "indication" of a 40 - to 45-year life obtained from SPR analysis where it claims "good" CIs were achieved and the best fit is the 42R2 combination.[147] In response to discovery, it appears that Gannett Fleming placed significance on the concept of gradualism.[148]

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

A. No. The Company's proposal, while a step in the right direction, again is unduly short. I conservatively recommend a minimum increase to a 46R1.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation also relies on SPR results, but reflects a more correct identification of the actual results. In addition, I rely on other items of available information.

From a statistical standpoint, Gannett Fleming's claim that SPR results indicate a 40 - to 45-year ASL is incorrect. The best-fitting curves reflect ASLs in the 45 - to 55-year range,

[145] Exhibit (PG&E -2) Chapter 11 workpaper WP 11 -484.
[146] *Id.*
[147] *Id.*
[148] Response to TURN 63 -35.

rather than the 40- to 45-year range.[149] Indeed, the best-fitting curves would give indications of mid- to upper-50-year life expectancies for investment in this account. A more realistic yet still conservative reading of the SPR results would yield nothing less than a 46-year ASL. Moreover, it must be noted that Gannett Fleming's prior reading of SPR indications have resulted in ASLs subsequently demonstrated to be too short. For example, in the 2003 depreciation study Gannett Fleming believed that SPR based ASL indications were 28- to 38-years, or extremely short in comparison to what it now claims as current indications.[150] While Gannett Fleming limited the recommended increase in ASL to two years or 5% (2/40), such concept of gradualism is inconsistent with much greater movements in negative net salvage proposals.

The pole inspection program also helps to identify potential problems with conductor. Early detection of potential problems often can be corrected, resulting in longer life expectancy for such investment absent the inspection programs. Therefore, longer life expectancies for the current investment should result in comparison to review of historical events (i.e., SPR results).

Another consideration is review of industry information. Yet again, the Company's proposal not only is short in comparison to other California utilities but also compared to industry averages. Gannett Fleming's database reflects an approximate 45-year ASL for the industry, but more importantly reflects numerous recommendations for 55- to 60-year ASLs.[151]

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $37,454,434 reduction in annual depreciation expense based on plant as of December 31, 2011.

[149] Response to TURN 28-19 Attachment 1.
[150] CPUC Application A.02-11-017 Exhibit (PG&E-6) Chapter 10 workpaper page 10-91.
[151] Response to TURN 28-3 Attachment 1.

Account 367 – Distribution Underground Conductors and Devices

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 367 – DISTRIBUTION UNDERGROUND CONDUCTORS AND DEVICES?

A. The Company proposes a 42R3 life -curve combination.[152] This represents a three -year increase above the existing 39R4 life-curve combination.[153]

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

A. PG&E's underground conductor includes both direct buried cable and cable in conduit. Gannett Fleming further notes that PG&E ceased installation of direc t buried cable in the early 1990s with all subsequent installations being cable in conduit.[154] Gannett Fleming then relies on SPR results that " indicate a slight increase in service life," and notes that the CIs are greatest for the medium mode curves. [155] From these items of information, Gannett Fleming concludes that very high CIs are obtained from SPR analyses for ASLs "around 40 years," and claims that the 42R2 life -curve combination produces "the best-fitting" results.[156] In discovery, Gannett Fleming indicated that gradualism is a significant basis for its proposal.[157]

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

A. No. The Company's proposal significantly understates the appropriate ASL for the investment in this account. Therefore, I recommend a 52R2.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is also based on the results of the SPR analysis, information from Company personnel, and industry information. First, from an SPR standpoint, Gannett Fleming's statements in its depreciation study are inaccurate. Asserting that the CIs are the greatest for the medium mode curves is not accurate for any of the band analyses

[152] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-504.
[153] *Id.*
[154] *Id.*
[155] *Id.*
[156] *Id.*
[157] Response to TURN 63-41.

performed. Indeed, the CI increases as the mode in each family of curves decreases.[158] In addition, the claim that SPR analysis shows very high CIs for ASLs around 40 years ignores the fact that even higher CIs correspond to ASLs much greater than 40 years.[159] Indeed, the CI for my recommendation is 26% to 38% higher than the 40R4 life-curve combination associated with Gannett Fleming's claim.[160] In particular, Gannett Fleming's conclusion that the 42R3 life-curve produces the "best-fitting" results is completely inaccurate. Indeed, the result for each of the R3 curves is either 45 or 46 years – not the claimed 42 years, depending on the band.[161] Better fitting life-curve combinations, even with 100% REIs, exist in every single band analysis, and all such better fitting curves indicate longer ASLs.[162] In all instances, much longer ASL life indications are identified in the SPR analyses for all bands.

Another consideration is that further evaluation and explanation beyond reliance on the SPR analysis is appropriate here. This account contains numerous different types of conductor material and insulation.[163] The Company has previously acknowledged that the High Molecular Weight Polyethylene ("HMWPE") type underground conductor will not last as long as initially projected. There have been unacceptable cable failure rates associated with water creep or water intrusion throughout the industry. Utilities, including PG&E, have changed the type of underground cable over time as improvements have reached the market. The expected life for Cross-Link PE ("XLPE") type of underground cable is noticeably longer than that for its predecessor HMWPE. In addition, the newer Ethylene-Propylene Rubber ("EPR") is projected to have a much longer life expectancy than the XLPE conductor does.[164] Given that the HMWPE conductor makes up a small percent on a dollar basis of the investment in this account but

[158] Response to TURN 28-19 Attachment 1 for all bands.
[159] *Id.*
[160] Response to TURN 28-19 Attachment 1 for bands beginning in 1982, 1987, and 1992.
[161] Response to TURN 28-19 Attachment 1.
[162] *Id.*
[163] Response to TURN 13-8(f), Attachment 1 in CPUC Application A.02-11-017.
[164] Application 97-12-020, Exhibit 367, page 128, Interview of Company personnel on May 21, 2003, at page 31, and email from Ed Kurz on May 23, 2003. While this information was provided a decade ago, I know of no reason why it would have changed since then.

likely a relatively higher percent of the retirements in recent years, its impact on ASL of the remaining investment has been overstated in the SPR process.

The SPR analysis also captures the impact of short ASLs due to the problems with direct buried cable. The new cable in conduit also "provides additional physical protection for the cable, thus reducing deterioration and the possibility of damage from dig-ins."[165] As previously noted, PG&E stopped direct burial in the early 1990s. It is worth noting that the plant balance for this account has more than doubled since the early 1990s;[166] very little if any of that increase reflects direct burial. The SPR analysis very likely reflects, on a disproportionate basis, the retirement activity of HMWPE conductor and direct buried cable due to the higher failure rates associated with each type of conductor. Therefore, the SPR results would indicate a shorter ASL than would be indicative for the balance of the investment in the account. Gannett Fleming's depreciation study does not indicate that these factors were considered in arriving at its recommended life-curve combination for this account.

Further confirmation for the need to increase ASLs can be obtained from industry data. Gannett Fleming's database yields an average for all companies, without consideration of the mix of investment in the account, at a value greater than that proposed.[167] Moreover, Gannett Fleming's database reflects many utilities for which it recommended ASLs between 55 and 65 years. Those utilities very likely reflect greater percentage levels of investment in newer generations of underground cable and potentially higher levels of investment in cable in conduit.

In summary, Company-specific SPR results indicate an ASL in the upper-40- to low-50-year range. Even Gannett Fleming's proposed R3 dispersion pattern yields 45- to 46-year lives, not the 42-year "best fit" incorrectly claimed in the depreciation study. The fact that the majority of the investment in this account has been added in the last two decades implies that a much greater proportion of the Company's investment in this account is

[165] Response to TURN 63-42.
[166] Exhibit (PG&E-2) Chapter 11, workpaper WP 11-508.
[167] Response to TURN 28-3 Attachment 1.

cable in conduit and newer generation cable that are expected to have much longer life expectancy than older underground direct buried cable. Therefore, the best future indication for life expectancy for the current investment in this account would be a value in excess of 50 years and most likely approaching 60 years. Therefore, my recommendation for a 52R2.5 life-curve combination is conservative.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $29,362,895 reduction in annual depreciation expense based on plant as of December 31, 2011.

Account 368.01 – Line Transformers Overhead

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 368.01 – LINE TRANSFORMERS - OVERHEAD?

A. The Company proposes to retain the current 32R2.5 life-curve combination.[168]

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

A. Gannett Fleming notes that line transformers were retired due to overload conditions that result in replacement, as well as inadequacy, deterioration, and lightning. Gannett Fleming further states that SPR analysis "suggests an ASL from 29 to 34 years with low to medium modes producing the higher CIs." From these observations, Gannett Fleming concludes that a 32-year ASL results in the highest CI and is consistent with the currently authorized ASL.[169] In response to discovery, Gannett Fleming also appears to place significant credence in the currently approved estimate and seems to be unaware of any "information external to the statistical analysis that supported a change in service life."[170]

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

A. No. The Company's proposal results in an unduly short ASL. I recommend a 36R0.5.

[168] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-513.
[169] *Id.*
[170] Response to TURN 63-48.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is also based substantially on the results of SPR analysis. However, the results noted by Gannett Fleming for SPR analysis are incorrect when compared to the actual SPR results.

First, Gannett Fleming's statement that the SPR analysis "suggests" an ASL from 29 to 34 years is factually incorrect. Only one of the band analyses reflects an SPR result as low as 29 years, and in that particular band analysis the life-curve combinations with a 29-year ASL exhibit the poorest CI values. Therefore, giving any consideration to a 29-year value as a suggested result from SPR is unsupported.[171] Gannett Fleming's claim that the high end of the range suggested by SPR is only 34 years is again erroneous. A review of the SPR results clearly establish that values in the 37- to 39-year range often correspond with the highest CIs and excellent REIs. In other words, the SPR results suggest a more realistic range from a low of approximately 31 years to a high of approximately 40 years, with values near the higher end of the range normally exhibiting superior CI values. Gannett Fleming's claimed range is understated both on the low and high end by approximately three to four years, based on its own SPR results.

Consideration must be given to the retirement pattern as well. In a few instances, lower ASLs are identified but they normally correspond with the highest mode curves (i.e., R5, S6, and L5). Reliance on any of the highest mode curves would be counterintuitive compared to the retirement patterns experienced by the Company as well as in Gannett Fleming's database of curves it has recommended for other utilities. In other words, the highest mode curves are not representative of life expectancy for this type of investment, and reliance on lower modal curves not only generally corresponds with the highest CIs and excellent REIs but also corresponds to industry experience and expectations. While a 39- to 40-year ASL is warranted based on SPR results and industry expectations, a conservative result corresponding to superior CIs than those relied upon by Gannett Fleming would result in a 36-year ASL with a corresponding R0.5 dispersion pattern.

[171] Response to TURN 28-19 Attachment 1.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $16,584,260 reduction in annual depreciation expense based on plant as of December 31, 2011.

Account 368.02 – Distribution Line Transformers - Underground

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 368.02 – DISTRIBUTION LINE TRANSFORMERS - UNDERGROUND?

A. The Company proposes to retain the existing 29 -year ASL but change the existing S2.5 curve to an R3.[172]

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

A. The Company notes that its subsurface transformers are housed in concrete, fiberglass, and wood enclosures and that a 20-year life is expected for wood enclosures installed from the 1970s to the mid -1990s.[173] Gannett Fleming further notes that transformers are often replaced when enclosures are replaced. Gannett Fleming continues by stating that line transformers retire due to overload conditions and are replaced either on a preventative basis or at failure, inadequacy, and deterioration. Finally, Gannett Fleming notes that PG&E operating and engineering personnel state that lives for underground transformers should be slightly shorter than that for overhead transformers. In addition, Gannett Fleming relies on SPR results, which it claims "suggests an ASL rang e from 25 to 30 years with medium to high mode s producing the higher CIs. " From these items of information, Gannett Fleming concludes that its proposed 29R3 life -curve combination has "slightly better conformance with the actual book balances."[174]

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

[172] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-523.
[173] *Id.*
[174] *Id.*

A. No. The Company's proposal results in an unduly short ASL. I recommend a 31S1.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on a review of SPR results.

From an SPR standpoint, Gannett Fleming's claim that SPR analysis "suggests" an ASL between 25 and 30 years is inaccurate. A review of the actual SPR results show that not a single resulting value, no matter what the CI or REI values, is as low as 25 years. Indeed, SPR results for life-curve combinations with superior CIs and REIs would realistically yields life values between 29 and 34 years. [175] In addition, Gannett Fleming's claim that SPR analysis "suggests" that medium to high mode curves produce the highest CIs is also inaccurate. Review of the actual SPR results demonstrates that many low mode dispersion patterns yield high or superior CIs with excellent REIs.

This review of SPR results leads to the conclusion that a more appropriate life-curve combination for this account would be between 30 and 33 years with a low- to mid-mode dispersion pattern.[176] While a 32L2.5 life-curve combination consistently provides superior CI values, a conservative recommendation would be a 31S1.5 life-curve combination, which also produces superior CI values compared to Gannett Fleming's proposal.

Another consideration is the fact that the Company notes that underground transformers often are retired when the related enclosure is replaced. [177] Given that the Company further notes that a 20-year life is expected for wood enclosures, but that such wood enclosures were only installed between the 1970s and the mid-1990s, indicates that an overall loner life expectancy than reflected in SPR analysis should be selected. The longer life expectation would be due to the fact that most, if not all, wood enclosures that experience shorter than expected ASLs are either fully retired or represent a very small

[175] Response to TURN 28-19 Attachment 1.
[176] Response to TURN 28-19 Attachment 1.
[177] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-523.

portion of the remaining investment in this account. Such consideration indicates that the 32- or even the 33-year ASL would be warranted at this time. However, my recommendation reflects a conservative approach to life estimation.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $1,864,723 reduction in annual depreciation expense based on plant as of December 31, 2011.

Account 369.01 – Distribution Services - Overhead

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 369.01 – DISTRIBUTION SERVICES - OVERHEAD?

A. The Company proposes a 49R3 life-curve combination.[178] This proposal represents a two-year increase from the existing 47R3 life-curve combination.[179]

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

A. Gannett Fleming notes that overhead services are retired as a result of failures, often due to cracking in insulation. Retirements also result due to increases in pole heights at existing locations, from a change of customers at a particular location, and from rerouting situations due to customer complaints.[180] Gannett Fleming then states that SPR analyses "indicates a 40- to 50-year ASL with medium mode curves slightly favored," and concludes that the "best-fitting ASL and curve from the statistical analysis is the 49R3."[181] In response to discovery, Gannett Fleming appears to be giving significant weight to the previously approved estimate in making its current proposal, with many of the potential curves rejected in part because the resulting increase in ASL was deemed "significant."[182]

[178] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-533.
[179] *Id.*
[180] *Id.*
[181] *Id.*
[182] Response to TURN 65-1.

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

A. No. The Company's proposal understates the reasonable life expectancy for the investment in this account. I recommend a 56R2 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on a more realistic review of SPR results and information from Company personnel.

First, Gannett Fleming's statement that SPR analyses "indicates" a 40 - to 50-year ASL is incorrect. A review of the SPR results does not yield a single result as low as 40 years while yielding numerous results in the 50 - to even mid -60-year range with superior CIs and excellent REIs. [183] In addition, Gannett Fleming's reference to medium mode curves being slightly favored also is not indicative of the actual SPR results ; lower mode curves yield superior CIs with excellent REIs. Finally, Gannett Fleming's statement that the "best-fitting" curve from a statistical analysis is a 49R3 life-curve combination is incorrect. Only one out of four SPR band analyses yielded a 49R3, and such value was not in the top five best -fitting curves. Indeed, numerous curves other than the R3 yield superior statistical results.

Based on actual SPR results, a mid -50- to low -60-year ASL with low - to mid -mode curves are the superior life -curve combinations.[184] While R1.5 and R2 mode curves with 59- to 64 -year ASLs have the highest CIs with excellent REIs (90% or higher), mid-50-year values with an R2 dispersion pattern are also good indications of life expectancy. Indeed, the mid-50 ASL values with an R2 dispersion pattern correspond to superior CIs and excellent REIs as compared to Gannett Fleming's proposal, and represent a conservative reading of the SPR results. The only identified concern Gannett Fleming raises with a mid 50 -year ASL corresponding to an R2 dispersion pattern is that it represents a significant increase from the prior approved estimate.[185] The utility has failed to explain why the degree of increase produced by a life -curve combination that is more

[183] Response to TURN 28 -19 Attachment 1.
[184] *Id.*
[185] Response to TURN 65 -1.

reasonable in light of current data should be a factor in its rejection in favor of a less reasonable combination.

In addition, information obtained from Company personnel that retirements often result due to failures and increases in pole heights indicates that lower -mode curves would be more indicative of the expected retirement pattern for the investment in the account because they correspond to more frequent retirement events. Moreover, review of Gannett Fleming's industry database reinforces the concept that a low to mid mode dispersion pattern is by far more indicative than the Company's proposed R3 dispersion pattern.[186]

In summary, whether viewed from a correct identification of SPR results or from industry expectations, including those by Gannett Fleming, a longer ASL is warranted for the investment in this account than that proposed. While an upper -50- to mid -60-year ASL corresponds to the best stat istical fitting results, a conservative and realistic estimate is a 56R2 life-curve combination.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $7,006,2 82 reduction in annual depreciation expense based on plant as of December 31, 2011.

C. Gas – Account Specific

Account 376 – Gas Distribution Mains

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 376 – GAS DISTRIBUTION MAINS?

A. The Company proposes a 57R3 lif e-curve combination. [187] This represents a four -year increase from the existing 53S3 life-curve combination.[188]

[186] Response to TURN 28 -3 Attachment 2.
[187] Exhibit (PG&E -2) Chapter 11 workpaper WP 11 -670.

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

A. Gannett Fleming states that the SPR "suggests an ASL of 50 to 60 years with mid-mode curves," noting that the resulting CI was in the "excellent" range. Gannett Fleming further identifies that it believes the 57R3 is the "best fitting" life-curve combination. Gannett Fleming also notes that PG&E has operated a pipe replacement program for nearly 30 years, targeting 2,550 miles of mains, and that the high level of retirements in recent years should now be complete. Gannett Fleming concludes that mid-mode type curves (i.e., S3, R3, and L3) are "more typical" of this account and produce excellent CI values. Gannett Fleming states that 57R3 life-curve combination has one for the highest CIs of the "anticipated" modes and reflects an ASL consistent with management's plans.[189]

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

A. No. The Company's proposal, while a step in the right direction, is inadequate based on the available information. I recommend a further increase to a 63R2.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation also relies in part on SPR results. However, my analysis identifies more correct SPR results. The statement by Gannett Fleming that the SPR results "suggests" an ASL in the 50- to 60-year range is incorrect. Depending on which SPR based analysis is relied upon, the suggested range is more indicative of 50 to 74 years.[190] Indeed, best-fitting curves with excellent CIs and REIs suggest the adoption of an approximate 70-year ASL.[191]

Given that the Company is at the end of its long running pipe replacement program and specifically notes that the high levels of retirements in recent years should now be

[188] *Id.*
[189] Exhibit (PG&E-2) Chapter 11workpaper WP 11-670.
[190] Response to TURN 28-19 Attachment 2 for the SPR analyses beginning in 1909, 1980 and 1990 and ending in 2009.
[191] *Id.*

complete, the historical data will produce shorter ASLs than what can be expected in the future absent another significant pipe replacement program. In other words, the high level of retirement activity that resulted in life indications in the 50 - to 70 -year range is no longer indicative of the future operation of the system as it applies to the new replacement pipe.

Another consideration is the change in technology reflected in current investment. The Company has been in a long -run replacement program due to prior installation of cast - iron, bare steel, wrought-iron pipe, and problematic first generation plastic pipe. Reduced levels of such pipe are still on the system, while the majority of the pipe investment now in service should be newer generation plastic pipe and wrapped steel. The newer generations of plastic pipe no longer have the chemical resin problems previously experienced or the early installation problems that resulted in an unexpectedly short life for first generation plastic mains. Current manufactured steel pipes have superior coatings that should result in a longer service life. Therefore, even if one were to accept the Company's proposal that the best-fitting SPR results is 57 years, that indication is indicative of older vintage additions of pipe that did not have the same technological and installation benefits that current pipe in service possess. Therefore, a minimum of 5 to 10 years increase in ASL would be appropriate, solely from the standpoint of current technology and installation practices.[192]

Yet another consideration for a longer ASL is industry comparative data. Gannett Fleming has recommended ASLs for gas distribution mains up to 85 years, with many values in the 70-year range.[193] This longer level of life expectancy is becoming common for utilities throughout the country that are now recognizing the same advancements in technology and installation practices that are occurring on PG&E's system.

In summary, an upper-60 to 70-year ASL may be more appropriate for the investment in this account. The 63R2.5 life -curve combination I recommend is conservative, reflects

[192] By analogy, study of older cars that were retired due to the rusting of the body might yield an ASL of nine years. However, with the introduction of underbody anti -rusting applications, the ASL for cars increased to 13 years. Therefore, life analysis of historical retirement activity before the life characteristics of the newer rust resistant cars have had the opportunity to be properly reflected in retirement databases would understate future life expectations.
[193] Response to TURN 28 -3 Attachment 2.

both an excellent CI and REI obtained from SPR analyses , and begins to recognize and incorporate the recent trends in the data.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $ 9,459,696 reduction in annual dep reciation expense based on plant as of December 31, 2011.

Account 380 – Gas Distribution Services

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 380 – GAS DISTRIBUTION SERVICES?

A. The Company proposes a 54R4 life-curve combination.[194] This represents a slight increase from the existing 53R4 life-curve combination.[195]

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

A. Gannett Fleming recognized that PG&E has been replacing services in conjunction with its pipeline replacement program, as well as based on leak surveys and customer requirements. With these items of information, Gannett Fleming further identifies that the SPR analysis produces "indications of a 50 - to 55 -year life [and] mid to high mode curves provide the highest CIs. " From these items of info rmation, Gannett Fleming concludes that a 54R4 life-curve is a slight increase in life but provides a good conformance with book balances.[196] In response to discovery, it becomes clear that Gannett Fleming gave significant weight to the previously approved e stimate in making its current proposal.[197]

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

[194] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-702.
[195] *Id.*
[196] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-701.
[197] Response to TURN 65-22.

A. No. While the Company's proposal is a small step in the right direction, a further increase is warranted based on the available information. I recommend a 57S2.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. There are several reasons for increasing the ASL from that proposed by Gannett Fleming. First, the "indications" from SPR analyses are for much higher ASLs than the 50 - to 55-year range set forth in Gannett Fleming's depreciation study. [198] Indeed, the S2.5 curve pattern provides a superior CI value compared to Gannett Fleming's proposal for all bands and reflects an excellent REI in each instance , and produces a 57 -year life . In response to discovery, Gannett Fleming attempted to explain away its incorrect statement by focusing only on the "same curve type"[199] (R curves) as the currently approved curve.

In addition to the pure ly statistical analyses, other factors must also be considered. As previously discussed for mains, the Company has completed a long -running pipeline replacement program. As part of the program, it retired many services at the same time that mains were retire d. Thus, the historical database relied upon for SPR purposes reflects a higher level of retirement activity than would have been the case absent the pipeline replacement program, which is basically completed. Therefore, the statistical results from SPR an alysis must be tempered with the fact that a longer ASL can be expected for the replacement plant as it provides service going forward. Even if Gannett Fleming believed the 54-year ASL was the most representative value based on a statistical review of SPR results, it still should have increased the life expectancy taking into account the change in Company practices.

From an industry comparative standpoint, Gannett Fleming's recommendation for a high-modal curve (i.e., R4) is not typical based on Gannett Fleming's industry database. Mid- to lower-mode curves are much more prevalent (1.5, 2, 2.5, and even 3 modal curves). [200] This is significant given that the SPR analyses identify superior CIs for mid-modal curves

[198] Response to TURN 26-19 Attachment 2.
[199] Response to TURN 65-22.
[200] Response to TURN 28-3 Attachment 2.

in each of the band analyses. [201] Gannett Flemin g claims that there are a "number of reasons" why an R4 represents a better estimate than the R2.5 or R3 . [202]But the reasons cited are actually industry estimates and its own unsupported "expectation." But the R4 curve is a very poor selection as it assumes it would take approximately 23 years of service before retirement of even 1% of each year's plant addition. This type of expectation is not realistic for this type of plant.

Another consideration is that current services should reflect a greater proporti on of newer technology, materials, and installation practices, as was the case for distribution mains. Therefore, the current investment from a material, manufacturing, and installation standpoint should be superior to many of the retirements reflected in the Company's historical database. Again, these factors warrant a longer life expectancy than reflected in the SPR results.

In summary, whether viewed from a pure ly statistical SPR standpoint, from changes in operation practices, or from the standpoint of industry experience for the type of curve patterns, a longer ASL than that proposed by Gannett Fleming is warranted. A conservative incremental increase at this point in time is a reliance on a 57S2.5 life -curve combination.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in an $11,333,643 reduction in annual depreciation expense based on plant as of December 31, 2011.

[201] Response to TURN 28 -19 Attachment 2.
[202] Response to TURN 65 -22.

D. Common Plant – Account Specific

Account 390 – Common Plant Structures and Improvements

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 390 – COMMON PLANT STRUCTURES AND IMPROVEMENTS?

A. The Company proposes to retain the existing 40R3 life-curve combination.[203]

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

A. Gannet Fleming notes that the account primarily consists of service centers, offices, garages, and warehouses, and bases its proposal on SPR analys is indications. Gannett Fleming states that a service life "around 40 yea rs with a low to medium mode type curves" is indicated by SPR analysis and that the best -fitting ASL and curve is a 40R3 life-curve combination.[204] Gannett Fleming conceded that some curves had higher CIs than the 40R3 life-curve combination it claimed is "best-fitting".[205] Gannett Fleming noted in response to discovery that it proposal is based on the claim that "the statistical analysis did not provide sufficient justification to change from the approved 40-R3 survivor curve."[206]

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

A. No. The Company's proposal is significantly understated given the type of assets at issue. I recommend a 55R1.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation appropriately recognizes the asset mix in this account. The account contains approximately $1.1 billion of assets as of December 31, 2011.[207] Investment in this account can be broken down into two major categories: the structures themselves and the improvements within the structures suc h as carpeting, air conditioning, lighting, etc.

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[203] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-775.
[204] *Id.*
[205] Response to TURN 65-29 and 65-30.
[206] Response to TURN 65-29.
[207] Exhibit (PG&E-2) Chapter 11 page 11-9.

For PG&E, the majority of the investment in this account is associated with the structures themselves in just the 10 largest structures owned by the Company. [208] Moreover, on a dollar weighted basis, the 10 lar gest structures have a weighted average installation date of 1960 with no plans for retirement. [209] In addition, several of the structures are already more than 80 years old and still providing service. This situation is not unusual but rather more representative of buildings in large metropolitan areas.

Turning to SPR results, while Gannett Fleming stated that SPR analysis indicated a life around 40 years, the best -fitting life -curve combinations in fact yielded values more representative of the upper -40-year to 60 year range.[210] Indeed, many of the best -fitting curves from a CI standpoint with excellent REIs would result in mid -50-year ASLs. However, the SPR analyses are more reflective of the limited retirement of buildings and, even more so, the retirement activity associated with improvements such as the replacement of roofs, carpeting, air conditioning systems, etc. While the improvements most likely represent the majority of the retirement activity historically, they do not represent the majority of the i nvestment in the account. Therefore, the SPR analysis will understate overall life expectancy for the entire investment in the account.

Another consideration for a longer ASL than proposed by Gannett Fleming is the fact that the maximum life for any investment associated with the proposed 40R3 life-curve combination is 68 years. That means that in theory there can be no remaining level of investment still in service that was first placed into service before 1944 (2012-68). However, Gannett Fleming's depreciation study specifically identifies plant in service for this account dating back to 1919. [211] Therefore, both in theory and in practice a longer ASL is called for.

In summary, the proper determination of a life -curve combination for the investment in this account cannot rely solely on the results of SPR analysis. Actual Company

[208] Response to TURN 28 -14 Attachment 1.
[209] Response to TURN 28 -14 Attachment 1.
[210] Response to TURN 28 -19 Attachment 3.
[211] Exhibit (PG&E -2) Chapter 11 workpaper WP 11 -783.

experience with the majority of the investment in this account (i.e., structures of buildings) indicates exceptionally long life expectancy. Indeed, the third-largest investment in this account corresponds to the Fresno service center, which was placed in service in 1923. That places the current life for that building at approximately 90 years with no plans for retirement of the facility. The account-specific factual information is long life expectancy for the majority of the investment in the account, coupled with much shorter life expectancy (approximately 15 to 25 years) for the improvement portion of the investment in the account. Based on these considerations, the Company's 40 -year life proposal is substantially understated, as clearly demonstrated by actual experience of the Company for many of its larger buildings. Based on the available information, even my recommended 55R1.5 life-curve combination most likely understates the realistic overall life expectancy for the investment in this account.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a $12,553,020 reduction in annual dep reciation expense based on plant as of December 31, 2011.

Account 391.01 – Common Plant Office Machines and Computer Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 391.01 – COMMON PLANT OFFICE MACHINES AND COMPUTER EQUIPMENT?

A. The Company prop oses retaining the 5SQ life -curve combination for the investment in this account.

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

A. Gannett Fleming simply identifies the contents of the account : automatic meter reading equipment, servers, and other com puter equipment. Gannett Fleming then states that Company personnel informed it that equipment like meter reading equipment and servers should have a life of five years. Gannett Fleming did not perform any statistical analyses

for this account, but does claim that experience of the industry shows that a five-year life is typical for this equipment.[212]

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

A. No. A minimum of a one-year increase to a 6SQ life-curve combination is required.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based not only on the type of equipment in the account, but also the actual experience for this type of investment for PG&E as well as others in the industry.

While Gannett Fleming failed to perform any statistical analysis for the investment in this account, statistical information does exist. That statistical information clearly demonstrates that the Company is utilizing the investment in this account for periods much greater than five years.[213] The Company provided its IT life cycle planning analysis for investment in this account. Contained in the life cycle analysis are servers, storage equipment, and imaging equipment. Within the life cycle analysis, the Company identifies that 3% up to 100% of the assets that has already exceeded the life cycle target for every single category of Account 391.01 plant included in that analysis. Indeed, for mainframe servers, 100% of the investment in the account has exceeded not only the five-year life cycle, but have already exceeded eight years of service.[214] Therefore, from a Company specific standpoint, there can be no question that equipment in this account is utilized by the Company for periods greater than five years, and thus requires a longer life expectancy for depreciation purposes.

In discovery, the only analysis that the Company could provide to support a five-year life cycle for the investment in this account is a confidential document that basically represents a marketing tool by equipment vendors. The reference document attempts to encourage more rapid replacement of equipment such as servers rather than the practice employed by many entities, that of utilizing servers and other such equipment for periods

[212] Exhibit (PG&E-2) Chapter 11 workpaper WP 11-788.
[213] Response to TURN 65-35 Attachment 1.
[214] Response to TURN 65-35 Attachment 1.

greater than five years. [215] However, contained in that confidential document is clear recognition that others in the industry are utilizing such equipment for periods greater than five years, which further supports a lengthening of the life utilized for depreciation purposes in this proceeding.

From an indus try comparative standpoint, it appears that Gannett Fleming's reference that a five -year value is typical for the industry is not reflected in its own industry database. In fact, Gannett Fleming reports 10 - and ever 15 -year life expectancies for data storage and other types of computer -related equipment. [216] Therefore, even expectations by Gannett Fleming are often in excess of five years for this account.

In summary, whether viewed from Company actual operational practices, industry review by outside equipment vendors, or Gannett Fleming's own industry database, a life expectancy greater than five years is appropriate. While a strong argument could be made for a seven-year or longer life expectancy, a conservative estimate is to increase the 5SQ proposed life-curve combination by only one year to a 6SQ life-curve combination.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. As compared to the utility's requested level of depreciation expense, my recommendation results in a 16.67% annual depreciation rate ve rsus the Company's proposed 20% annual depreciation rate, which produces a $13,642,778 reduction in annual depreciation expense based on plant as of December 31, 2011.

SECTION V: HYDROELECTRIC PLANT

Q. WHAT IS THE ISSUE IN THIS PORTION OF YOUR TESTIMONY?

A. This p ortion of my testimony will briefly identify and recognize further reductions in depreciation expense based on Company filed errata.

[215] Response to TURN 65 -37 Attachment 1 CONFIDENTIAL.
[216] Response to TURN 28 -3 Attachment 1.

Q. HAS THE COMPANY SERVED AN UPDATED ERRATA TO ITS NOVEMBER 15, 2012 GENERAL RATE CASE MATERIAL?

A. Yes. The Company submi tted Exhibit (PG&E -14) identified as the estimated effect on 2014 revenue requirement inputs.

Q. DID ONE OF THE IDENTIFIED CORRECTIONS RELATE TO DEPRECIATION EXPENSE?

A. Yes. The Company identified corrections to depreciation rates for hydroelectric class es. In particular, the Company corrects the ASL for Hydroelectric Account 333 and Helms Hydroelectric Account 333 – Waterworks, Turbines, and Generators. For hydroelectric plant, the Company admits that the 50 -year ASL reflected in its original filing shou ld have been 70 years. In addition, for Hydroelectric Account 335 – Miscellaneous Power Plant Equipment, the Company's depreciation study relied on a 40 -year ASL which should have actually been 42 years.[217]

Q. WHAT IS THE IMPACT OF CORRECTING FOR THESE IDENTIFIED ERRORS?

A. The Company states that the depreciation expense in its request should be reduced by $2,902,000.[218]

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, to the extent I have not addressed a specific issue, methodology, approach, etc. should not be taken with my concurrence with the Company's methodology, approach, calculation, etc.

[217] Response to DRA 089 -04.
[218] PG&E Errata at Exhibit (PG& E-14) page iv.

TURN'S Recommended Depreciation - Electric
For Pacific Gas and Electric Company

			Net Salvage					Annual Accrual	
		Original Cost 12/31/2011	Pct.	Amount	Book Reserve	Future Accruals	Composite Remaining Life	Amount	Rate
		(a)	(b)	(c)= (a) x (b)	(d)	(e) = (a) -(c)-(d)	(h)	(i) = (e)/ (h)	(j) = (i) / (a)
PRODUCTION:									
Intangible Plant									
302.01	Franchises and Consents	$ 106,919,908		$ -	$ 42,819,922	$ 64,099,986	27.62	$ 2,320,782	2.17%
303.01	USBR - Limited Term Electric	$ 999,605		$ -	$ 999,605	$ -	-		
303.03	Computer Software	$ 14,547,093		$ -	$ 8,655,768	$ 5,891,325	4.50	$ 1,309,183	9.00%
Total Intangible		$ 122,466,606		$ -	$ 52,475,295	$ 69,991,311		$ 3,629,965	2.96%
Steam Production Plant									
311.03	Structures and Improvements	$ 106,052,199		$ -	$ 7,146,953	$ 98,905,246	25.70	$ 3,848,723	3.63%
312.03	Boiler Plant Equipment	$ 262,691,573		$ -	$ 14,547,419	$ 248,144,154	25.50	$ 9,731,391	3.70%
312.05	Boiler Plant Equipment	$ 1,468,570		$ -	$ 147,373	$ 1,321,197	24.88	$ 53,103	3.62%
314.03	Turbogenerator Units	$ 229,469,478		$ -	$ 14,726,072	$ 214,743,406	26.17	$ 8,206,023	3.58%
315.03	Accessory Electirc Equipment	$ 44,707,300		$ -	$ 2,993,279	$ 41,714,021	26.59	$ 1,568,547	3.51%
316.03	Miscellaneous Power Plant Equip	$ 24,390,861		$ -	$ 1,454,382	$ 22,936,479	24.99	$ 917,970	3.76%
				$ -		$ -			
Total Steam Production Plant		$ 668,779,981		$ -	$ 41,015,478	$ 627,764,503		$ 24,325,756	3.64%
Nuclear Production Plant									
Diablo Canyon - 2001 & Prior									
321.00	Structures and Improvements	$ 938,816,326	-1.0%	$ (9,388,163)	$ 944,379,863	$ 3,824,626	10.03	$ 381,227	0.04%
322.00	Reactor Plant Equipment	$ 2,321,845,547	-1.0%	$ (23,218,455)	$ 2,290,083,716	$ 54,980,286	12.64	$ 4,350,945	0.19%
323.00	Turbogenerator Units	$ 956,793,118	-1.0%	$ (9,567,931)	$ 960,121,725	$ 6,239,324	11.44	$ 545,519	0.06%
324.00	Accessory Elecric Equipment	$ 714,190,458	-1.0%	$ (7,141,905)	$ 717,534,900	$ 3,797,463	11.22	$ 338,404	0.05%
325.00	Miscellaneous Power Plant Equip	$ 492,143,612	-2.0%	$ (9,842,872)	$ 493,211,686	$ 8,774,798	11.67	$ 751,804	0.15%
	Total Diablo Canyon 2001 & Prior	$ 5,423,789,061		$ (59,159,327)	$ 5,405,331,890	$ 77,616,498		$ 6,367,900	0.12%
Diablo Canyon - 2002 & Subsequent									
321.02	Structures and Improvements	$ 41,304,620	-1.0%	$ (413,046)	$ 552,887	$ 41,164,779	13.32	$ 3,089,679	7.48%
322.02	Reactor Plant Equipment	$ 1,015,174,156	-1.0%	$ (10,151,742)	$ 130,427,922	$ 894,897,976	12.86	$ 69,575,382	6.85%
323.02	Turbogenerator Units	$ 171,410,965	-1.0%	$ (1,714,110)	$ 10,920,920	$ 162,204,155	13.02	$ 12,457,321	7.27%
324.02	Accessory Elecric Equipment	$ 54,483,472	-1.0%	$ (544,835)	$ 809,401	$ 54,218,906	13.13	$ 4,129,674	7.58%
325.02	Miscellaneous Power Plant Equip	$ 137,604,046	-2.0%	$ (2,752,081)	$ 1,608,277	$ 138,747,850	13.45	$ 10,313,686	7.50%
	Total Diablo Canyon 2002 & Subsq.	$ 1,419,977,259		$ (15,575,813)	$ 144,319,407	$ 1,291,233,665		$ 99,565,741	7.01%
TOTAL NUCLEAR PRODUCTION PLANT		$ 6,843,766,320		$ (74,735,140)	$ 5,549,651,297	$ 1,368,850,163		$ 105,933,642	1.55%

TURN'S Recommended Depreciation - Electric
For Pacific Gas and Electric Company

			Net Salvage				Annual Accrual	
		Original Cost 12/31/2011	Pct.	Amount	Book Reserve	Future Accruals	Composite Remaining Life	Amount	Rate
		(a)	(b)	(c)= (a) x (b)	(d)	(e) = (a) -(c)-(d)	(h)	(i) = (e)/ (h)	(j) = (i) / (a)
Hydro Production Plant									
Hydro Production									
331.00	Structures and Improvements	$ 153,558,664	-1.0%	$ (1,535,587)	$ 110,617,586	$ 44,476,665	19.53	$ 2,277,860	1.48%
332.00	Reservoirs, Dams and Waterways	$ 1,185,104,474	-2.0%	$ (23,702,089)	$ 792,352,223	$ 416,454,340	21.89	$ 19,025,119	1.61%
333.00	Waterwheels, Turbines and Gen	$ 364,745,018	-6.0%	$ (21,884,701)	$ 175,252,168	$ 211,377,551	20.03	$ 10,555,346	2.89%
334.00	Accessory Electric Equipment	$ 131,632,495	-9.0%	$ (11,846,925)	$ 56,285,372	$ 87,194,048	18.47	$ 4,720,586	3.59%
335.00	Misc. Power Plant Equipment	$ 46,502,447	-14.0%	$ (6,510,343)	$ 12,945,587	$ 40,067,203	18.26	$ 2,193,744	4.72%
336.00	Roads, Railroads and Bridges	$ 42,354,695	-3.0%	$ (1,270,641)	$ 24,827,612	$ 18,797,724	15.29	$ 1,229,132	2.90%
	Total Hydro Production	$ 1,923,897,793		$ (66,750,285)	$ 1,172,280,548	$ 818,367,530		$ 40,001,787	2.08%
Helms Pumped Storage									
331.00	Structures and Improvements	$ 165,107,918	-1.0%	$ (1,651,079)	$ 162,789,384	$ 3,969,613	14.42	$ 275,285	0.17%
332.00	Reservoirs, Dams and Waterways	$ 412,946,342	-2.0%	$ (8,258,927)	$ 415,186,684	$ 6,018,585	14.41	$ 417,667	0.10%
333.00	Waterwheels, Turbines and Gen	$ 184,765,683	-6.0%	$ (11,085,941)	$ 151,933,663	$ 43,917,961	13.46	$ 3,262,850	1.77%
334.00	Accessory Electric Equipment	$ 48,542,158	-9.0%	$ (4,368,794)	$ 41,717,226	$ 11,193,726	13.42	$ 834,108	1.72%
335.00	Misc. Power Plant Equipment	$ 15,143,723	-14.0%	$ (2,120,121)	$ 14,593,883	$ 2,669,961	12.20	$ 218,849	1.45%
336.00	Roads, Railroads and Bridges	$ 8,723,723	-3.0%	$ (261,712)	$ 8,451,049	$ 534,386	13.74	$ 38,893	0.45%
	Total Helms Pumped Storage	$ 835,229,547		$ (27,746,574)	$ 794,671,889	$ 68,304,232		$ 5,047,652	0.60%
TOTAL HYDRO		$ 2,759,127,340		$ (94,496,859)	$ 1,966,952,437	$ 886,671,762		$ 45,049,439	1.63%
Other Production:									
341.01	Structures and Improvements	$ 139,721,663	0.0%	$ -	$ 6,543,718	$ 133,177,945	26.55	$ 5,016,015	3.59%
342.01	Fuel Holders, Producers and Acces	$ 10,554,182	0.0%	$ -	$ 525,026	$ 10,029,156	25.60	$ 391,749	3.71%
343.01	Prime Movers	$ 219,620,516	0.0%	$ -	$ 12,181,386	$ 207,439,130	26.34	$ 7,874,930	3.59%
344.01	Generators	$ 24,874,603	0.0%	$ -	$ (2,140,961)	$ 27,015,564	26.79	$ 1,008,608	4.05%
345.01	Accessory Electric Equipment	$ 103,717,181	0.0%	$ -	$ 6,034,119	$ 97,683,062	26.70	$ 3,658,003	3.53%
346.01	Misc. Power Plan Equipment	$ 57,122,112	0.0%	$ -	$ 3,264,105	$ 53,858,007	25.06	$ 2,149,132	3.76%
	Total Other Production	$ 555,610,257		$ -	$ 26,407,393	$ 529,202,864		$ 20,098,437	3.62%
Other Production Plant - Fuel Cell									
344.04	Generators - Fuel Cell	$ 20,726,718	0.0%	$ -	$ 914,286	$ 19,812,432	9.50	$ 2,085,519	10.06%
	Total Other Prod Plant - Fuel Cell	$ 20,726,718		$ -	$ 914,286	$ 19,812,432		$ 2,085,519	10.06%
	TOTAL OTHER PRODUCTION	$ 576,336,975		$ -	$ 27,321,679	$ 549,015,296		$ 22,183,956	3.85%
TOTAL PRODUCTION PLANT		$ 10,848,010,616		$ (169,231,999)	$ 7,584,940,891	$ 3,432,301,724		$ 197,492,793	1.82%

TURN'S Recommended Depreciation - Electric
For Pacific Gas and Electric Company

			Net Salvage				Composite	Annual Accrual	
		Original Cost 12/31/2011	Pct.	Amount	Book Reserve	Future Accruals	Remaining Life	Amount	Rate
		(a)	(b)	(c)= (a) x (b)	(d)	(e) = (a) -(c)-(d)	(h)	(i) = (e)/ (h)	(j) = (i) / (a)
TRANSMISSION:									
Transmission Plant									
352.01	Structures and Improvements	$ 532,903	-20.0%	$ (106,581)	$ 141,923	$ 497,561	48.11	$ 10,342	1.94%
353.01	Station Equip	$ 21,262,268	-60.0%	$ (12,757,361)	$ 5,050,588	$ 28,969,041	35.14	$ 824,389	3.88%
353.02	Station Equip - Step Up Transf	$ 106,144,824	0.0%	$ -	$ 75,831,858	$ 30,312,966	22.72	$ 1,334,197	1.26%
353.03	Station Equip- Step Up Transf. CC	$ 61,509,379	0.0%	$ -	$ 3,966,557	$ 57,542,822	28.43	$ 2,024,018	3.29%
354.00	Towers and Fixtures	$ 43,733,809	-110.0%	$ (48,107,190)	$ 28,948,806	$ 62,892,193	45.13	$ 1,393,578	3.19%
354.01	Towers and Fixtures - CC	$ 15,731,541	-110.0%	$ (17,304,695)	$ 1,220,869	$ 31,815,367	28.44	$ 1,118,684	7.11%
355.00	Poles and Fixtures	$ 20,070,372	-75.0%	$ (15,052,779)	$ 10,047,554	$ 25,075,597	38.39	$ 653,180	3.25%
356.00	Overhead Conductors and Devices	$ 55,916,302	-80.0%	$ (44,733,042)	$ 36,652,895	$ 63,996,449	39.13	$ 1,635,483	2.92%
356.01	OH Conductors and Devices (CC)	$ 2,744,177	-80.0%	$ (2,195,342)	$ 276,719	$ 4,662,800	27.87	$ 167,305	6.10%
357.00	Underground Conduit	$ 1,658,749	0.0%	$ -	$ 671,401	$ 987,348	51.65	$ 19,116	1.15%
358.00	Underground Conductors and Dev	$ 2,698,412	0.0%	$ -	$ 1,340,880	$ 1,357,532	50.03	$ 27,134	1.01%
359.00	Roads and Trails	$ 671,846	-10.0%	$ (67,185)	$ 3,995	$ 735,036	49.78	$ 14,766	2.20%
	Total Transmission Plant	$ 332,674,582		$ (140,324,173)	$ 164,154,045	$ 308,844,710		$ 9,222,194	2.77%
Nuclear Transmission Plant									
352.01	Structures and Improvements	$ 4,567,076	-20.0%	$ (913,415)	$ 4,624,958	$ 855,533	13.63	$ 62,768	1.37%
352.02	Structures and Improvements - Equip	$ 285,487	-20.0%	$ (57,097)	$ 289,197	$ 53,387	13.65	$ 3,911	1.37%
353.01	Station Equipment	$ 5,931,741	-60.0%	$ (3,559,045)	$ 6,144,116	$ 3,346,670	12.77	$ 262,073	4.42%
353.02	Step Up Transformers	$ 77,478,382	0.0%	$ -	$ 47,384,010	$ 30,094,372	13.48	$ 2,232,520	2.88%
	Total Nuclear Transmission	$ 88,262,686		$ (4,529,557)	$ 58,442,281	$ 34,349,962		$ 2,561,273	2.90%
TOTAL TRANSMISSION PLANT		$ 420,937,268		$ (144,853,730)	$ 222,596,326	$ 343,194,672		$ 11,783,466	2.80%
DISTRIBUTION PLANT:									
361.01	Structures and Improvements	$ 228,645,956	-20.0%	$ (45,729,191)	$ 65,155,380	$ 209,219,767	40.92	$ 5,112,898	2.24%
361.02	Structures and Improvements - Equip	$ 35,514,476	-20.0%	$ (7,102,895)	$ 6,176,231	$ 36,441,140	44.69	$ 815,420	2.30%
362.00	Station Equipment	$ 2,187,181,201	-15.0%	$ (328,077,180)	$ 636,554,867	$ 1,878,703,514	36.54	$ 51,414,984	2.35%
363.00	Storage Battery Equipment	$ 334,866	0.0%	$ -	$ 238,274	$ 96,592	5.31	$ 18,191	5.43%
364.00	Poles, Towers and Fixtures	$ 2,797,335,952	-100.0%	$ (2,797,335,952)	$ 1,359,752,820	$ 4,234,919,084	35.98	$ 117,702,031	4.21%
365.00	OH Conductors and Devices	$ 3,380,645,441	-110.0%	$ (3,718,709,985)	$ 1,648,860,257	$ 5,450,495,169	35.28	$ 154,492,493	4.57%
366.00	Underground Conduit	$ 2,261,437,411	-20.0%	$ (452,287,482)	$ 613,122,474	$ 2,100,602,419	38.73	$ 54,237,088	2.40%
367.00	Underground Conductors and Device	$ 3,265,648,609	-35.0%	$ (1,142,977,013)	$ 1,821,917,841	$ 2,586,707,781	38.51	$ 67,169,768	2.06%
368.01	Line Transformers - Overhead	$ 1,600,854,898	-15.0%	$ (240,128,235)	$ 505,425,310	$ 1,335,557,823	28.68	$ 46,567,567	2.91%
368.02	Line Transformers - Underground	$ 443,551,909	5.0%	$ 22,177,595	$ 163,131,466	$ 258,242,848	20.32	$ 12,708,802	2.87%
369.01	Services - Overhead	$ 691,227,692	-75.0%	$ (518,420,769)	$ 500,083,844	$ 709,564,617	40.99	$ 17,310,676	2.50%
369.02	Services - Underground	$ 1,975,794,879	-45.0%	$ (889,107,696)	$ 1,015,801,387	$ 1,849,101,188	28.34	$ 65,247,043	3.30%
370.01	Meters	$ 916,875,431	-20.0%	$ (183,375,086)	$ 23,014,324	$ 1,077,236,193	18.48	$ 58,292,002	6.36%
371.00	Installations on Customers Prem	$ 27,313,911	0.0%	$ -	$ 31,965,922	$ (4,652,011)	18.79		0.00%
372.00	Leased Property on Customers Prem	$ 895,448	0.0%	$ -	$ 970,063	$ (74,615)	3.66		0.00%
373.01	St.Lighting & Signal Sys - OH Cond	$ 11,650,158	-50.0%	$ (5,825,079)	$ 9,120,914	$ 8,354,323	20.06	$ 416,467	3.57%
373.02	St.Lighting & Signal Sys-Conduit & Cbl	$ 27,639,866	-20.0%	$ (5,527,973)	$ 13,087,937	$ 20,079,902	12.94	$ 1,551,770	5.61%
373.03	St.Lighting & Signal Sys - Lamps & Equ	$ 94,706,670	-61.79%	$ (58,521,968)	$ 70,821,864	$ 82,406,774	13.67	$ 6,026,460	6.36%
373.04	St.Lighting & Signal Sys - Electroliers	$ 33,058,009	-25.0%	$ (8,264,502)	$ 24,171,898	$ 17,150,613	12.46	$ 1,376,454	4.16%
	Total Distribution Plant	$ 19,980,312,783		$ (10,379,213,411)	$ 8,509,373,073	$ 21,850,153,121		$ 660,460,113	3.31%

TURN'S Recommended Depreciation - Electric
For Pacific Gas and Electric Company

				Net Salvage				Annual Accrual	
		Original Cost 12/31/2011	Pct.	Amount	Book Reserve	Future Accruals	Composite Remaining Life	Amount	Rate
		(a)	(b)	(c)= (a) x (b)	(d)	(e) = (a) -(c)-(d)	(h)	(i) = (e)/ (h)	(j) = (i) / (a)
GENERAL:									
General Plant									
390.00	Structures and Improvements	$ 7,815,629	-10.0%	$ (781,563)	$ 5,119,455	$ 3,477,737	21.43	$ 162,284	2.08%
391.00	Office Furniture & Equipment	$ 13,847,350		$ -	$ 2,558,459	$ 11,288,891	11.33	$ 996,372	7.20%
394.00	Tools, Shop & Work Equipment	$ 59,861,302		$ -	$ 20,617,465	$ 39,243,837	17.91	$ 2,191,169	3.66%
395.00	Laboratory Equipment	$ 5,507,868		$ -	$ 1,105,394	$ 4,402,474	8.42	$ 522,859	9.49%
396.00	Power Operated Equipment	$ 312,669		$ -	$ 195,310	$ 117,359	5.92	$ 19,824	6.34%
397.00	Communication Equipment	$ 8,922,561		$ -	$ 5,168,911	$ 3,753,650	8.37	$ 448,465	5.03%
397.08	AMI Communication Network	$ 10		$ -	$ -	$ 10	18.75	$ 1	5.33%
398.00	Miscellaneous Equipment	$ 10,440,534		$ -	$ (1,499,734)	$ 11,940,268	8.32	$ 1,435,128	13.75%
	Total General Plant	$ 106,707,923		$ (781,563)	$ 33,265,260	$ 74,224,226		$ 5,776,101	5.41%
Nuclear General Plant									
391.00	Office Furniture & Equipment	$ 179,413		$ -		$ 179,413	19.50	$ 9,201	5.13%
398.00	Miscellaneous Equipment	$ 1,878,924		$ -	$ 1,083	$ 1,877,841	19.49	$ 96,349	5.13%
	Total Nuclear General Plant	$ 2,058,337		$ -	$ 1,083	$ 2,057,254		$ 105,550	5.13%
TOTAL GENERAL PLANT		$ 108,766,260		$ (781,563)	$ 33,266,343	$ 76,281,480		$ 5,881,651	5.41%
TOTAL TURN's ELECTRIC PLANT		$ 31,480,493,533		$ (10,694,080,703)	$16,402,651,928	$ 25,771,922,308		$ 879,247,987	2.79%
	COMPANY PROPOSED - ELECTRIC PLANT							$ 1,221,803,975	
	DIFFERENCE							**$ (342,555,988)**	

TURN'S Recommended Depreciation - Gas
For Pacific Gas and Electric Company

		Original Cost 12/31/2011	Net Salvage Pct.	Net Salvage Amount	Book Reserve	Future Accruals	Composite Remaining Life	Annual Accrual Amount	Annual Accrual Rate
		(a)	(b)	(c)= (a) x (b)	(d)	(e) = (a) -(c)-(d)	(g)	(h) = (e)/ (g)	(i) = (h) / (a)
GAS PLANT:									
Intangible Plant									
302.02	Franchises and Consents	$ 674,445	0.00%	$ -	$ 257,357	$ 417,088	7.98	$ 52,267	7.75%
303.02	Software	$ 2,351,025	0.00%	$ -	$ 1,566,214	$ 784,811	4.50	$ 174,402	7.42%
	Intangible Plant	$ 3,025,470		$ -	$ 1,823,571	$ 1,201,899		$ 226,669	7.49%
Local Storage Plant									
361.01	Structures and Improvements	$ 1,520,010	-5.00%	$ (76,001)	$ 1,077,761	$ 518,250	12.29	$ 42,168	2.77%
362.00	Gas Holoders	$ 5,704,253	-15.00%	$ (855,638)	$ 2,792,903	$ 3,766,988	17.87	$ 210,800	3.70%
363.00	Purification Equipment	$ 1,900		$ -	$ 1,385	$ 515	8.67	$ 59	3.13%
363.30	Compressor Equipment	$ 607,899		$ -	$ 505,204	$ 102,695	9.57	$ 10,731	1.77%
363.40	Measuring and Regulating Equip	$ 227,054		$ -	$ 69,786	$ 157,268	22.16	$ 7,097	3.13%
363.50	Other Equipment	$ 3,075,476		$ -	$ 2,011,001	$ 1,064,475	15.87	$ 67,075	2.18%
	Total Local Storage Plant	$ 11,136,592		$ (931,638)	$ 6,458,040	$ 5,610,190		$ 337,930	3.03%
Distribution Plant									
375.00	Structures and Improvements	$ 2,548,729	-5.00%	$ (127,436)	$ 707,410	$ 1,968,755	44.42	$ 44,321	1.74%
376.00	Mains	$ 2,513,182,424	-50.00%	$ (1,256,591,212)	$ 1,316,238,420	$ 2,453,535,216	47.51	$ 51,642,501	2.05%
377.00	Compressor Station Equipment	$ 2,284,540		$ -	$ 543,727	$ 1,740,813	25.20	$ 69,080	3.02%
378.00	Measuring and Regul Station Equp	$ 157,168,770	-35.00%	$ (55,009,070)	$ 79,331,508	$ 132,846,332	39.69	$ 3,347,098	2.13%
380.00	Services	$ 2,625,153,784	-105.00%	$ (2,756,411,473)	$ 2,120,491,605	$ 3,261,073,652	40.45	$ 80,619,868	3.07%
381.00	Meters	$ 733,765,548	-25.00%	$ (183,441,387)	$ 206,761,048	$ 710,445,887	15.47	$ 45,924,104	6.26%
383.00	House Regulators	$ 164,816,115	-5.00%	$ (8,240,806)	$ 98,294,746	$ 74,762,175	12.28	$ 6,088,125	3.69%
385.00	Ind. Measuring and Regulating Equip	$ 34,457,408	-10.00%	$ (3,445,741)	$ 22,154,251	$ 15,748,898	21.47	$ 733,530	2.13%
386.00	Other Property on Cust Prem	$ 165,632	0.00%	$ -	$ 79,704	$ 85,928	20.88	$ 4,115	2.48%
387.00	Other Equipment	$ 19,495,581	5.00%	$ 974,779	$ 11,933,427	$ 6,587,375	15.68	$ 420,113	2.15%
	Total Distribution Plant	$ 6,253,038,531		$ (4,262,292,346)	$ 3,856,535,846	$ 6,658,795,031		$ 188,892,856	3.02%
General Plant									
390.00	Structures and Improvements	$ 11,774,184	-10.00%	$ (1,177,418)	$ 7,425,032	$ 5,526,570	19.25	$ 287,095	2.44%
391.00	Office Furniture and Equipment	$ 5,006,174		$ -	$ 1,884,357	$ 3,121,817	5.52	$ 565,547	11.30%
394.00	Tools, Shop and Work Equip	$ 14,227,432		$ -	$ 2,757,095	$ 11,470,337	18.61	$ 616,353	4.33%
395.00	Laboratory Equp	$ 426,160		$ -	$ 63,358	$ 362,802	6.29	$ 57,679	13.53%
396.00	Power Operated Equip	$ 41,638		$ -	$ 6,793	$ 34,845	2.05	$ 16,998	40.82%
397.08	Communication Equp - AMI	$ 25,576,245		$ -	$ 459,832	$ 25,116,413	19.50	$ 1,288,021	5.04%
398.00	Miscellaneous Equp	$ 5,255,837		$ -	$ 936,021	$ 4,319,816	10.72	$ 402,968	7.67%
399.00	Other Tangible Property	$ 123,706		$ -	$ 53,844	$ 69,862	1.00	$ 69,862	56.47%
	Total General Plant	$ 62,431,376		$ (1,177,418)	$ 13,586,332	$ 50,022,462		$ 3,304,522	5.29%
TOTAL TURN's GAS PLANT		$ 6,329,631,969		$ (4,264,401,403)	$ 3,878,403,789	$ 6,715,629,583		$ 192,761,977	3.05%
	COMPANY PROPOSED - GAS PLANT							$ 270,164,061	
	DIFFERENCE							**$ (77,402,084)**	

TURN'S Recommended Depreciation - Common
For Pacific Gas and Electric Company

			Net Salvage					Annual Accrual	
		Original Cost 12/31/2011	Pct.	Amount	Book Reserve	Future Accruals	Composite Remaining Life	Amount	Rate
		(a)	(b)	(c)= (a) x (b)	(d)	(e) = (a) -(c)-(d)	(g)	(h) = (e)/ (g)	(i) = (h) / (a)
Common Plant									
303.02	Software	$ 581,867,909		$ -	$ 222,293,164	$ 359,574,745	2.51	$ 143,256,871	24.62%
303.04	Software CIS	$ 603,631,064		$ -	$ 247,356,958	$ 356,274,106	8.97	$ 39,718,406	6.58%
390.00	Structures and Improvements	$ 1,125,307,091	25.00%	$ 281,326,773	$ 477,014,724	$ 366,965,594	41.69	$ 8,802,245	0.78%
391.01	Ofc Machines and Computer Equp	$ 207,386,092		$ -	$ 139,252,694	$ 68,133,398	2.79	$ 24,420,573	11.78%
391.02	PC Hardware	$ 80,428,501		$ -	$ 11,071,953	$ 69,356,548	2.91	$ 23,833,865	29.63%
391.03	Office Furniture and Equipment	$ 120,264,242		$ -	$ 17,353,533	$ 102,910,709	8.86	$ 11,615,204	9.66%
391.04	Ofc Machine and Comp Equp-CIS	$ 155,602,516		$ -	$ 43,338,108	$ 112,264,408	11.11	$ 10,104,807	6.49%
392.01	Transportation Equip - Air	$ 25,705,836	50.00%	$ 12,852,918	$ 9,672,864	$ 3,180,054	8.50	$ 374,124	1.46%
392.02	Transportation Equip - Class P	$ 6,143,694	10.00%	$ 614,369	$ 4,237,974	$ 1,291,351	2.95	$ 437,746	7.13%
392.03	Transportation Equip - Class C2	$ 19,323,847	10.00%	$ 1,932,385	$ 13,281,613	$ 4,109,849	3.42	$ 1,201,710	6.22%
392.04	Transportation Equip - Class C4	$ 12,134,511	10.00%	$ 1,213,451	$ 6,863,781	$ 4,057,279	4.34	$ 934,857	7.70%
392.05	Transportation Equip - Class T1	$ 73,745,572	10.00%	$ 7,374,557	$ 26,624,561	$ 39,746,454	5.50	$ 7,226,628	9.80%
392.06	Transportation Equip - Class T2	$ 235,651,496	10.00%	$ 23,565,150	$ 90,266,288	$ 121,820,058	6.41	$ 19,004,689	8.06%
392.07	Transportation Equip - Class T4	$ 244,524,548	10.00%	$ 24,452,455	$ 99,427,497	$ 120,644,596	8.97	$ 13,449,788	5.50%
392.08	Transportation Equip - Vessels	$ 651,338	10.00%	$ 65,134	$ 690,144	$ (103,940)	9.32	$ -	0.00%
392.09	Transportation Equip - Trailers	$ 26,688,671	10.00%	$ 2,668,867	$ 18,835,357	$ 5,184,447	14.31	$ 362,295	1.36%
393.00	Stores Equpment	$ 6,389,163		$ -	$ 292,354	$ 6,096,809	10.99	$ 554,760	8.68%
394.00	Tools, Shop and Garage Equip	$ 56,955,390		$ -	$ 31,491,114	$ 25,464,276	15.13	$ 1,683,032	2.96%
395.00	Laboratory Equp	$ 11,144,134		$ -	$ 955,831	$ 10,188,303	11.96	$ 851,865	7.64%
396.00	Power Operated Equipment	$ 97,030,639	20.00%	$ 19,406,128	$ 16,081,864	$ 61,542,647	9.57	$ 6,430,789	6.63%
397.01	Commun Equip -Non Comp	$ 31,067,775		$ -	$ 10,828,697	$ 20,239,078	4.00	$ 5,059,770	16.29%
397.02	Commun Equip -Computer	$ 73,724,571		$ -	$ 31,012,387	$ 42,712,184	2.85	$ 14,986,731	20.33%
397.03	Commun Equip -Radio Syst	$ 27,938,398		$ -	$ 11,986,722	$ 15,951,676	3.94	$ 4,048,649	14.49%
397.04	Commun Equip -Voice Syst	$ 31,840,421		$ -	$ 14,114,128	$ 17,726,293	3.98	$ 4,453,842	13.99%
397.05	Commun Equip -Trans Syst	$ 289,701,233		$ -	$ 81,732,627	$ 207,968,606	15.27	$ 13,619,424	4.70%
397.06	Commun Eqp -Trans Gas AMI	$ 341,218,692		$ -	$ 39,247,172	$ 301,971,520	17.68	$ 17,079,837	5.01%
397.08	AMI Communications Network	$ 115,977,860		$ -	$ 12,809,443	$ 103,168,417	17.78	$ 5,802,498	5.00%
398.00	Miscellaneious Equpment	$ 15,214,910		$ -	$ 4,256,042	$ 10,958,868	9.82	$ 1,115,974	7.33%
399.00	Other Tangible Property	$ 14,191		$ -	$ 5,587	$ 8,604	1.00	$ 8,604	60.63%
	Total Common Plant	$ 4,617,274,305		$ 375,472,186	$ 1,682,395,181	$ 2,559,406,938		$ 380,439,584	8.24%

TURN'S Recommended Depreciation - Common
For Pacific Gas and Electric Company

			Net Salvage					Annual Accrual	
		Original Cost 12/31/2011	Pct.	Amount	Book Reserve	Future Accruals	Composite Remaining Life	Amount	Rate
		(a)	(b)	(c)= (a) x (b)	(d)	(e) = (a) -(c)-(d)	(g)	(h) = (e)/ (g)	(i) = (h) / (a)
COMMON NUCLEAR PLANT									
303.02	DCPP Software	$ 73,526,271		$ -	$ 7,119,239	$ 66,407,032	6.54	$ 10,153,980	13.81%
390.00	Structures and Improvements	$ 43,596,283	-10.00%	$ (4,359,628)	$ 39,396,865	$ 8,559,046	11.74	$ 729,050	1.67%
391.01	Office Machines and Comp Equp	$ 150,048		$ -	$ (14,462)	$ 164,510	2.50	$ 65,804	43.86%
391.02	PC Hardware	$ 612,324		$ -	$ (266,872)	$ 879,196	1.00	$ 879,196	143.58%
391.03	Office Furn and Equipment	$ 6,274,354		$ -	$ 5,027,795	$ 1,246,559	7.04	$ 177,068	2.82%
392.02	Transportation Equip - Class P	$ 40,947	10.00%	$ 4,095	$ 40,947	$ (4,095)	1.63	$ -	
392.03	Transportation Equip - Class C2	$ 788,600	10.00%	$ 78,860	$ 585,283	$ 124,457	2.87	$ 43,365	5.50%
392.04	Transportation Equip - Class C4	$ 238,434	10.00%	$ 23,843	$ 163,301	$ 51,290	2.86	$ 17,933	7.52%
392.05	Transportation Equip - Class T1	$ 679,742	10.00%	$ 67,974	$ 435,085	$ 176,683	4.07	$ 43,411	6.39%
392.06	Transportation Equip - Class T2	$ 545,756	10.00%	$ 54,576	$ 316,392	$ 174,788	4.76	$ 36,720	6.73%
392.07	Transportation Equip - Class T4	$ 770,827	10.00%	$ 77,083	$ 294,254	$ 399,490	9.50	$ 42,052	5.46%
392.08	Transportation Equip - Vessels	$ 115,493	10.00%	$ 11,549	$ 115,493	$ (11,549)	5.08		
392.09	Transportation Equip - Trailers	$ 760,045	10.00%	$ 76,005	$ 682,127	$ 1,914	10.76	$ 178	0.02%
393.00	Stores Equpment	$ 90,173		$ -	$ 13,242	$ 76,931	13.50	$ 5,699	6.32%
394.00	Tools, Shop and Garage Equip	$ 388,500		$ -	$ 389,701	$ (1,201)	9.50		
395.00	Laboratory Equp	$ 2,361,834		$ -	$ 1,005,288	$ 1,356,546	11.48	$ 118,166	5.00%
396.00	Power Operated Equipment	$ 5,953,779	20.00%	$ 1,190,756	$ 1,568,148	$ 3,194,875	9.48	$ 337,012	5.66%
397.01	Commun Equip -Non Comp	$ 1,667,891		$ -	$ 628,935	$ 1,038,956	3.43	$ 302,903	18.16%
397.02	Commun Equip -Computer	$ 39,344		$ -	$ (222,197)	$ 261,541	1.00	$ 261,541	664.75%
397.03	Commun Equip -Radio Syst	$ 351,140		$ -	$ 186,261	$ 164,879	1.97	$ 83,695	23.84%
397.04	Commun Equip -Voice Syst	$ 5,809,244		$ -	$ 4,548,030	$ 1,261,214	1.47	$ 857,969	14.77%
397.05	Commun Equip -Trans Syst	$ 10,108,117		$ -	$ 9,366,969	$ 741,148	8.32	$ 89,080	0.88%
398.00	Miscellaneous Equipment	$ 5,394,863		$ -	$ 1,547,517	$ 3,847,346	14.67	$ 262,259	4.86%
	Total Common Nuclear Plant	$ 160,264,009		$ (2,774,888)	$ 72,927,341	$ 90,111,556		$ 14,507,081	9.05%
TOTAL TURN's COMMON PLANT		$ 4,777,538,314		$ 372,697,298	$ 1,755,322,522	$ 2,649,518,494		$ 394,946,665	8.27%
	COMPANY PROPOSED - COMMON PLANT							$ 430,589,751	
	DIFFERENCE							**$ (35,643,086)**	
	TOTAL TURN RECOMMENDED DEPRECIATION EXPENSE							**$ 1,466,956,630**	
	TOTAL COMPANY PROPOSED DEPRECIATION EXPENSE							**$ 1,922,557,787**	
	DIFFERENCE							**$ (455,601,157)**	

JACOB POUS, P.E.

PRESIDENT, DIVERSIFIED UTILITY CONSULTANTS, INC.

B.S. INDUSTRIAL ENGINEERING, M.S. MANAGEMENT

I graduated f rom the University of Missouri in 1972, receiving a Bachelor of Science Degree in Engineering, and I graduated with a Master of Science in Management from Rollins College in 1980. I have also completed a series of depreciation programs sponsored by Western Michigan University, and have attended numerous other utility related seminars.

Since my graduation from college, I have been continuously employed in various aspects of the utility business. I started with Kansas City Power & Light Company, working in the Rate Department, Corporate Planning and Economic Controls Department, and for a short time in a power plant. My responsibilities included preparation of testimony and exhibits for retail and wholesale rate cases. I participated in cost of service studies, a loss of load probability study, fixed charge analysis, and economic comparison studies. I was also a principal member of project teams that wrote, installed, maintained, and operated both a computerized series of depreciation programs and a computerized financial corporate model.

I joined the firm of R. W. Beck and Associates, an international consulting engineering firm with over 500 employees performing predominantly utility related work, in 1976 as an Engineer in the Rate Department of its Southeastern Regional Office. While employed with that firm, I prepared and presented rate studies for various electric, gas, water, and sewer systems, prepared and assisted in the preparation of cost of service studies, prepared depreciation and decommissioning analyses for wholesale and retail rate proceedings, and assisted in the development of power supply studies for electric systems. I resigned from that firm in November 1986 in order to co-found Diversified Utility Consultants, Inc. At the time of my resignation, I held the titles of Executive Engineer, Associate and Supervisor of Rates in the Austin office of R. W. Beck and Associates.

As a principal of the firm of Diversified Utility Consultants, Inc., I have presented and prepared numerous electric, gas, and water analyses in both retail and wholesale proceedings. These analyses have been performed on behalf of clients, including public utility commissions, throughout the United States and Canada.

I have been involved in over 400 different utility rate proceedings, many of which have resulted in settlements prior to the presentation of testimony before regulatory bodies. I am registered to practice as a Professional Engineer in many states.

UTILITY RATE PROCEEDINGS IN WHICH

TESTIMONY HAS BEEN PRESENTED BY JACOB POUS

ALASKA		
ALASKA REGULATORY COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Beluga Pipe Line Company	P-04-81	Refundable Rates
Beluga Pipe Line Company	U-07-141	Depreciation
Kenai Nikiski Pipeline	U-04-81	Rate Base
ARIZONA		
ARIZONA CORPORATION COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Citizens Utilities Company	E-1032-93-111	Depreciation
ARKANSAS		
ARKANSAS PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Reliant Energy ARKLA	01-0243-U	Depreciation
CALIFORNIA		
CALIFORNIA PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Pacific Gas & Electric Company	App. No. 97-12-020	Depreciation, Net Salvage, and Amortization of True-Up
Pacific Gas & Electric Company	App. No. 02-11-017	Mass Property Salvage, Net Salvage, Mass Property Life, Life Analysis, Remaining Life, Depreciation
San Diego Gas & Electric Company		Value of Power Plants
Southern California Edison Company	App 02-05-004	Depreciation, Net Salvage
Southern California Edison Company	App 10-11-015	Mass Property Life and Net Salvage
Southern California Gas & San Diego Gas & Electric Company	Apps 10-12-005 & 10-12-006	Mass Property Life, Mass Property Net Salvage
CANADA		
ALBERTA ENERGY AND UTILITIES BOARD		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
AltaLink Management/ Transalta Utilities Corporation	App. Nos. 1279345 and 1279347	Depreciation
Epcor Distribution, Inc.	App. No. 1306821	Depreciation
Enmax Corporation	App. No. 1306818	Depreciation
Transalta Utilities Corporation	TFO Tariff App. 1287507	Depreciation
UtiliCorp Networks Canada (Alberta) Ltd.	App. No. 1250392	Depreciation
Atco Electric	App. No. 1275494	Depreciation

ALBERTA PUBLIC UTILITIES BOARD		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Alberta Power Limited	E 91095	Depreciation
Alberta Power Limited	E 97065	Depreciation
Canadian Western Natural Gas Company, Ltd.		Depreciation
Centra Gas Alberta , Inc.		Depreciation
Edmonton Power Company	E 97065	Depreciation
Edmonton Power Generation, Inc.	1999/2000	GUR Compliance, Depreciation
Northwestern Utilities, Lt d	E 91044	Depreciation
NOVA Gas Transmission , Ltd.	RE95006	Depreciation
TransAlta Utilities Corporation	E 91093	Depreciation
TransAlta Utilities Corporation	E 97065	Depreciation
TransAlta Utilities Corporation	App. No. 200051	Gain on Sale
ALBERTA UTILITIES COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
AltaGas Utilities	1606694	Life Analysis, Net Salvage
AltaLink Management, Ltd.	1606895	Life Analysis, Net Salvage
AltaLink Management, Ltd.	1608711	Life Analysis, Net Salvage
ATCO Gas	1606822	Life Analysis, Net Salvage
FortisAlberta	1607159	Life Analysis, Net Salvage
NEWFOUNDLAND AND LABR ADOR BOARD OF COMMISSION ERS OF PUBLIC UTILIT IES		
Newfoundland & Labrador Hydro		Depreciation, Life Analysis
Newfoundland Power, Inc.	2013/2014 GRA	Depreciation, Life Analysis, Net Salvage, ELG vs. ALG
NORTHWEST TERRITORIES PUBLIC UTILITIES BOARD		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Northwest Territories Power Corporation	1995/96 and 1996-97	Depreciation
Northwest Territories Power Corporation	2001	Depreciation
NOVA SCOTIA UTILITY AND REVIEW BOARD		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Nova Scotia Power, Inc.	M03665	Production Plant Life and Net Salvage (Inflation), Interim Retirements, Mass Property Life and Net Salvage, ELG vs. ALG, Remaining Life, Fully Accrued
COURTS		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
7th Judicial Circuit Court of Florida	2008-30441-CICI	Depreciation Valuation
112th Judicial District Court of Texas	5093	Ratemaking Principles, Calculation of damages
253rd Judicial District Court of Texas	45,615	Ratemaking Principles, Level of Bond
126th Judicial District Court of Texas	91-1519	Ratemaking Principles, Level of Bond

172 Judicial District Court of Texas		Franchise Fees
United States Bankruptcy Court Eastern District of Texas	93-10408S	Level of Harm, Ratemaking, Equity for Creditors
3rd Judicial District Court of Texas		Adequacy of Notice
DISTRICT OF COLUMBIA		
PUBLIC SERVICE COMMISSION OF THE DISTRICT OF COLUMBIA		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Washington Gas Light Company	768	Depreciation
FLORIDA		
FLORIDA PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Progress Energy Florida, Inc.	090079-EI	Depreciation, Excess Reserve
Progress Energy Florida, Inc.	050078-EL	Depreciation, Excess Reserve
Florida Power & Light Company	790380-EU	Territorial Dispute
Florida Power & Light Company	080677-EI 090130-EI	Depreciation, Excess Reserve
Florida Power & Light Company	120015-EI	Excess Reserve
Florida Power & Light Company	120015-EI	Settlement Analysis
FEDERAL ENERGY REGULATORY COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Alabama Power Company	ER83-369	Depreciation
Connecticut Municipal Electric Energy Cooperative v. Connecticut Light & Power Company	EL83-14	Decommissioning
Florida Power & Light Company	ER84-379	Depreciation, Decommissioning
Florida Power & Light Company	ER93-327-000	Transmission Access
Georgia Power Company	ER76-587	Rate Base
Georgia Power Company	ER79-88	Depreciation
Georgia Power Company	ER81-730	Coal Fuel Stock Inventory, Depreciation
ISO New England, Inc.	ER07-166-000	Depreciation
Maine Yankee Atomic Power Company	ER84-344-001	Depreciation, Decommissioning
Maine Yankee Atomic Power Company	ER88-202	Decommissioning
Pacific Gas & Electric	ER80-214	Depreciation
Public Service of Indiana	ER95-625-000, ER95-626-000 & ER95-039-000	Depreciation, Dismantlement
Southern California Edison Company	ER81-177	Depreciation
Southern California Edison Company	ER82-427	Depreciation, Decommissioning
Southern California Edison Company	ER84-75	Depreciation, Decommissioning
Southwestern Public Service Company	EL 89-50	Depreciation, Decommissioning
System Energy Resource, Inc.	ER95-1042-000	Depreciation, Decommissioning

Vermont Electric Power Company	ER83 342000 & 343000	Decommissioning
Virginia Electric and Power Company	ER78-522	Depreciation, Rate Base
INDIANA		
INDIANA UTILITY REGULATORY COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Indianapolis Water Company	39128	Depreciation
Indiana Michigan Power Company	39314	Depreciation, Decommissioning
KANSAS		
KANSAS CORPORATION COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Arkansas Louisiana Gas Company	181,200-U	Depreciation
United Cities Gas Company	181,940-U	Depreciation
LOUISIANA		
LOUISIANA PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Louisiana Power & Light Company	U-16945	Nuclear Prudence, Depreciation
CITY OF NEW ORLEANS		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Entergy New Orleans, Inc.	UD-00-2	Rate Base, Depreciation
MASSACHUSETTS		
MASSACHUSETTS TELECOMMUNICATION AND ENERGY		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Bay State Gas	D.T.E.-0527	Depreciation
National Grid/KeySpan	07-30	Quality of Service
MISSISSIPPI		
MISSISSIPPI PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Mississippi Power Company	U-3739	Cost of Service, Rate Base, Depreciation
MONTANA		
MONTANA PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Montana Power Company (Gas)	90.6.39	Depreciation
Montana Power Company (Electric)	90.3.17	Depreciation, Decommissioning
Montana Power Company (Electric and Gas)	95.9.128	Depreciation
Montana-Dakota Utilities	D2007.7.79	Depreciation
Montana-Dakota Utilities	D2010.8.82	Depreciation, Interim Retirements, Production Plant Life and Net Salvage
Montana-Dakota Utilities	D2012.9.100	Depreciation
NEVADA		

PUBLIC UTILITIES COMMISSION OF NEVADA		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Nevada Power Company	81-602, 81-685 Cons.	Depreciation
Nevada Power Company	83-667, Consolidated	Depreciation
Nevada Power Company	91-5032	Depreciation, Decommissioning
Nevada Power Company	03-10002	Depreciation
Nevada Power Company	08-12002	Depreciation, CWC
Nevada Power Company	06-06051	Depreciation, Life Spans, Decommissioning Costs, Deferred Accounting
Nevada Power Company	06-11022	General Rate Case
Nevada Power Company	10-02009	Production Life Spans
Nevada Power Company	11-06007	Early Retirement, Production Plant Net Salvage, Mass Property Life, Mass Property Net Salvage, Excess APFD
Sierra Pacific Gas Company	06-07010	Depreciation, Generating Plant Life Spans, Decommissioning Costs, Carrying Costs
Sierra Pacific Power Company	83-955	Depreciation (Electric, Gas, Water, Common)
Sierra Pacific Power Company	86-557	Depreciation, Decommissioning
Sierra Pacific Power Company	89-516, 517, 518	Depreciation, Decommissioning (Electric, Gas, Water, Common)
Sierra Pacific Power Company	91-7079, 80, 81	Depreciation, Decommissioning (Electric, Gas, Water, Common)
Sierra Pacific Power Company	03-12002	Allowable Level of Plant in Service
Sierra Pacific Power Company	05-10004	Depreciation
Sierra Pacific Power Company	05-10006	Depreciation
Sierra Pacific Power Company	07-12001	Depreciation, CWC
Sierra Pacific Power Company	10-06003	Depreciation, Excess Reserve, Life Spans, Net Salvage
Sierra Pacific Power Company	10-06004	Depreciation, Net Salvage
Sierra Pacific Power Company	12-08009	IRP-Coal Plant Service Life
Southwest Gas Corporation	93-3025 & 93-3005	Depreciation
Southwest Gas Corporation	04-3011	Depreciation
Southwest Gas Corporation	07-09030	Depreciation
Southwest Gas Corporation	12-04005	Depreciation

NORTH CAROLINA		
NORTH CAROLINA UTILITIES COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
North Carolina Natural Gas	G-21, Sub 177	Cost of Service, Rate Design, Depreciation
OKLAHOMA		
OKLAHOMA CORPORATION COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Arkansas Oklahoma Gas Corporation	PUD 200300088	CWC, Legal Expenses, Factoring, Cost Allocation, Depreciation
Oklahoma Natural Gas Company	PUD 980000683	Depreciation, Calculation Procedure, Depreciation on CWIP
Reliant Energy ARKLA	PUD 200200166	Depreciation, Net Salvage, Software Amortization
Public Service Company of Oklahoma	PUD 960000214	Depreciation, Interim Activity, Net Salvage, Mass Property, Rate Calculation Technique
Public Service Company of Oklahoma	PUD 200600285	Depreciation
Public Service Company of Oklahoma	PUD 200800144	Depreciation
Public Service Company of Oklahoma	PUD 201000050	Depreciation, Evaluation vs. Measurement, Interim and Terminal Net Salvage, Economies of Scale
Oklahoma Gas & Electric	PUD 201100087	Depreciation
TEXAS		
PUBLIC UTILITY COMMISSION OF TEXAS		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
CenterPoint Energy Houston Electric, LLC	29526	Stranded Costs
CenterPoint Energy Houston Electric, LLC	36918	Hurricane Cost Recovery
CenterPoint Energy Houston Electric, LLC	38339	Depreciation, Net Salvage, Excess Reserve, Gain on Sale
Central Power & Light Company	6375	Depreciation, Rate Base, Cost of Service
Central Power & Light Company	8439	Fuel Factor
Central Power & Light Company	8646	Rate Base, Excess Capacity, Depreciation, Rate Design, Rate Case Expense
Central Power & Light Company	9561	Depreciation, Excess Capacity, Cost of Service, Rate Base, Taxes
Central Power & Light Company	11371	Economic Development Rate
Central Power & Light Company	12820	Nuclear Fuel and Process, OPEB, Pension, Factoring, Depreciation
Central Power & Light Company	14965	Depreciation, Cash Working Capital, Pension, OPEB, Factoring, Demonstration and Selling Expense, Non -Nuclear Decommissioning

Central Power & Light Company	22352	Depreciation
Central Telephone & United Telephone Company of Texas d/b/a Sprint	17809	Rate Case Expenses
City of Fredericksburg	7661	Territorial Dispute
El Paso Electric Company	9165	Depreciation
Entergy Gulf States, Inc.	16705	Depreciation, Prepayments, Payroll Expense, Pension Expense, OPEB, CWC, Transfer of T&D Depreciation
Entergy Gulf States, Inc.	21111	Reconcilable Fuel Costs
Entergy Gulf States, Inc.	21384	Fuel Surcharge
Entergy Gulf States, Inc.	23000	Fuel Surcharge
Entergy Gulf States, Inc.	22356	Unbundling, Competition, Cost of Service
Entergy Gulf States, Inc.	23550	Reconcilable Fuel Costs
Entergy Gulf States, Inc.	24336	Price to Beat
Entergy Gulf States, Inc.	24460	Implement PUC Subst.R.25.41(f)(3)(D)
Entergy Gulf States, Inc.	24469	Delay of Deregulation
Entergy Gulf States, Inc.	24953	Interim Fuel Surcharge
Entergy Gulf States, Inc.	26612	Fuel Surcharge
Entergy Gulf States, Inc.	28504	Interim Fuel Surcharge
Entergy Gulf States, Inc.	28818	Cert. for Independent Organization
Entergy Gulf States, Inc.	29408	Fuel Reconciliation
Entergy Gulf States, Inc.	30163	Interim Fuel Surcharge
Entergy Gulf States, Inc.	31315	Incremental Purchase Capacity Rider
Entergy Gulf States, Inc.	31544	Transition to Competition Cost
Entergy Gulf States, Inc.	32465	Interim Fuel Surcharge
Entergy Gulf States, Inc.	32710	River Bend 30%, Explicit Capacity, Imputed Capacity, IPCR, SGSF Operating Costs and Depreciation Recovery, Option Costs
Entergy Gulf States, Inc.	33687	Transition to Competition
Entergy Gulf States, Inc.	33966	Interim Fuel Surcharge
Entergy Gulf States, Inc.	32907	Hurricane Reconstruction
Entergy Gulf States, Inc.	34724	IPCR
Entergy Gulf States, Inc.	34800	JSP, Depreciation, Decommissioning, Amortization, CWC, Franchise Fees, Rate Case Exp.
Entergy Texas Inc.	37744	Depreciation, Property Insurance Reserve, Cash Working Capital, Decommissioning Funding, Gas Storage
Entergy Texas Inc.	39896	Depreciation, Amortization, Property Insurance Reserve, Cash Working Capital
Gulf States Utilities Company	5560	Depreciation, Fuel Cost Factor

Gulf States Utilities Company	5820	Fuel Cost, Capacity Factors, Heat Rates
Gulf States Utilities Company	6525	Depreciation, Rate Case Expenses
Gulf States Utilities Company	7195 & 6755	Depreciation, Interim Cash Study, Excess Capacity, Rate Case Expense
Gulf States Utilities Company	8702	Rate Case Expenses, Depreciation
Gulf States Utilities Company	10,894	Fuel Reconciliation, Rate Case Expenses
Gulf States Utilities Company & Entergy Corporation	11292	Acquisition Adjustment Regulatory Plan, Base Rate, Rate Case Expenses
Gulf States Utilities Company & Entergy Corporation	12423	North Star Steel Agreement
Gulf States Utilities Company & Entergy Corporation	12852	Depreciation, OPEB, Pensions, Cash Working Capital, Other Cost of Service, and Rate Base Items
Houston Light & Power Company	6765	Depreciation, Production Plant, Early Retirement
Lower Colorado River Authority	8400	Rate Design
Magic Valley Electric Cooperative, Inc.	10820	Cost of Service, Financial Integrity, Rate Case Expenses
Oncor Electric Delivery, LLC	35717	Depreciation, Self-Insurance, Payroll, Automated Meters, Regulatory Assets, PHFU
Southwestern Bell Telephone Company	18513	Rate Case Expenses
Southwestern Electric Power Company	3716	Depreciation
Southwestern Electric Power Company	4628	Depreciation
Southwestern Electric Power Company	5301	Depreciation, Fuel Charges, Franchise Fees
Southwestern Electric Power Company	24449	Fuel Factor Component of Price to Beat Rates
Southwestern Electric Power Company	24468	Delay of Deregulation
Southwestern Public Service Company	11520	Depreciation, Cash Working Capital, Rate Case Expenses
Southwestern Public Service Company	32766	Depreciation Expense Revenue Requirements
Southwestern Public Service Company	35763	Depreciation
Texas-New Mexico Power Company	9491	Avoided Cost, Rate Case Expenses
Texas-New Mexico Power Company	10200	Jurisdictional Separation, Cost Allocation, Rate Case Expenses
Texas-New Mexico Power Company	17751	Rate Case Expenses
Texas-New Mexico Power Company	36025	Depreciation
Texas-New Mexico Power Company	38480	Depreciation, Mass Property Life, Net Salvage
Texas Utilities Electric Company	5640	Franchise Fees

Texas Utilities Electric Company	9300	Depreciation, Rate Base, Cost of Service, Fuel Charges, Rate Case Expenses
Texas Utilities Electric Company	11735	Cost Allocation, Rate Design, Rate Case Expenses
Texas Utilities Electric Company	18490	Depreciation Reclassification
West Texas Utilities Company	7510	Depreciation, Decommissioning, Rate Base, Cost of Service, Rate Design, Rate Case Expenses
West Texas Utilities Company	10035	Fuel Reconciliation, Rate Case Expenses
West Texas Utilities Co mpany	13369	Depreciation, Payroll, Pension, OPEB, Cash Working Capital, Fuel Inventory, Cost Allocation
West Texas Utilities Company	22354	Depreciation
RAILROAD COMMISSION OF TEXAS		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Atmos Energy Corporation	9530	Gas Cost, Gas Purchases, Price Mitigation, Rate Case Expense
Atmos Energy Corporation	9670	CWC, Depreciation, Expenses, Shared Services, Taxes Other Than FIT, Excess Return
Atmos Energy Corporation	9695	Rate Case Expense
Atmos Energy Co rporation	9762	Depreciation, O&M Expense
Atmos Energy Corporation	9732	Rate Case Expense
Atmos Energy Corporation	9869	Revenue Requirements
Atmos Energy Corporation	10041	Mass Property Life, Net Salvage
Atmos Energy Corporation	10170	Depreciation, Mass Property Life, Net Salvage
Atmos Pipeline-Texas	10000	Rate Base, Depreciation Life and Net Salvage, Incentive Compensation, Merit Increase, Outside Director Retirement Costs, SEBP
CenterPoint Energy Entex – City of Tyler	9364	Capital Investment, Aff iliates
CenterPoint Energy Entex – Gulf Coast Division	9791	Rate Base, Cost Allocation, Affiliate Expenses, Depreciation Net Salvage, Call Center, Litigation, Uncollectibles, Post Test Year Adjustments
CenterPoint Energy Entex – City of Houston	9902	CWC, Plant Adjustments, Depreciation, Payroll, Pensions, Cost Allocation
CenterPoint Energy Entex – South Texas Division	10038	CWC, Incentive Compensation, Payroll, Depreciation

CenterPoint Energy – Beaumont/East Texas	10182	Rate Base, Expense, Incentive Compensation, Pension, Payroll, Injuries & Damages
CenterPoint Energy – Texas Coast Division	10007	Cost of Service Adjustment, CWC, ADIT, Incentive Compensation, Pension, Meter Reading, Customer Records and Collection, Investor Relations/Investo r Services
CenterPoint Energy – Texas Coast Division	10097	Pension, Severance Expense
Energas Company	5793	Depreciation
Energas Company v. Westar Transmissions Company	5168 & 4892 Cons.	Cost of Service, Refunds, Contracts, Depreciation
Energas Company	8205	Cost of Service, Rate Base, Depreciation, Affiliate Transactions, Sale/Leaseback, Losses, Income Taxes
Energas Company	9002-9135	Depreciation, Pension, Cash Working Capital, OPEB, Rate Design
Lone Star Gas Company	8664	Cash Working Capital, Depreciation Expense, Gain on Sale of Plant, OPEB, Rate Case Expenses
Rio Grande Valley Gas Company	7604	Depreciation
Southern Union Gas Company	2738, 2958, 3002, 3018, 3019 Cons.	Cost of Service, Rate Design, Depreciation
Southern Union Gas Company	6968 Interim & Cons.	Affiliate Transactions, Rate Base, Income Taxes, Revenues, Cost of Service, Conservation, Depreciation
Southern Union Gas Company	8033 Consolidated	Acquisition Adjustment, Depreciation, Excess Reserve, Distribution Plant, Cost of Gas Clause, Rate Case Expenses
Southern Union Gas Company	8878	Depreciation, Cash Working Capital, Gain on Sale of Building, Rate Case Expenses, Rate Design
Texas Gas Service Company	9988 & 9992 Cons.	Cash Working Capital, Post Test Year Plant, ADFIT, Excess Reserve, Depreciation Expense, Amortization of General Plant, Corporate and Division Expenses, Incentive Compensation, Hotel and Meals Expense, Pipeline Integrity Costs

TXU Gas Distribution	9145-9147	Depreciation, Cash Working Capital, Revenues, Gain on Sale of Assets, Clearing Accounts, Over-Recovery of Clearing Accounts, SFAS 106, Wages and Salaries, Merger Costs, Intra System Allocation, Zero Intercept, Customer Weighting Factor, Rate Design
TXU Gas Distribution	9400	Depreciation, Net Salvage, Cash Working Capital, Affiliate Transactions, Software Amortization, Securitization, O&M Expenses, Safety Compliance
TXU Lone Star Pipeline	8976	Depreciation, Net Salvage, Cash Working Capital, ALG vs. ELG
Westar Transmissions Company	5787	Depreciation, Rate Base, Cost of Service, Rate Design, Contract Issues, Revenues, Losses, Income Taxes
TEXAS WATER COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
City of Harlingen-Certificate for Convenience & Necessity	8480C/8485C/8512C	Rate Impact for CCN
City of Round Rock	8599/8600M	Rate Discrimination, Cost of Service
Devers Canal System	8388-M	Affiliate Transactions, O&M Expense, Return, Allocation, Acquisition Adjustment, Retroactive Ratemaking, Rate Case Expenses, Depreciation
Devers Canal System	30102-M	Cost of Service, Rate Base, Ratemaking Principles, Affiliate Transactions
Southern Utilities Company	7371-R	Affiliate Transactions, Cost of Service
Scenic Oaks Water Supply Corporation	8097-G	Affiliate Transactions, Cost of Service, Rate base, Cost of Capital, Rate Design, Depreciation
Sharyland Water Supply vs. United Irrigation District	8293-M	Rate Discrimination, Cost of Service, Rate Case Expenses
Southern Water Corporation	2008-1811-UCR	Cost of Service
Travis County Water Control & Improv. District No. 20		Cost of Service
EL PASO PUBLIC UTILITY REGULATION BOARD		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Southern Union Gas Company	1991	Depreciation, Calculation Procedure
Southern Union Gas Company	1997	Depreciation, Calculation Procedure
Southern Union Gas Company	GUD 8878 – 1998	Depreciation, Cash Working Capital, Rate Design, Rate Case Expenses
Texas Gas Services Company	2007	Revenue Requirements
Texas Gas Services Company	2011	Revenue Requirements

UTAH		
UTAH PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
PacifiCorp	98-2035-03	Production Plant Net Salvage, Production Life Span, Interim Additions, Mass Property, Depreciation
Questar	05-057-T01	Conservation Enabling Tariff Adjustment Option and Accounting Orders
Rocky Mountain Power	07-035-13	Depreciation
WYOMING		
WYOMING PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
PacifiCorp	20000-ER-00-162	Rate Parity