BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

APPLICATION OF PUBLIC SERVICE COMPANY OF OKLAHOMA, TO BE IN COMPLIANCE WITH ORDER NO. 591185 ISSUED IN CAUSE NO. PUD 201100106 WHICH REQUIRES A BASE RATE CASE TO BE FILED BY PSO AND THE RESULTING ADJUSTMENT IN ITS RATES AND CHARGES AND TERMS AND CONDITIONS OF SERVICE FOR ELECTRIC SERVICE IN THE STATE OF OKLAHOMA	§ § § § § § § § § § §	CAUSE NO. PUD 201300217

Direct Testimony

of

Jacob Pous

On behalf of

Oklahoma Industrial Energy Consumers,
Wal-Mart Stores, LP and Sam's East, Inc.

Diversified Utility Consultants, Inc.
1912 West Anderson Lane, Suite 202
Austin, TX 78757

April 23, 2014

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ACRONYMS AND DEFINED TERMS

2012 Study	Gannett Fleming's Depreciation Study as of December 31, 2012
AICPA	American Institute of Certified Public Accountants
ALG	Average Life Group
ASL	Average Service Life
CFR	Code of Federal Regulations
Commission	Oklahoma Corporation Commission
Company	Public Service Company of Oklahoma
DUCI	Diversified Utility Consultants, Inc.
ECP	Environmental Compliance Plan
FERC	Federal Energy Regulatory Commission
NADA	National Auto Dealers Association
NPC	Nevada Power Company
OCC	Oklahoma Corporation Commission
OIEC	Oklahoma Industrial Energy Consumers
OLT	Observed Life Table
PSO	Public Service Company of Oklahoma
S&L	Sargent & Lundy, LLC

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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 clients. DUCI provides utility consulting services to municipal governments with utility systems, to end-users of utility services, and to regulatory bodies such as state public service commissions. DUCI provides complete rate case analyses, expert testimony, negotiation services, and litigation support to clients in electric, gas, telephone, water, sewer, and cable utility matters.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN PUBLIC UTILITY PROCEEDINGS?

A. Yes. Appendix A also includes a list of proceedings in which I have previously presented testimony. In addition, I have been involved in numerous utility rate proceedings that resulted in settlements before testimony was filed. In total, I have participated in well over 400 utility rate proceedings in the United States and Canada. Also worthy of note is that I have testified on behalf of the staff of six 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. My recommendations are made on behalf of Oklahoma Industrial Energy Consumers (OIEC), Wal-Mart Stores East, LP and Sam's East, Inc.

SECTION II: SUMMARY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address Public Service Company of Oklahoma's ("PSO" or the "Company") depreciation request as filed before the Corporation Commission of the State of Oklahoma ("Commission") in Cause No. 201300217.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The Company retained Mr. Spanos of Gannett Fleming to develop a depreciation study based on plant as of December 31, 2012 ("2012 Study"). The 2012 Study reflects an annual depreciation accrual of $112,997,178 or a $28,740,438 increase based on plant as of December 31, 2012.[1] I am also aware of the Company's intention to file another rate

[1] Mr. Spanos' direct testimony at page 4.

proceeding, possibly in 2015, to address its Environmental Compliance Plan ("ECP").[2] The Commission dismissed a prior request by the Company to address ECP related "cost recovery issues such as depreciation rates and plant retirement."[3] The Commission dismissed the Company's prior ECP request in order to "promote judicial efficiency by avoiding duplicative issues being addressed by the Commission."[4] The same concerns that previously caused the Commission to dismiss ECP related issues also exist in this case. The Company's anticipated filing next year is expected to address "cost recovery issues such as depreciation rates and plant retirement." While this situation by itself calls for the dismissal of the Company's depreciation request in this case, such action is further bolstered by the Company's failure to adequately present and support its depreciation request in this case. Counsel advises me that the Company's failure to adequately present and support its depreciation request means that it has failed to meet its required burden of proof as it pertains to the various depreciation proposals.

The concept of judicial efficiency and the Company's lack of support for its various depreciation parameters, as discussed herein, warrant a threshold recommendation that the Commission dismiss the Company's depreciation request and retain the existing depreciation rates. Also, as discussed later, the Commission should order the Company to provide a complete, detailed and fully documented depreciation study in support of its various life and net salvage parameters, by account, in its next case. It must be emphasized that the underlying concept behind the recommendation for a complete, detailed and fully documented depreciation study is not tied to the quantity of information provided, but the quality of the information. It is recognized that the Company provided hundreds of pages of depreciation related material in this case, unfortunately the critical items of information, assumptions, and supporting documents that identify how and why specific parameters were proposed were not provided.

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[2] Mr. Sartin's direct testimony at pages 27-29.
[3] *Id.*
[4] Motion to Dismiss Cause No. 21200054.

In the event the Commission decides to proceed with a depreciation review in this proceeding, I have performed an independent analysis of the 2012 Study for all functions other than the distribution function. Based on my analyses, I have identified numerous problems with the Company's depreciation request that require adjustment. The overall impact of my threshold and alternative recommendations are set forth on Schedules (JP-1) and (JP-2), respectively. The test year impact of my threshold recommendation will be reflected in the revenue requirement testimony submitted by OIEC witness Mr. Garrett. A brief synopsis of each alternative adjustment I recommend follows.

- **Production Plant Net Salvage** – The Company proposes various negative net salvage values for its steam and other production generating facilities. These values are based in part on studies presented by Mr. Bertheau of Sargent & Lundy, LLC ("S&L"). The S&L studies are updates of prior estimates for future demolition of the Company's generating units. The results of the S&L studies were then inflated by the Company for as many as 44 years into the future without discounting such values back to the present. Based on the elimination of inappropriate procedures and costs, such as escalation of estimated costs in to the future without discounting cost back to a net percent value, depreciation expense is reduced by $8,053,514 based on plant as of December 31, 2012.

- **Interim Retirements** – The Company proposes a new method of calculating interim retirements. The Company's new method results in a significant increase in estimated interim retirements compared to the method and results proposed by the Company and approved by the Commission in prior depreciation studies and rate cases. Since higher levels of estimated interim retirements results in a shorter remaining life, and thus higher depreciation expense, the Company's new methodology artificially increases depreciation expense. There are several problems associated with the Company's proposed new method. Relying on the Company's long established interim retirement methodology, as well as interim retirement ratios previously adopted by the Commission for the Company, results in a $1,587,723 reduction in annual depreciation expense for plant as of December 31, 2012.

- **Production Plant Interim Net Salvage** – The Company proposes excessive negative net salvage levels for the higher level of interim retirements that it projects. Adjusting only the Company's proposed interim net salvage levels to more appropriate levels results in a reduction in annual depreciation expense of $1,275,753 based on plant as of December 31, 2012.

- **Mass Property Life Analysis** – The Company relies on an actuarial analysis approach for estimating average service life ("ASL") and corresponding mortality dispersion pattern for mass property accounts. The Company's interpretation of the actuarial results are inappropriate and result in artificially short ASLs for numerous accounts. In addition, the Company proposes artificially short amortization periods for certain general plant accounts. Relying on superior curve fitting of actuarial results, information relating to life related improvements in operation and maintenance of the system, and longer amortization periods based on empirical data for certain amortization accounts results in a $3,853,150 reduction in annual depreciation expense based on plant as of December 31, 2012.

- **Mass Property Net Salvage** – The Company's proposals for several mass property accounts result in excessive levels of negative net salvage. The Company's proposals fails to take into account specific impacts reflected in historical data that are not indicative of future net salvage expectations. Corrections of these problems results in a $1,294,119 reduction to annual depreciation expense based on plant as of December 31, 2012.

- **Combined Impact** – The combined impact of the various adjustments noted above are not simply the summation of each individual standalone adjustment. Certain adjustments are interactive. The combined impact of the various above noted issues results in a $13,141,016 reduction in annual depreciation expense based on plant as of December 31, 2012.

Q. IS THERE A PARTICULAR CONCERN THAT NEEDS TO BE ADDRESSED BEFORE DISCUSSING THE VARIOUS ISSUES THAT YOU IDENTIFIED IN YOUR REVIEW OF THE COMPANY'S DEPRECIATION REQUEST?

A. Yes. The Company's presentation in support of its depreciation request is of great concern. In my opinion, the Company fails to reasonably identify, present and support critical components of its depreciation study. In addition, the Company has been less than forthcoming in responses to discovery seeking to identify not only what the Company did, but how it arrived at its various proposals.

Q. CAN YOU PROVIDE SPECIFIC EXAMPLES OF THE COMPANY'S PRESENTATION THAT RAISES THE CONCERN YOU REFERENCE?

A. Yes. First, it is important to note that the Company's depreciation witness Mr. Spanos states on page 9 of his direct testimony that he interpreted the results of historical data analysis, relied on supplementary information from management and operating personnel, and relied on estimates from other electric utilities to "form judgments of average service life and net salvage characteristics." In addition, Mr. Spanos states that "judgment and experience <u>play an important role</u> in the development of a depreciation study."[5] (Emphasis added). Given that Mr. Spanos relies heavily on experience and judgment to arrive at both ASL and net salvage characteristics, discovery was issued seeking, by account, the role that judgment and experience played in sufficient detail to clearly identify how the various underlying components of experience and judgment resulted in the final depreciation parameters (i.e., the actual meaningful or significant basis for each proposed depreciation parameter).[6] In addition, the Company was further requested to provide all underlying documents and support that verifies the reasonableness of the claimed role of judgment and experience as it influenced the final determination of both ASL and net salvage for each account. This is precisely the type of support and justification that should have been part of the Company's initial filing.

Q. HOW DID THE COMPANY RESPOND TO REQUESTS SEEKING THE CRITICAL BASES FOR ITS DEPRECIATION PROPOSALS?

What the Company provided in support of its proposals was that Mr. Spanos' "experience and knowledge <u>cannot</u> be detailed by account."[7] (Emphasis added). The only specific references to what constituted Mr. Spanos' experience and judgment as it applies to the current study is a reference Part II of the 2012 Study, which purports to describe the steps Mr. Spanos incorporated into his life and net salvage analyses.[8] Mr. Spanos later claimed "his experience and judgment cannot be detailed account by account in the manner

[5] Response to OIEC 4-1.
[6] OIEC Requests 4-1 and 17-10.
[7] *Id.*
[8] *Id.*

requested in OIEC 4-1."[9] While data request OIEC 4-1 sought "the specific role that judgment and experience played in the development of both life and net salvage values for each account … in sufficient detail so as to clearly identify the role judgment and experience played in the establishment of the final value for each account", Mr. Spanos elected to respond to a follow up data request on the topic by stating the request was "overly broad and general". Mr. Spanos then chose to provide nothing.[10] The "overly broad and general" comments were made in the response to the data request, not in a timely objection to the data request.

Q. DOES PART II OF THE 2012 STUDY ACTUALLY EXPLAIN AND PROVIDE THE BASIS FOR VARIOUS PROPOSALS?

A. No. For example, a review of the Company's filing in this proceeding fails to identify a single narrative statement that identifies the significant and unusual Company request to establish production net salvage revenue requirements based on an illogical inflation based procedure. The failure to provide any narrative reference to such action is significant given that the Company previously attempted to implement the same inflation procedure in Cause Nos. PUD 200800144 and PUD 201000050 as part of its net salvage request for production plant. In those proceedings, I submitted testimony addressing the fallacies associated with inflation escalation of the S&L demolition cost estimates into the future to the expected time of plant retirement. The Commission adopted my testimony and depreciation rates, which specifically reversed the Company's inappropriate calculation of net salvage. In this case, the Company attempts to reverse the Commission's decision in Cause Nos. PUD 200800144 and PUD 201000050 by again attempting to escalate 2012 demolition costs as far as 44 years into the future. Adoption of this hidden proposal would result in current customers paying with their current dollar for significantly inflated future cost estimates.

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[9] Response to OIEC 17-10.
[10] *Id.*

Given the magnitude of the Company's proposal (approximately $80 million over the life of the various generating facilities), one would expect that there might be some specific reference in testimony identifying the basis for the Company's request to overturn the Commission's prior position. However, as noted on page 14 of Mr. Spanos' direct testimony, he simply states that a dismantlement component has been included in the net salvage percentage for steam and other production facilities. Then, in response to discovery seeking an explanation of the dismantlement components included in the depreciation study, reference is only made to studies of other electric utilities, the cost estimates of PSO, and reference that the dismantlement costs are best calculated by dividing the dismantlement cost by plant at final retirement. From just these statements, it would be <u>impossible</u> to realize that the Company had escalated the dismantlement costs developed by S&L for many decades into the future at an annual escalation rate of 2.5%.

Even when one reviews pages III-157 and 158 of the 2012 Study, as referenced by Mr. Spanos in his testimony, for the detailed calculations of production plant net salvage, there is still no reference to the unusual actions of escalating costs into the future without discounting such costs back to the present day value. It is only when workpapers obtained in discovery are reviewed that one can possibly recognize that there is a single column identified as "Escalated Decommissioning Cost".[11] In other words, even in its workpapers, the Company did not identify specifically what was being presented other than in the heading of one particular column, which might give insight that something unusual is transpiring. Given that the Company's escalation process increases demolition cost estimates by approximately $80 million, one would normally expect a detailed narrative identifying the practice proposed by the Company as well as the underlying support for such position. This is especially true if one considers the fact that the Company's proposal is contrary to the precedent set by the Commission in the Company's last litigated rate proceedings. Yet the Company has in effect buried or hidden this unusual request such that even an experienced analyst might not find it in review of the data provided.

[11] Response to OIEC 5-12 Attachment.

Q. ARE THERE OTHER EXAMPLES OF THE COMPANY NOT PROVIDING INFORMATION OR WORKPAPERS?

A. Yes, many. For example, S&L chose to destroy (i.e., not retain) site visit notes.[12] This decision to destroy information was made in spite of statements that the notes were associated with a kickoff meeting with representatives of PSO in order to determine the scope of work and assumptions.[13]

Q. WHAT DO YOU RECOMMEND REGARDING THE CONCERNS THAT YOU ADDRESS?

A. The Company's decision to be less than forthcoming in defense of its various depreciation parameters should not be rewarded. Given the particular circumstances for this Company at this time, in part the imminent filing of another rate case in 2015, the most appropriate response to this situation is to adopt my threshold recommendation. My threshold recommendation is to retain the existing depreciation rates and order the Company to fully explain and justify, on an account-by-account basis, its depreciation life and net salvage proposals in its next rate case. The Company should also be ordered to retain and provide all workpapers associated with its depreciation request. It is only when the Company makes a fair and reasonable presentation of its depreciation request, that intervenors and the Commission can review the request during the limited time available and develop the most appropriate record for ultimate determination by the Commission.

In the event the Commission decides it will review the Company's request as presented in this case, then my alternative recommendation should be adopted. My alternative recommendation addresses many of the problems that can be identified, for all but the distribution plant function where the Company proposes a substantial increase in depreciation expense. While additional adjustments may be warranted had the Company

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[12] Response to OIEC 5-3.

[13] Mr. Bertheau's direct testimony at page 8.

presented more meaningful information, the adoption of the various adjustments I recommend will yield a more appropriate and reasonable depreciation expense than would the adoption of the Company's unsupported and aggressive proposals.

SECTION III: DEPRECIATION

Q. WHAT IS DEPRECIATION?

A. There are two commonly cited definitions of depreciation. The first comes from the Federal Energy Regulatory Commission ("FERC"):[14]

> '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 electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities.

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.

[14] Title 18 of the Code of Federal Regulations ("CFR") Part 101, 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:[15]

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

The remaining life technique is as follows:

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

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.

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

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 techniques 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 entire life of the investment. Therefore, as time passes, the remaining life technique attempts to recover the remaining unrecovered balance over the remaining life or other period of time. Most utilities rely on a remaining life technique in utility rate matters.

Q. DO THE METHODS, PROCEDURES, AND TECHNIQUES INTERACT WITH ONE 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. 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 less net salvage. Therefore, if net salvage is a positive 10%, then the utility should recover only 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 of the property's life will still leave the utility whole (110% - 10% = 100%).

SECTION IV: PRODUCTION NET SALVAGE

A. General

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

A. This portion of my testimony addresses the Company's request for $204 million dollars of negative net salvage for its various generating facilities based on plant as of December

31, 2012. This amount corresponds to a -15% net salvage for steam production and a -18% net salvage for other production.[16]

Q. HOW DID THE COMPANY ARRIVE AT ITS PROPOSED LEVELS OF NEGATIVE NET SALVAGE?

A. The Company first employed S&L to update prior demolition cost studies performed initially for its 2008 rate proceeding. The Company then employed Mr. Spanos to take S&L values and escalate them for as many as 44 years into the future to arrive at a terminal net salvage estimate by generating facility. Mr. Spanos did not discount the amounts back to the present. Mr. Spanos then segregated the investment in generating facilities between his estimate of final termination dollars and interim retirement dollars. Mr. Spanos applied the inflated S&L values to the terminal dollars of plant and estimated a separate negative net percentage for interim retirement. The combined weighted negative net salvage values for each production facility was then applied to plant balances as of December 31, 2012 as part of the overall depreciation calculation.

Q. BASED ON YOUR REVIEW, IS ANY PORTION OF THE COMPANY'S PRESENTATION REASONABLE AND APPROPRIATE?

A. No. The S&L study not only represents the worst case scenario for the final termination of a power plant, but also reflects excessive cost estimates in performing such worst case scenario. Next, Mr. Spanos' escalation of S&L values into the future without discounting such values back to the present creates an even more excessive and inappropriate level of negative net salvage applicable to generating facilities. Mr. Spanos also failed to take into consideration any alternatives to the final dismantlement or "greenfielding" of each generating facility, thus performing an incomplete net salvage analysis for production facilities. Finally, Mr. Spanos proposes excessive levels of interim net salvage and applies such excessive levels to artificially high amounts of projected interim retirements. In short, the Company has presented a severely skewed and flawed analysis without any realistic or reasonable support for its various proposals.

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[16] Exhibit PSO_(JJS-2) pages 47 through 50 of 353.

Q. HAS THE COMPANY FURTHER DISTORTED ITS PRESENTATION FOR PRODUCTION NET SALVAGE IN COMPARISON TO PRIOR CASES?

A. Yes. A significant cost reflected in the prior S&L studies was that associated with the retirement of ash and retention ponds.[17] However, in this proceeding, the Company removes those amounts from the dismantlement cost estimates and the depreciation calculation. The Company transfers such amounts to Asset Retirement Obligations and incorporated those amounts elsewhere in the Company's revenue requirements. Thus, while it may appear the Company presents a more balanced net salvage request for production plant in this proceeding compared to prior proceedings, it does so only by transferring substantial amounts of demolition costs previously captured in the S&L demolition studies to other portions of the cost of service.

B. Sargent & Lundy Demolition Cost Estimates

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

A. This portion of my testimony addresses the fact that the Company submits updates of the prior S&L demolition cost studies in support of its request to overturn the Commission's prior decision in Cause Nos. PUD 200800144 and PUD 201000050.[18] The Commission denied the Company's request for production plant net salvage in the 2008 case and the Company agreed to that position in a settlement of the 2010 case. I will address the result of my current review.

Q. BASED ON YOUR INVESTIGATION, WHAT WERE, AND STILL ARE, THE KEY PROBLEMS WITH THE S&L COST STUDIES?

A. First, the S&L cost studies represent an incomplete analysis of the various retirement scenarios that can transpire once a generating unit is to be retired in the future. Given that S&L destroyed their site visit notes, it is not known if PSO ordered S&L to only assume

[17] Mr. Bertheau's testimony at page 11.
[18] Mr. Bertheau's testimony at page 8. It should be noted that the Company agreed in settlement to the Commission's precedent on this matter in Cause No. PUD 201000050.

total demolition with greenfielding of each generating station or that S&L failed to investigate alternatives on its own. The S&L studies and the Company's overall presentation represent a worst-case scenario of the alternatives available associated with ultimate retirement of a generating plant. The S&L studies reflect complete demolition and site restoration. These studies further assume no offsetting sale or reuse value for the site, while they include substantial costs associated with improving the site for future reuse or sale. The S&L studies also assume that there will be no value other than scrap metal value for any of the equipment or facilities at any of the sites. In other words, while normal ratemaking practices assume the adoption of reasonable and necessary costs, the Company has not established that its singular approach to production plant net salvage represents either reasonable costs or even necessary costs. S&L further failed to provide information and support for many critical components of its cost estimate.

Q. WHAT ARE SOME OF THE OTHER ALTERNATIVES TO THE ULTIMATE RETIREMENT OF GENERATING PLANTS OTHER THAN THE SINGULAR APPROACH PROPOSED BY THE COMPANY?

A. There are several additional alternatives that the Company has failed to analyze or propose. Such alternatives range from partial demolition, to recognition of the sale of portions of the facilities at something other than scrap value, to no demolition whatsoever and sale of the facilities in total (a process that has occurred over a thousand times for generating units in the United States during the past 15 years). Any of the alternatives or combinations of the alternatives would result in a less negative level of net salvage being proposed and possibly even positive levels of net salvage.[19] This situation is further highlighted by the Company's admission that the full greenfield demolition assumption is "most likely", rather than it is the only alternative.[20]

[19] A demolition contractor actually paid a Florida utility $1 million to demolish a power plant. That situation included the removal of asbestos.
[20] Response to OIEC 4-24.

Q. TURNING TO THE COMPANY'S SINGULAR APPROACH TO PRODUCTION PLANT NET SALVAGE, IS THE S&L PRESENTATION A REASONABLE COST APPROACH?

A. No. The S&L studies represent a worst-case approach to the worst-case scenario. It would be hard to imagine a higher cost approach than what is being presented by the Company through the S&L studies, with the exception of S&L's prior cost estimates that assumed brick by brick demolition of the chimneys at power plants.

Q. WHY DO YOU CLAIM THAT THE S&L STUDIES REPRESENT A WORST-CASE APPROACH TO THE COST OF DEMOLITION OF A POWER PLANT?

A. The S&L approach is what has been labeled in the industry as a "brick-by-brick" or "reverse engineering" approach to demolition of power plants. This approach represents the most costly and inefficient manner for the destruction and removal of generating facilities. While S&L claims it no longer relies on the reverse engineering approach for the demolition of chimneys, it still fails to correct its cost estimating problems for the demolition of other facilities.

Q. WHY DO YOU BELIEVE S&L CLAIMS IT HAS CHANGED IT DEMOLITION COST ESTIMATE PROCESS FOR THE DEMOLITION OF CHIMNEYS?

A. In prior cases, S&L also proposed a brick-by-brick removal process of chimneys from the top down. Based on my testimony in prior PSO proceedings, I demonstrated that actual demolition contractors were using implosive techniques to topple 500 and 600 foot tall chimneys in a matter of seconds. Undoubtedly faced with the obvious (i.e., that much more efficient and safe practices not only are available but are actually being employed), S&L could no longer artificially inflate demolition cost estimates based on such inappropriate assumption.

Q. DOES MR. BERTHEAU CLAIM THAT THE DEMOLITION TECHNIQUES AND CREW MIXES ASSUMED IN THE S&L COST ESTIMATES ARE EFFICIENT AND COST EFFECTIVE?

A. Yes. Mr. Bertheau states so at the bottom of page 14 of his direct testimony, yet neither Mr. Bertheau nor the Company provided any evidence to substantiate such claim, either in this proceeding or in Cause Nos. PUD 200800144 and PUD 201000050. It is important to note that Mr. Bertheau made the same claim in prior proceedings.[21] However, in this proceeding, Mr. Bertheau now admits that his new estimate employs an "alternate chimney/stack demolition techniques".[22] It is impossible to reconcile Mr. Bertheau's unsubstantiated claim that his proposed demolition techniques are always efficient and cost effective when he admits that he had to adopt a more efficient and cost effective approach to the demolition of chimneys when faced with substantial evidence that other actual demolition projects use such effective demolition techniques.

Q. DOES S&L DEMOLISH NUMEROUS POWER PLANTS IN ORDER TO GAIN ITS EXPERIENCE?

A. No. While S&L prepares numerous demolition <u>cost estimates</u> and has been in business for a long period of time, it is not in the business of actually dismantling power plants. Mr. Bertheau states that "S&L's experience with demolishing parts of existing facilities to modify plant configurations for accommodating new equipment also provides a basis for the estimating procedures used to prepare the demolition cost estimate studies for PSO."[23] In addition, Mr. Bertheau admits that the "assumptions used to prepare these estimates were consistent with prudent industry practices and previous S&L demolition estimates."[24] These two statements further highlight the problems with the S&L cost estimates.

Q. PLEASE EXPLAIN HOW THESE STATEMENTS HIGHLIGHT THE PROBLEMS WITH THE S&L COST ESTIMATES.

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[21] For example, at pages 9 and 10 of Mr. Bertheau's direct testimony in Cause No. PUD 200800144, he made the identical claim.
[22] Mr. Bertheau's direct testimony at page 11.
[23] Direct Testimony of Mr. Bertheau at page 7 in Cause No. PUD 201000050.
[24] *Id.*

A. Mr. Bertheau's first quote references S&L's experience associated with demolishing parts of existing facilities. This type of activity may require more of a brick-by-brick or reverse engineering type approach to demolition activity because of the additional care that must be taken in order not to destroy or interfere with the operation of the remaining ongoing generation process. By analogy, S&L's experience and cost database would be analogous to replacing a piston in a car engine, rather than the cost of sending a car to a junkyard where it would be shredded for scrap metal. The cost of removing various components in the engine compartment of the car that will be reused once the piston is fixed within the engine is, by far, higher than the cost of simply having the car towed to a junkyard or scrap metal dealer for final disposal. The replacement of the piston would require a well-trained mechanic and numerous items of equipment that are not necessary if the car is to be towed to a junkyard or scrap metal dealer.

Q. PLEASE EXPLAIN THE PROBLEM WITH THE S&L STUDIES FROM THE STANDPOINT OF THE SECOND POSITION PRESENTED BY S&L FOR ITS EXPERIENCE.

A. Mr. Bertheau's second position for the validity of S&L's studies is that the assumptions used were consistent with prudent industry practices. This position also ties into the Company's first position of being involved in the replacement type activity at power plants versus total demolition activity. The best manner of demonstrating the fatal flaw associated with the S&L approach is by identifying what happened in an identical situation for Nevada Power Company ("NPC").

NPC retained a major competing engineering firm to S&L to do precisely the same thing that S&L has been requested to do in this proceeding as it pertains to different types of generating facilities owned by that utility. That national engineering firm produced demolition cost estimates also based on a brick-by-brick or reverse engineering approach. The benefit associated with this comparison is the fact that NPC, shortly after receiving and relying on the cost estimates by the competing engineering firm, actually went out for bids and let contracts for the demolition of three generating units. The best way of describing the difference between the engineering cost estimate proposed by the major engineering company and the ultimate demolition cost for the generating units covered by the demolition cost estimate is to quote the words of a manager of plant accounting for NPC in a current rate proceeding. Mr. McElwee of NPC stated the following regarding the relationship between the demolition cost estimates and the bids received for the actual demolition process: "[t]he bids provided to the Company [NPC] reflected much lower costs."[25] Mr. McElwee further stated that the differences between the engineering cost estimates and the bids for actual demolition "decreased the original B&V estimates by approximately 64% for Steam Turbine-Gas units and 60% for Steam Turbine-Coal units."[26] However, the level of error between the original demolition cost estimate and the ultimate cost did not end there. The actual final demolition costs were even lower than the bid costs. NPC finally agreed to, and the Nevada Public Utilities Commission (NPUC) ultimately adopted, a position where the previous reduction of 60% and 64% cost levels associated with the bidding process were further reduced by "approximately 30% for both Steam Turbine-Gas and Steam Turbine-Coal units."[27] In other words, the brick-by-brick demolition cost estimates for gas-fired steam units were reduced by approximately 75% from the original estimate, while the final cost estimates for coal-fired steam units was approximately 28% of the original national engineering firm cost estimate. These differences are dramatic.

Q. HOW COULD DEMOLITION COST ESTIMATES MADE BY A MAJOR NATIONAL ENGINEERING FIRM BE SO FAR OFF IN SUCH A SHORT PERIOD OF TIME?

A. Both the NPSC and NPUC were interested in discovering the cause of the dramatic differences. NPC requested the national engineering firm to explain the reasons for the difference in estimated costs and final costs. The national engineering company responded by stating that

[25] Nevada Public Service Commission Docket No. 10-06003, Direct Testimony of Curtis McElwee at page 9.
[26] *Id.*, at page 10.
[27] *Id.*, at page 12.

> The reasons for the review and estimated differences are due to drastic increases in scrap metal pricing and a <u>change in the contracting strategy</u> for the project since the development of the B&V 2005 estimate. These changes <u>resulted in significantly lower final cost</u> to the demolition project. The high escalation of metal pricing from the time the earlier estimate was performed resulted in significant higher scrap prices being received by the contractor performing the demolition. The <u>contractor also used a different methodology in performing the work</u> than was used in doing the B&V estimate. <u>Instead of using a stick-by-stick removal process</u> including allowance for asbestos removal, the <u>contractor removed most of the plant using explosives and quick removal</u>.[28] (*Emphasis added.*)

In other words, just like S&L, the cost estimator for NPC relied on a "stick-by-stick removal process," while the demolition contractor "removed most of the plant using explosives and quick removal" techniques.

At this point, it is worth recalling that in Cause No. PUD 200800144, I pointed out that S&L had included $2 million for the brick-by-brick destruction of a 600-foot chimney for PSO.[29] In that proceeding, I provided a video exhibit that demonstrated the rapid destruction of similar tall chimneys through explosive techniques.[30] It is this type of stark difference between the S&L approach and what a demolition contract can do that must be recognized for ratemaking purposes.

Q. HAS MR. BERTHEAU STATED THAT HIS REVERSE ENGINEERING OR BRICK-BY-BRICK DEMOLITION TECHNIQUES ARE "TYPICAL COMMON

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[28] *Id.*, Exhibit Lescenski-Depreciation-Direct-3, at page 41 Addendum 1.
[29] Mr. Pous' testimony in Cause No. PUD 200800144 at pages 9-10.
[30] *Id.*, at Schedule (JP-2), a CD.

TECHNIQUES WHICH ARE USED IN THE INDUSTRY BASED ON S&L'S 120-PLUS YEARS OF EXPERIENCE?"[31]

A. Yes. However, such statement is made in the context of S&L's experience associated with partial removal of equipment at generating facilities where modifications of plant configurations were at issue, not total demolition. Mr. Bertheau's statement must be viewed from the analogy previously noted between the car mechanic and the tow truck driver, as well as the assumptions used by the national engineering firm employed by NPC versus the actual practice of the demolition contractor.

Q. ARE THERE OTHER MAJOR PROBLEMS ASSOCIATED WITH THE S&L COST STUDIES?

A. Yes. For example, S&L fails to recognize valuable assets when a power plant is retired. In particular, Mr. Bertheau's studies do not recognize any offsetting gain associated with the value of the improved site due to site restoration efforts, fail to recognize the value of water rights, fail to recognize the value of any usable equipment other than for scrap value, but incorporates a 15% contingency factor to further allow the Company to overcollect for any component of future cost that it could not reasonably identify.

Q. IS IT APPROPRIATE TO DENY CURRENT CUSTOMERS THE OFFSETTING EXPECTED VALUE OF AN IMPROVED POWER PLANT SITE?

A. No. Indeed, Mr. Bertheau states that since "the number of good generating station sites in the nation is limited, it is likely that after the retirement of the units, future generating stations would be located at these sites. Reuse of these locations would require removal of any previous structures."[32] (Emphasis added.) In other words, Mr. Bertheau recognizes the value of the Company's generating sites for future use, but fails to provide any value to current customers who have paid for not only the site in the first place, but are being charged for improving the site for the use by a future owner or future customers. Indeed, in order to better prepare the site for future use, S&L assumes that all structures two feet

[31] Direct Testimony of Mr. Bertheau at page 10 in Cause No. PUD 201000050.
[32] Mr. Bertheau's direct testimony at page 7.

below grade must be removed and that site grading, seeding and mulching must also occur. In other words, significant portions of the demolition cost estimate are associated with site restoration that have not been shown to be a required activity, as they are not. These assumptions by S&L are the equivalent of already building in a substantial level of contingency into the overall cost estimates.

Q. DOES S&L'S FAILURE TO INCORPORATE VALUE FOR USABLE ASSETS FURTHER REFLECT A SIGNIFICANT OVERESTIMATION AND PROXY CONTINGENCY FACTOR IN ITS COST ESTIMATES?

A. Yes. While the value of water rights is obvious,[33] S&L's failure to recognize value for usable equipment that should be able to be sold for something other than scrap value is more subtle. Indeed, Mr. Bertheau speculates that, due to potential uncertainty in the future, it is reasonable to assume that such uncertainty will minimize the usefulness of assets at power plants.[34]

Q. DID MR. BERTHEAU SUBSTANTIATE HIS CONCLUSION REGARDING THE MINIMALIZATION OF USEFUL VALUE OF INVESTMENTS AT THE END OF A POWER PLANT'S LIFE?

A. No. While Mr. Bertheau admits that after markets sometimes exist for power plant equipment and speculates that often owners decide to let facilities run to their end of life with minimal maintenance expenditures, which will result in degradation of old equipment, he fails to provide any substantiation that such situation applies to the Company, as indeed it does not.

Q. WHY DOES MR. BERTHEAU'S ASSUMED SITUATION NOT APPLY TO PSO?

A. As discussed later, Mr. Spanos proposes a substantial increase in interim retirements. Interim retirements represent the early retirement of worn and used equipment that is no

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[33] While the response to OIEC 4-25 attempts to generally downplay the value of water rights, it does so in part by assuming a degradation of the right over time. It would be expected that timely transactions would eliminate such concerns.

[34] Mr. Bertheau's direct testimony at page 13.

longer functional. Given that Mr. Spanos has estimated hundreds of millions of dollars of future interim retirements for the Company's various generating facilities, it is inconceivable that none of the equipment will have value other than scrap value.[35] Indeed, given operational considerations, it is more than realistic to expect a large number of relatively new motors and pumps being installed in power plants, even though the retirement date for such power plants may be in a relatively short period in the future. It is simply unreasonable to rely on the unsupported assumptions presented by S&L in its demolition studies, especially when one considers that S&L has also included a 15% contingency to further protect the Company from any miscalculations that S&L might reflect in its studies.

Q. HAS S&L SUBSTANTIATED OR DEMONSTRATED THE VALIDITY OF ITS ANALYSIS AND RESULTS?

A. No. For example, a critical component of the demolition cost estimate is the crew mix assumed to perform the various activities. When requested to provide and substantiate the assumed crew mix, S&L claimed confidentiality and refused to provide such information.[36] Further, when requested to provide support for the productivity factors, the Company simply referred to a handbook that, when reviewed, does not provide support and justification for any value assumed and presented by S&L.[37] As previously noted, even when requested to provide its site visit notes, S&L responded by stating it did not retain such information and in fact destroyed documents that underlie its analysis.[38] This is significant given that Mr. Bertheau touts the fact that he talked with plant personnel who answered his questions and presented him with additional information during his site visits.[39]

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[35] Response to OIEC 17-12 identifies that the Company's position is at best based on unsupported and illogical speculation.
[36] OIEC 4-15.
[37] Response to OIEC 4-13.
[38] Response to OIEC 5-3.
[39] Mr. Bertheau's direct testimony at page 9.

Q. WHAT DO YOU CONCLUDE FROM YOUR VARIOUS OBSERVATIONS OF THE S&L STUDIES?

A. I conclude that S&L continues its practice of presenting worst case scenarios for the costs associated with the ultimate retirement of power plants. S&L is not a demolition contractor and has not performed a complete demolition of a power plant. S&L has chosen not to justify or substantiate critical components of its demolition studies. S&L admits that its studies do not include offsetting value for plant sites while including costs associated with improving plant sites for ultimate use in the future by new owners or by future customers. S&L also admits that it assumes the worst case scenario for equipment value at the time of retirement, and assumes scrap value for only some materials and ignores scrap value for other materials.[40] S&L ignores the fact that Mr. Spanos includes substantial interim retirement dollars associated with replacement of plant during the next 10, 20, and 30 years of operation, thus resulting in some portion of the equipment being usable with potential resale value at values much greater than scrap value. I conclude that it is simply unreasonable to adopt the S&L studies as proposed.

Q. WHAT DO YOU RECOMMEND?

A. While the Commission would be well within its rights to set a zero level for demolition costs given the Company's failure to substantiate its request, I recommend a more conservative approach. First and foremost, I recommend that it is inappropriate to allow any positive level of contingency to be added to an already high side cost estimate. If any contingency is to be recognized, it should be a negative contingency to offset the unrealistic and inappropriate high cost assumptions reflected in the S&L study. Second, I recommend that the cost of covering items such as "civil works" at plants with two feet of top soil, seeding and mulching of the site, and excavation burrowing activities be removed from the cost estimate. The removal of such amounts would at a minimum be consistent with the Company's decision to withhold offsetting value associated with the greenfielded site. This recommendation would result in current customers not being

[40] Response to OIEC 5-8.

required to pay for improvements to be utilized by future customers or by a future owner of the site.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a reduction to depreciation expense of $2,478,618 based on plant as of December 31, 2012.

C. Inflation Cost Estimates to the Price Level at the Time of Demolition

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

A. This portion of my testimony addresses the Company's unusual production net salvage request as it pertains to inflating current costs far into the future and requesting current customers to pay with their current dollars for such inflated amounts. In other words, I address Mr. Spanos' action of inflating S&L's already high demolition cost estimates for as far as 44 years into the future without discounting such amounts back to the present.

Q. DOES THE COMPANY'S PROPOSAL FOR PRODUCTION PLANT NET SALVAGE INCLUDE SPECIFIC INCREMENTAL ADJUSTMENTS TO REFLECT INFLATION?

A. Yes. Mr. Spanos takes the S&L demolition cost estimates and escalates the estimates at an assumed inflation rate of 2.5% per year until the time of the estimated retirement of each generating plant.[41] In other words, Mr. Spanos takes S&L's terminal net salvage estimate at a 2012 price level of $59,020,472 and more than <u>doubles</u> that amount to $141 million to reflect his estimate of escalation of costs into the future.

Q. IS THIS THE SAME APPROACH EMPLOYED BY THE COMPANY IN CAUSE NOS. PUD 200800144 AND PUD 201000050?

A. Yes. The only change in this case is the level of assumed future inflation and the number of years until final retirement of generating units. In Cause No. PUD 200800144, the

[41] Response to OIEC 5-12 Attachment 1.

Company proposed a 4% annual level of inflation. In Cause No. PUD 201000050, the Company lowered its proposed level of inflation to 2.4%.[42] The Company now wants to increase its proposed level of inflation to 2.5%.

Q. IS THERE A SIGNIFICANT DIFFERENCE IN FUTURE ESCALATED DECOMMISSIONING COST BASED ON A 4% ANNUAL INFLATION FACTOR VERSUS THE COMPANY'S CURRENT PROPOSAL FOR A 2.5%?

A. Yes. For example, the Company escalates the $21 million S&L current estimate for the dismantlement of the Riverside generating plant Units 3 & 4 through the year 2056. By employing a 2.5% annual escalation factor, the Company arrives at a $62.2 million value. However, had it used the previous 4% inflation factor it proposed in Cause No. PUD 200800144, that amount would have increased to $117.9 million.[43] Such dramatic difference based on ever-changing assumed inflation rates is one of the reasons it is inappropriate to even incorporate future inflation into the current calculation process as the Company proposes.

Q. WOULD THE COMPANY'S INFLATION PROCESS PROPOSED IN CAUSE NO. PUD 200800144 HAVE PRODUCED REASONABLE RESULTS IN THE SHORT-TERM HAD IT BEEN ADOPTED?

A. No. Relying on the Company's previously proposed 4% annual level of inflation for the five and a half year period between mid-2008 through the end of 2013 would result in a 24.1% assumed level of inflation. However, when actual inflation, as measured by the Bureau of Labor Statistics for the Midwest Region corresponding to the same five and a half year period is identified, one finds that inflation only increased by 5.9%. That means the actual increase in inflation was less than 25% of the level proposed by the Company.[44]

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[42] Mr. Spanos' depreciation workpapers for production net salvage, reflecting the Excel worksheets "Terminal at 2008" and "Terminal Amts Retirement."

[43] $20.994 X (1.025^44).

[44] Bureau of Labor Statistics CPI Regional Table 11.

Q. IN EITHER CAUSE NOS. PUD 200800144 OR PUD 201000050, DID THE COMMISSION ADOPT THE COMPANY'S PROPOSED INFLATION CONCEPT AS IT APPLIES TO THE ESTABLISHMENT OF APPROPRIATE REVENUE REQUIREMENTS?

A. No. The Commission did not adopt the Company's proposal in either proceeding.

Q. DOES THE COMPANY RAISE ANY CHANGED CIRCUMSTANCES OR NEW INFORMATION FOR THE COMMISSION TO CONSIDER AS TO WHY IT SHOULD REVERSE ITS PRIOR RULINGS?

A. No. In fact, the Company has taken the unusual position of failing to provide one word of narrative substance in the 2012 Study or in Mr. Spanos' testimony regarding this issue. The Company failed to even identify in its filing that it has performed a calculation procedure identical to what the Commission has previously rejected. Indeed, only through discovery and review of one column in one electronic worksheet can one find the calculation, but still without narrative justification for such request.

Q. IS THERE ANY LOGICAL BASIS FOR ADOPTING THE COMPANY'S HIDDEN REQUEST FOR INCLUSION OF FUTURE INFLATION IN THE CALCULATION OF DEMOLITION COST ESTIMATES?

A. No. It is patently inappropriate to request that current customers pay with their current dollars for a future inflated cost.[45] While there may be some merit to a calculation that escalates cost into the future and then discounts its cost back to the present, that is not what the Company proposes. Moreover, even the practice of inflating and then discounting is, in reality, an inefficient process for depreciation as inflation as well as other changes that transpire in the future can and should be captured in subsequent depreciation studies. Finally, I would submit that if the Commission is inclined to consider a practice of allowing inflation and then discounting such inflated amounts back

[45] In response to OIEC 17-20, Mr. Spanos attempts to justify such approach by attempting to tie it to the concept of straight line depreciation. This claim is without merit, and the reliance on such position is not even utilized by Mr. Spanos or his firm in other depreciation studies.

to the present, it should use the Company's weighted cost of capital as a realistic discount rate.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION TO ELIMINATE INFLATION CALCULATIONS IN PRODUCTION NET SALVAGE QUANTIFICATION?

A. The elimination of inflation in establishing the production plant net salvage request results in a $2,895,097 reduction in annual depreciation expense based on plant as of December 31, 2012.

D. Interim Net Salvage

Q. WHAT ISSUE DO YOU ADDRESS IN THIS PORTION OF YOUR TESTIMONY?

A. I address the Company's excessive request for interim net salvage. Interim net salvage represents the salvage percentage applied to the level of interim retirements assumed in the depreciation analyses.

Q. WHAT DOES THE COMPANY PROPOSE FOR INTERIM NET SALVAGE?

A. The Company proposes a -20% interim net salvage level for steam production investment, and a -5% net salvage for other production investment.[46]

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

A. As with most other areas of the Company's depreciation study, the Company presents very little in support of its position. Mr. Spanos claims that he relied on analysis of historical interim retirements and net salvage data, but also relied on "informed judgment."[47] As previously noted, Mr. Spanos claims that he cannot reduce his informed

[46] 2012 Study at pages III-158.
[47] Exhibit PSO_(JJS-2) page 39 of 353.

judgment in any manner to writing, and thus has chosen to provide nothing in support of his informed judgment other than historical data.

Q. DID YOU REVIEW THE COMPANY'S HISTORICAL DATA FOR NET SALVAGE?

A. Yes. First, it must be noted that the Company's production related historical data is limited to 10 years without any indication of the type of retirement activity reflected therein. For plant other than production plant, Mr. Spanos relied on 28 years of data. If anything, it would appear that Mr. Spanos selected time frames are backwards. Mass property accounts are normally more homogeneous than production accounts, and therefore one could rely on a shorter historical database. In other words, there may have been significant complex replacement projects or unusually costly replacement projects for production plant during the limited 10-year period that are not indicative of what may transpire in the future. Indeed, there may be high levels of cost of removal associated with replacement of facilities due to recent heightened environmental related retirements that may not reoccur in the same manner, if at all, in the future.

Moreover, even a cursory review of the database Mr. Spanos relied on identifies unusual retirement activity. An example of such unusual activity is the recorded values in 2011 for Accounts 314 – Turbo Generator Units. The Company reported a -189% net salvage for the retirements during that year. It booked over $5 million of cost of removal in that year, which represented 40% of the entire cost of removal experienced during the most recent 10-year period.[48] Blind reliance on unusual values and databases without investigation as to their reasonable predictive capability for the future can, and often does, result in inappropriate values. In addition, it must be noted that the Company's historical data also includes numerous negative gross salvage amounts. Negative gross salvage amounts are theoretically impossible when accurate and timely accounting is practiced.

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[48] Exhibit PSO_(JJS-2) page 205 of 353.

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

A. No. The Company's proposals appear to be excessive and are unsubstantiated. I recommend a -10% net salvage for steam production investment and a zero level of net salvage for other production plant.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. A review of the Company's data identifies Account 312 – Boiler Plant Equipment as being the largest dollar account. The Company's most recent data for this account indicates a downward trend in negative net salvage from that incurred historically.[49] Indeed, over the past two years, the Company experienced a -9% net salvage and over the last three years has experienced a -12% net salvage. Therefore, relying on the trend in the data and more recent occurrences indicate a -10% net salvage would be realistic and appropriate. Turning to the second largest account, that being Account 314 – Turbogenerator Equipment, the data is less conclusive. As previously noted, the 2011 data includes an outlier indicating a -189% net salvage.[50] Excluding the outlier, the other values generally range between approximately a -4% and a -30%, with the two years with the largest retirement activity indicating an average of approximately a -7% or -8%. Given the unstable historical data for Account 314 and the downward trend in Account 312, both accounts representing over 80% of the investment in steam production plant, would justify nothing in excess of a -10% net salvage for steam production.

Other production plant shows sporadic retirement activity with limited materiality of retirements to the overall plant balances. Indeed, even the Company did not identify any retirement activity for Account 342 – Fuel Holders, Producers and Accessories, which is one of the three largest accounts in other production.[51] The sporadic nature and limited materiality associated with historical data limits its use for predicting future expectations.

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[49] Exhibit PSO_(JJS-2) page 203 of 353.
[50] Exhibit PSO_(JJS-2) page 205 of 353.
[51] Exhibit PSO_(JJS-2) pages 208 and 209 of 353.

Due to the type of investment and the limited retirement data often associated with other production plant, many utilities propose a zero level of interim and/or final net salvage for the investment in this area. Indeed, Mr. Spanos is aware of this situation given that his firm often recommends a zero level of net salvage for other production plant.[52]

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $1,275,753 reduction in annual depreciation expense based on plant as of December 31, 2012.

SECTION V: INTERIM RETIREMENTS

Q. WHAT ISSUE DO YOU ADDRESS IN THIS PORTION OF YOUR TESTIMONY?

A. I address the excessive results of the Company's new proposed method of calculating interim retirements in establishing production plant depreciation rates.

Q. WHAT ARE INTERIM RETIREMENTS?

A. Interim retirements are normally considered a fine-tuning mechanism to the life span method. However, the manner in which the Company now proposes to employ the calculation of interim retirements changes the normal character of interim retirements to that of a major impact on remaining lives. The underlying premise of interim retirements is to capture some impact in the depreciation calculation process to reflect that certain items of plant will not last to the final retirement date of a generating station and must be replaced in order for the unit to continue operating. By analogy, if a building is estimated to have a 60-year life span, portions of the building such as the roof and air conditioning system must be replaced several times during that 60-year span. However, the replacement of roofs and air conditioning systems are not expected to be substantial

[52] Response to OCS 1.3 in Rocky Mountain Power Company case in Docket No. 13-05-002 before the Utah Public Service Commission.

portions of the investment associated with the entire building. In summary, the dollar weighted life of the shorter lived assets such as roofs and air conditioning systems, when combined with the 60-year life span of the overall structure, might result in a 55-year average service life.

Q. IS THE COMPANY'S INTERIM RETIREMENT PRESENTATION IN THIS PROCEEDING SIGNIFICANTLY DIFFERENT FROM THE COMPANY'S PRESENTATION IN PRIOR PROCEEDINGS?

A. Yes. The Company employs a new depreciation witness who, for the first time for this Company, proposes to utilize an actuarial approach for the calculation of interim retirements.

Q. WHAT IS THE EFFECT OF THE COMPANY'S PROPOSED NEW INTERIM RETIREMENT CALCULATION PROCESS?

A. In the last case, the Company proposed approximately $160 million of interim retirements for production plant. That amount represented approximately 13% of the production investment. Now, in this case, based on its new methodology, the Company proposes approximately $350 million of interim retirements, or approximately 26% of the investment in production plant. In other words, in the intervening three-year period between depreciation studies, the Company has doubled its proposed level of interim retirements. This proposed doubling of estimated future interim retirements is attributable to the Company's new method of calculating interim retirements.

Q. WHY HAS THE COMPANY PROPOSED A NEW METHOD?

A. The Company's deprecation witness believes that this method is more precise than the historic method employed by the Company and the method I recommend in this proceeding.

Q. DO YOU AGREE WITH THE COMPANY WITNESS' CHARACTERIZATION OF THE TWO METHODS?

A. No. In fact, while both methods have been accepted by different regulators, when this precise issue was recently contested before the Florida Public Service Commission, the Florida Commission adopted my method for calculating interim retirements over the new method proposed by the Company's witness in this proceeding.

Q. DOES THE COMPANY'S NEW METHOD REPRESENT THE ESTABLISHMENT OF A DISTINCT AND MORE PRECISE RETIREMENT DISPERSION THAT MATCHES THE TYPE OF PROPERTY AT ISSUE?

A. No. While the Company's depreciation witness has previously made such claim, it is incorrect, and can be demonstrated in this proceeding.

Q. HOW DOES THE COMPANY'S DATA REFUTE MR. SPANOS' CLAIM THAT HIS PROPOSED NEW METHOD ESTABLISHES A DISTINCT RETIREMENT DISPERSION THAT MATCHES THE TYPE OF PROPERTY AT ISSUE?

A. The Company's method relies on actuarial analysis. The results of an actuarial analysis are an observed life table ("OLT"). The OLT represents the historic pattern of retirement activity exhibited by assets analyzed. Mr. Spanos' position is that the OLT that he derived is of such a distinct character that a standardized Iowa Survivor curve can easily be matched to such results. However, due to the lack of homogeneity in the assets being analyzed for production plant, matching of the OLTs to standardized Iowa Survivor curves can often produce significant variances in interpretation in the curve-fitting process.[53] Indeed, often the same analyst can interpret the results in the curve-fitting process such that ASLs can vary by 10 or 20 years, or more. For example, Mr. Spanos' workpapers present values ranging from 90 to 110 years for ASLs he has attempted to identify based on the OLT for Account 311 – Structures &Improvements. Moreover, Mr. Spanos identified a dispersion pattern ranging from an S0 to an R1.5 as being possible

[53] One of the underlying principles for actuarial analysis is the need for as much homogeneality in the data as possible. For example, if the mortality characteristics for horses and dogs were blended together and analyzed through actuarial analysis, an OLT would be derived. However, it would be difficult to match a standardized Iowa Curve to such data given that the Iowa curves were predicated on analysis of generally similar assets.

fits to the data.[54] In other words, Mr. Spanos' review of the actuarial results produce significant variation and, reviewed by other analysts, would result in further variation of interim retirement curves as proposed by the Company.[55]

Q. ARE THERE OTHER CONCERNS ASSOCIATED WITH THE COMPANY'S PROPOSED NEW METHOD?

A. Yes. In establishing interim retirement life-curve combinations, Mr. Spanos has had to employ extensive levels of what he has identified as informed judgment. In other words, the OLT that resulted from the actuarial analysis was very short or what is called a stub curve. Stub curves often produce very limited credible statistical information. Mr. Spanos had to estimate the vast majority of the expected life-curve combination. However, when questioned to provide specific support for his informed judgment, Mr. Spanos declined to provide even a single item of meaningful information or support for his selection.[56]

Q. IS THERE ANOTHER PROBLEM ASSOCIATED WITH THE COMPANY'S NEW METHODOLOGY FOR ESTIMATING INTERIM RETIREMENTS?

A. Yes. At page 34 of Exhibit_(JJS-2), Mr. Spanos states that interim survivor curves were established for each plant account "inasmuch as the rate of interim retirements differ from account to account." The reason interim retirements differ by account is because of the different types of investment within each account. The best results most often require a database of homogeneous items. In other words, if life insurance actuaries attempted to establish an accurate premium requirement from a population of individuals within the same general location such as the state of Oklahoma, and further segregated the population between men and women, a reasonable life expectancy pattern can be

[54] Response to AG 1.7 workpaper 2012-Curves-Generation.

[55] It must be noted that Mr. Spanos has previously referenced sources, such as the California Public Utilities Commission's Standard Practice U-4 dealing with the topic of depreciation, as supporting his position that the proposed new approach is superior to the existing approved approach. However, the problem with theory and reality of utility operations is that major California utilities uses, and the California Public Utilities Commission adopts, the same method as previously employed by PSO and adopted by this Commission.

[56] Response to OIEC 4-1.

established. However, if the underlying database included all individuals in Oklahoma coupled with people in Vietnam, the results of the actuarial analysis for life expectancy would be skewed and difficult to use. While Mr. Spanos recognizes what he believes to be the need for different interim retirement rates by account, he fails to recognize the underlying premise of actuarial analyses, which requires more reasonable homogeneous investments in order to produce useable and reliable results.

Q. DOES MR. SPANOS SHARE THE SAME CONCERN?

A. No. Mr. Spanos believes that the assets within production accounts are adequately homogeneous in order to allow him to perform actuarial analysis. He has previously referenced the use of dissimilar investments in mass property accounts as a basis for his opinion. However, he has provided no analysis to demonstrate that the level of differential in assets for an account such as Account 364 – Distribution Poles (e.g., potentially different types of wood poles) is of a meaningful nature in comparison to the different assets that can be found in Account 312 – Boiler Plant Equipment (e.g., a motor versus copper tubing).

Q. IS THERE ANY REASON IN THIS PROCEEDING TO CHANGE FROM THE COMPANY'S PRIOR METHOD PREVIOUSLY PROPOSED TO THIS COMMISSION AND ADOPTED BY THIS COMMISSION IN PRIOR CASES FOR THIS COMPANY?

A. No.

Q. WHAT DO YOU RECOMMEND?

A. I recommend retaining the existing method of calculating interim retirements, as previously proposed by the Company and as previously adopted by the Commission. The Company's new proposed method is based on inappropriate analysis procedures for the type of data available. Moreover, the variance developed and proposed by the Company in this proceeding compared to its own analysis in the prior proceeding demonstrates the lack of stability that exists with the new method. Unfortunately, the Company's approach to this lack of stability and results is to more than double the level of projected future of interim retirements between rate cases. When this issue was specifically litigated recently before the Florida Public Service Commission, that regulatory body elected to utilize my methodology and the methodology previously employed by the Company, and denied the method proposed by Mr. Spanos in this proceeding.[57] There is no appropriate reason, even given Mr. Spanos' prior arguments on the topic, to deviate from appropriate past practices by the Company and as adopted by the Commission.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $1,275,753 reduction in annual depreciation expense based on plant as of December 31, 2012.

SECTION VI: MASS PROPERTY LIFE ANALYSIS

A. General

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

A. This portion of my testimony addresses mass property life analyses. The life analysis produces an ASL combined with a dispersion curve, a standardized Iowa Survivor Curve. This information is used to calculate the remaining life of the investment, which is an integral component of the depreciation rate calculation.

Q. BASED ON YOUR REVIEW, ARE YOU RECOMMENDING SPECIFIC ADJUSTMENTS?

A. Yes. I am recommending longer ASLs for seven mass property accounts compared to the Company's proposals as set forth in the table below.

Summary of OIEC's Recommended Mass Property Life Adjustments

[57] Florida Public Service Commission Docket No. 090130-EI, a Florida Power & Light Company case.

Account	PSO Proposed	OIEC Proposed	OIEC Adjustment	Impact
350.1	75R4	100R4	25	$107,317
353	60R1.5	63S0	3	$197,428
355	52S0.5	54S0.5	2	$596,176
356	65R2.5	69R2.5	2	$413,181
391.1	20SQ	25SQ	5	$1,790,479
395	20SQ	25SQ	5	$263,192
397	15SQ	20SQ	5	$485,377
Total				$3,853,150

The combined impact of these seven adjustments is a $3.9 million reduction to depreciation expense based on plant as of December 31, 2012.

Q. WHAT IS THE BASIS FOR YOUR VARIOUS RECOMMENDED ADJUSTMENTS?

A. I have performed an independent review of the actuarially derived life indications. I then reviewed and analyzed all significant or meaningful items of information provided by Company's operation and maintenance personnel. I further relied on additional information obtained either in discovery or from performing hundreds of depreciation analyses relating to United States and Canadian based utilities to develop sound, realistic and representative ASLs and dispersion patterns that best reflect future expectations for the investment in numerous accounts.

Q. WHY DID YOU REVIEW INFORMATION OTHER THAN THE HISTORICAL INDICATIONS OBTAINED FROM ACTUARIAL ANALYSES?

A. Analysis of only historical data might provide insight to what can be expected in the future, but it must be tested to help determine its applicability to the current plant investment. Historical indications, based on review of actuarial results for Account 355 – Transmission Poles & Fixtures, would not be as accurate as could be for the life expectancy of current investment. Utilities throughout the country have in the relatively recent past implemented pole inspection programs, which did not exist several decades in the past. While pole inspection programs often result in an initial wave of early retirements when first implemented, such programs normally identify problems that can be corrected or addressed in a timely manner, thus lengthening the overall service life experienced by poles from that experienced in the past. Failure to recognize the operational change due to pole inspection programs, or other changes in operation or maintenance of the system that are not adequately reflected in the historical data can, and often does, result in less than accurate interpretation of actuarial results. It is this type of analyses that I have performed in the evaluation phase of my depreciation study. This type of more meaningful analyses ensures that the most appropriate life parameters are selected for the plant at issue.

Q. HOW DID THE COMPANY DEVELOP ITS PROPOSED LIFE PARAMETERS FOR TRANSMISSION PLANT ACCOUNTS?

A. The Company proposes a life-curve combination to define the life characteristics of the investment for each transmission plant account. The life portion of the combination establishes the ASL of the investment. The curve portion of the combination establishes an Iowa Survivor curve that identifies a pattern of retirements over a complete life cycle of assets. The Company's 2012 Study identifies what an Iowa Survivor curve is and therefore I will not repeat a similar discussion.

Q. WHAT STATISTICAL LIFE ANALYSIS APPROACH DID THE COMPANY EMPLOY FOR TRANSMISSION PLANT?

A. The Company utilized an actuarial approach for life analysis since it maintains aged data for transmission plant. Aged data simply means that when plant is retired, the year in which it was placed into service is also known.

Q. HOW DID THE COMPANY DEVELOP ITS LIFE-CURVE COMBINATIONS BASED ON AN ACTUARIAL PROCESS?

A. The Company performed a few actuarial analyses. The different actuarial analyses rely on different placement and experience band combinations. Placement bands establish the years of data reflected in the database analyzed, while experience bands identify the time frame over which transactions reflected in the database are reviewed.

Q. WHAT PLACEMENT-EXPERIENCE BAND COMBINATIONS DID THE COMPANY PERFORM?

A. The Company relies on a 1934-2012 placement band.[58] In addition, the Company developed actuarial analyses based on 1935, 1958 and 1988 through 2012 experience bands.[59]

Q. WHAT RESULT IS OBTAINED FROM ACTUARIAL ANALYSES?

A. The results produced by actuarial analyses are identified as an OLT. An OLT simply represents the pattern of actual retirement activity over history, and thus survivors by individual age groups. In other words, at the beginning of the zero (0) age interval, 100% of the investment survives. As additional ages are examined and retirements occur, the OLT declines from 100% surviving towards 0% surviving. If the OLT fully declines to 0% surviving, it is called a complete survivor curve. An OLT that does not decline to 0% surviving is identified as stub curve. If a stub curve is very short (*i.e.*, it does not decline very far from 100% surviving), then limited useful information can be garnered from such analyses. The limited information in such circumstances is normally that a long ASL is indicative if a significant level of years has transpired without significant decline in the OLT.

Q. ONCE AN OLT IS OBTAINED, HOW IS IT UTILIZED TO DEVELOP A REPRESENTATIVE LIFE-CURVE COMBINATION?

A. The normal practice in the industry is to employ visual curve-fitting of the OLTs with standardized Iowa Survivor curves. Use of standardized Iowa Survivor curves provides

[58] 2012 Study at page III-78 for example.
[59] *Id.*

smooth, complete survivor curves so that various calculations necessary to establish a remaining life and depreciation rate can be obtained. In particular, the area under a survivor curve yields the ASL of the assets being analyzed. Mathematical curve-fitting is seldom relied on due to the different levels of significance associated with different points of the OLT.

Q. IN THE PROCESS OF MATCHING AN OLT WITH IOWA SURVIVOR CURVES, ARE THERE DIFFERENT AREAS OF THE PROCESS THAT ARE SIGNIFICANT?

A. Yes. It is more important to match a standard Iowa Survivor curve with the middle and upper portions of an OLT than the tail portion, depending on the dollar level of exposures at issue. If the lower and mid portions of an OLT are matched while sacrificing the middle or the upper portions of the survivor curve, then an inappropriate result will be obtained. Therefore, part of the judgmental process employed by a depreciation analyst is to determine what ASL and corresponding survivor curve constitutes the "best" fit of the OLT.

Q. WHY IS IT IMPORTANT TO SPECIFICALLY REVIEW THE DOLLAR LEVELS OF EXPOSURES AT DIFFERENT AGE INTERVALS IN THE CURVE-FITTING PROCESS?

A. The movement in the OLT from one age to the next is affected both by the dollar level of exposures in that age interval as well as the corresponding dollar level of retirement activity that has transpired during the same age interval. As time passes and as both existing investment and new investment age, it will change the pattern of the OLT. In other words, if plant is continuously added and there are no retirements during a five-year period, then the OLT will elevate from the position it previously exhibited in a prior study. A higher or elevated OLT normally translates into a longer ASL.

In addition, even if no new additions were to occur during the next five years, but the existing plant aged for five additional years with no additional retirements, then the mid portion and tail portion of the OLT would also be expected to elevate, thus resulting in a longer ASL. Indeed, these portions of the OLT may elevate significantly between studies. Finally, if retirement activity occurs, but not to the same degree that is reflected historically in the various age brackets, then the OLT again is expected to elevate and results in a longer ASL. The key issue is the degree of potential movement between depreciation studies due to the limited dollar level of exposures or potential for significant levels of retirement activity in different age brackets. Simply put, the tail and portions of the mid section of the survivor curve that are based on limited levels of exposures can move dramatically between one depreciation study and the next. Normally, the head or top portion of the OLT remains relatively stable, as do the upper portions of the mid range of the OLT if they are based on significant dollar levels of plant exposures.

Q. HAS THE COMPANY SPECIFICALLY IDENTIFIED HOW IT OBTAINED ITS VARIOUS PROPOSED LIFE-CURVE COMBINATIONS?

A. No. Again the Company relies on Mr. Spanos' judgment, which primarily includes the statistical analysis of data.[60] In other words, the Company normally performs a few actuarial analyses, selects a life-curve combination without any specific identified basis supporting the selection other than claims that its selection is "reasonable," or within the typical range expected by Mr. Spanos.[61] However, Mr. Spanos provides very limited specific evidence that can be reviewed, analyzed, or tested in support of his specific proposals. Indeed, the Company and Mr. Spanos declined to provide any specifics regarding the selection of life or net salvage parameters based on judgmental considerations when specifically requested to do so in discovery.[62]

In this particular case, the Company often ignores or discounts the best fitting results because it results in <u>higher</u> ASLs than it is willing to propose. This practice of ignoring or discounting results based on Company specific information is unwarranted absent

[60] 2012 Study at page II-23.
[61] *Id.* at page II-25.
[62] Response to OIEC 4-1 and 17-10.

meaningful information supporting an alternative. In this case, the only identified alternative information presented by the Company is Mr. Spanos' unsubstantiated judgment and possibly "typical estimates in the industry."

Q. ARE TYPICAL INDUSTRY ESTIMATES AN APPROPRIATE OR ADEQUATE BASIS FOR IGNORING OR SIGNIFICANTLY DISCOUNTING STATISTICAL RESULTS BASED ON COMPANY SPECIFIC INFORMATION?

A. No, not in this case. Industry range should be used only for confirmational purposes when adequate utility specific data is available, as is the situation in this case. Absent other meaningful support, values based on Company specific data that are reasonably within or near industry ranges should be given significant credence.

Q. PLEASE SUMMARIZE THE CURVE-FITTING PROCESS EMPLOYED BY GANNETT FLEMING.

A. The Company chose various placement-experience band combinations of historical data and performs actuarial analysis on the various databases. Mr. Spanos then made a life-curve combination selection and presented a singular life-curve combination in his depreciation study. Mr. Spanos provides no meaningful narrative associated with his selection and no real support for ignoring or significantly discounting the Company specific results for transmission plant.

B. Account Specific

Account 350.1 – Transmission Land Rights

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 350.1 – TRANSMISSION LAND RIGHTS?

A. The Company proposes a 75R4 life-curve combination.[63]

[63] Exhibit PSO_(JJS-2) page 50 of 353.

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

A. The Company did not provide any specific basis. In fact, Mr. Spanos did not list this account as one of the accounts where he relied on his statistical indicators for his proposal.[64] To the extent the Company simply relied on Mr. Spanos' experience and judgment, it chose not to provide any supporting information associated with such experience and judgment as it pertains to the investment in this account.[65] Therefore, the Company has offered no basis for its proposal.

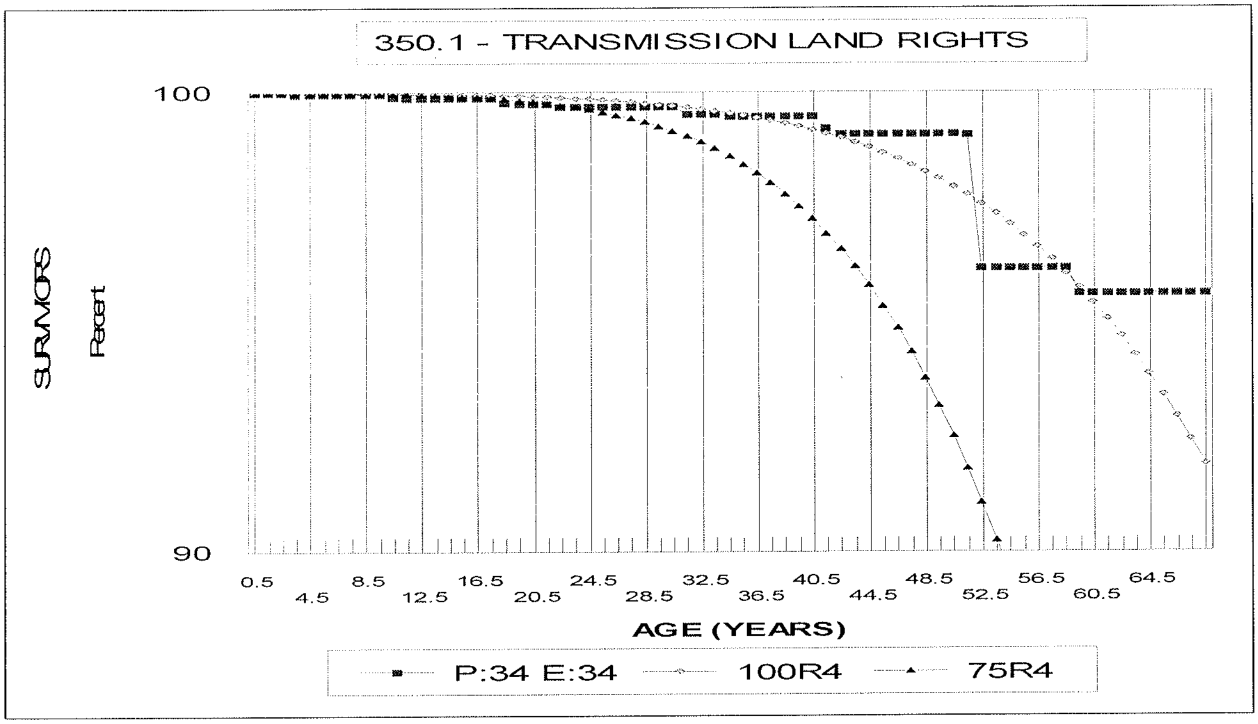
Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The Company's proposal is significantly short. I recommend a 100R4 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on the limited information provided by actuarial analysis, as well as a better understanding of the type of investment at issue. First, from an actuarial standpoint, the Company has an extensive database for this account. However, the data shows very limited levels of retirement activity.[66] This is precisely the type of activity one would expect for an account predominately made up of perpetual land rights. It is normally anticipated that there would be very few and infrequent retirements of land rights. Therefore, as shown on the graph below, my recommendation for a 100R4 life-curve combination is a far superior fit than is the Company's proposal.[67]

[64] *Id.* at pages 31 and 32.
[65] Response to OIEC 4-1 and 17-10.
[66] Exhibit PSO_(JJS-2) pages 96-98 of 353.
[67] It must be noted that the OLT is a short stub curve, but one based on more than 60 years of activity.



In addition, the Company's proposed 75-year ASL is short in comparison to the life cycle of the investment that resides upon it. For example, the Company also recommends a 65-year ASL for Account 356 - Overhead Conductors and Devices. However, that 65-year period is an average life expectancy, not a full life cycle. One complete life cycle for the Company's 65R2.5 life-curve combination for overhead conductors would have a maximum life in excess of 120 years. The land rights upon which the transmission lines and conductors use must be in place for at least one complete life cycle. Therefore, my recommendation for a 100-year ASL is also potentially short, but it is more realistic than is the Company's unjustified proposal.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a \$107,317 reduction in annual depreciation expense based on plant as of December 31, 2012.

Account 353 – Transmission Station Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 353 – TRANSMISSION STATION EQUIPMENT?

A. The Company proposes a 60R1.5 life-curve combination.[68]

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

A. The Company fails to provide any narrative support specific to its proposed ASL for this account. The only general statement presented by the Company in support of its proposal is that information external to the actuarial statistics led to no significant departure from the indicated survivor curve for this account.[69] The Company's failure to provide further support for its estimate is significant given that discovery was issued to obtain the specific basis for the Company's employment of experience and judgment in the development of its proposed life and net salvage values. It is important to note that Mr. Spanos admits that judgment and experience are very important in such matters. Therefore, the Company's failure to provide such information when requested limits the credibility of its proposal.

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

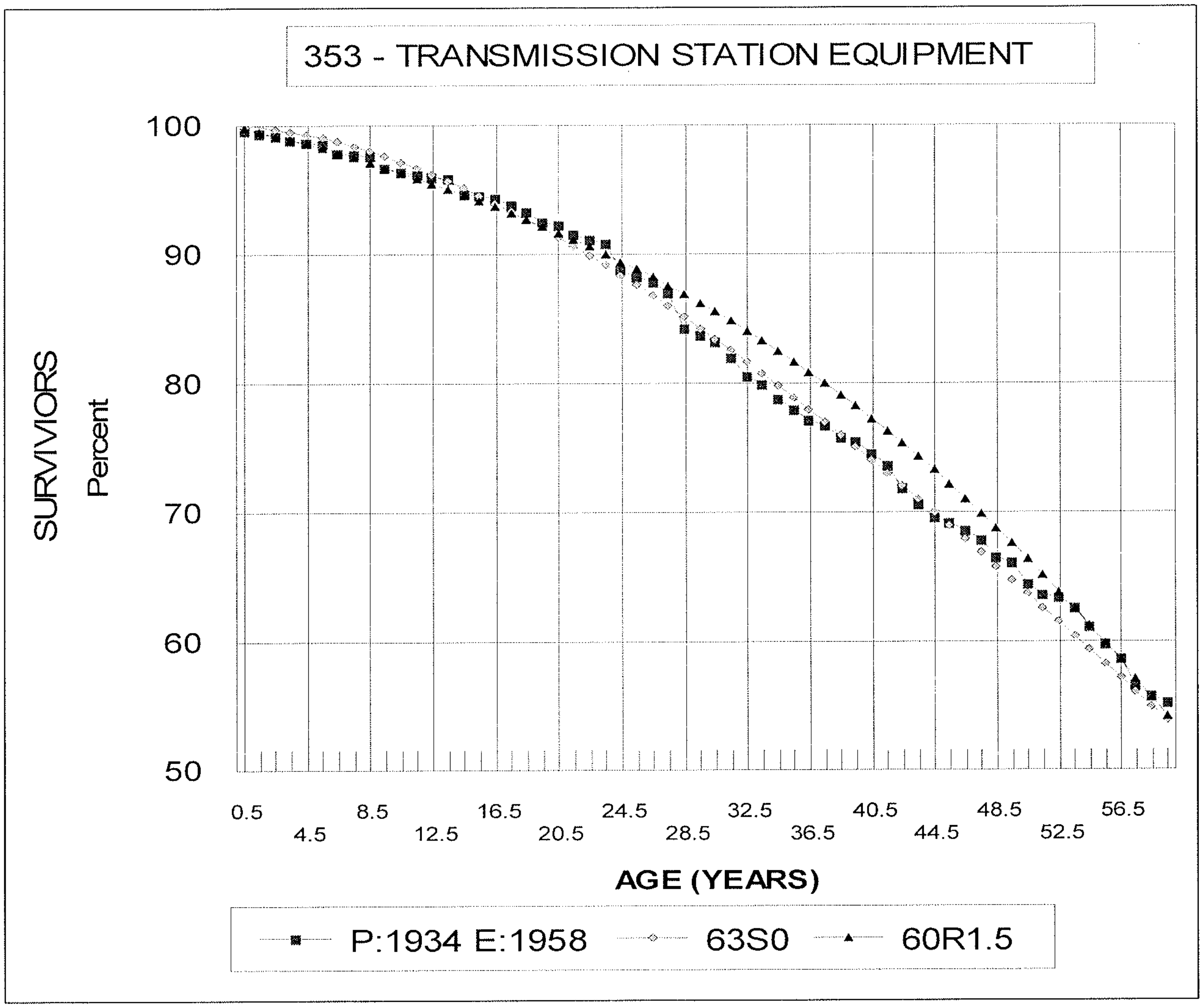
A. No. I recommend a 63S0 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation relies on a superior curve fit to the actuarial results (i.e., the "statistics" referenced by Mr. Spanos in the depreciation study). As shown on the graph below, the Company's proposal and my recommendation are similar through the first 28 years of age. However, beginning at approximately 28.5 years of age through approximately 52 years of age, my recommendation is a superior curve fit. At that point through the remaining significant portion of the OLT, the Company's curve fit is superior

[68] Exhibit PSO_(JJS-2) page 50 of 353.
[69] Exhibit PSO_(JJS-2) page 32 of 353.

to the one I recommend. However, overall my recommendation is a better fit of the actuarial results.



Another consideration for selecting the 63S0 life-curve combination is the fact that Mr. Spanos considered the same life-curve combination I recommend as well as an even longer ASL in his analysis.[70] Indeed, a review of Mr. Spanos' investigation of curve fits identifies the 63S0 as the best fitting curve out of those he specifically analyzed.

[70] Response to AG 1.7 Attachment PSO-2012-Curve-Transmission.

However, Mr. Spanos chose not to provide any information as to why he elected to choose a poorer curve fitting selection, which resulted in a lower ASL.

Yet another consideration for selecting the 63S0 life-curve combination is the fact that Gannett Fleming has proposed values at least as long as 65 years for the investment in this account elsewhere. Therefore, even though Mr. Spanos declined to provide any specifics associated with his experience and judgment (i.e., the reason he ignored better fitting curves and selected a curve with an artificially short ASL), review of industry data establishes that his firm has proposed up to a 65-year ASL for the investment in this account. Therefore, a 63-year ASL recommendation is not only based on Company specific information, but is within the range of values Mr. Spanos has experienced.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $197,428 reduction in annual depreciation expense based on plant as of December 31, 2012.[71]

Account 355 – Transmission Poles and Fixtures

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 355 – TRANSMISSION POLES AND FIXTURES?

A. The Company proposes a 52S0.5 life-curve combination.[72] This represents a two- to three-year downward adjustment in ASL compared to the Company's proposals in its prior two rate proceedings.[73]

Q. WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSED SHORTER ASL IN THIS PROCEEDING?

[71] Gannett Fleming calculates life in a manner different than that utilized by basically the rest of the industry. The impact of my adjustment is based on a calculation of remaining life using the industry standard approach.
[72] Exhibit PSO_(JJS-2) page 50 of 353.
[73] Cause No. PUD 201000050 Exhibit DAD-1 page 19 of 29 identifies a 54S0.5 life-curve combination and Cause No. PUD 200600144 Exhibit DAD-1 page 19 identifies a 55S0 life-curve combination.

A. The Company does not present any narrative explanation supporting its position. The closest narrative explanation is that set forth in Mr. Spanos' 2012 Study, where he states that the information external to the statistics led to no significant departure from the indicted survivor curves listed for Account 355.[74] In other words, it must be presumed that Mr. Spanos performed actuarial analysis on the historical data and relied on his interpretation of the OLT in the curve fitting process.

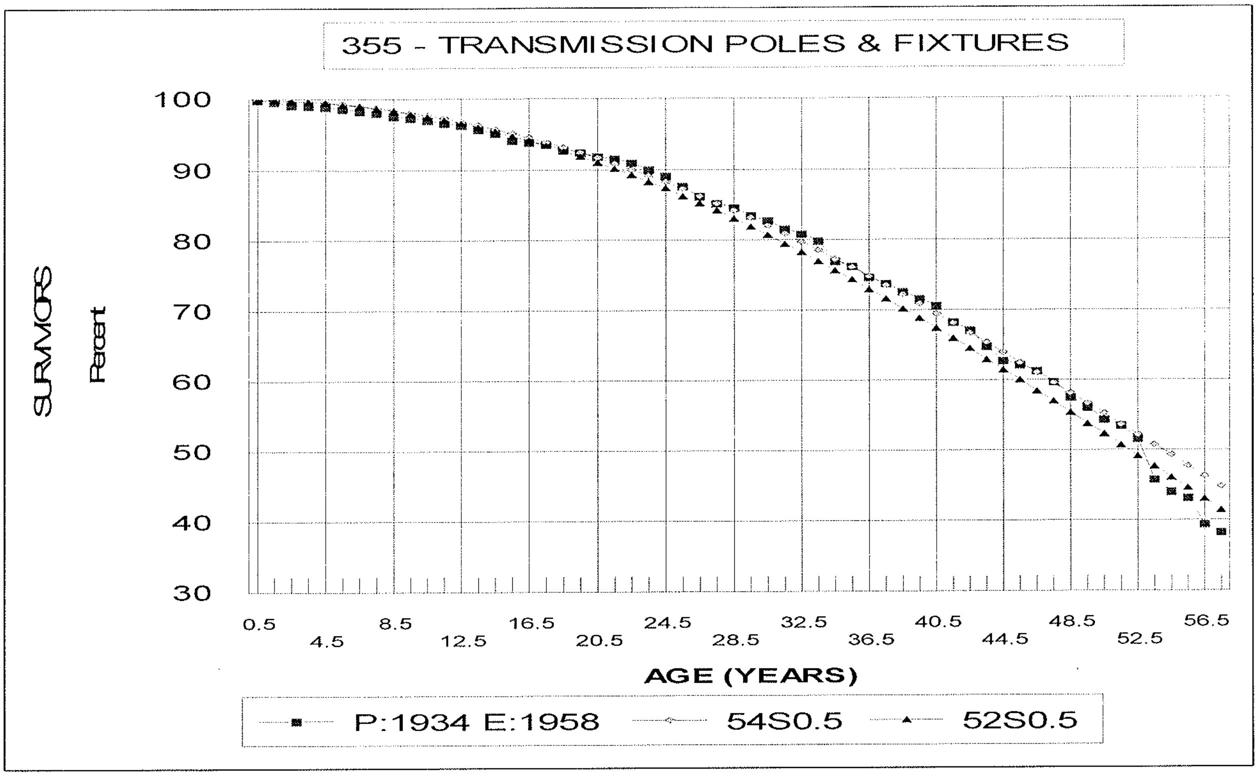
Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The Company's proposal unreasonably decreases the ASL from what the Company proposed in the last proceeding and from what the Commission adopted in the Company's last fully litigated proceeding. I recommend a 54S0.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is predominantly based on the review of statistical analysis. In this case, the results of the actuarial analyses performed on historical data for the Company clearly indicates that a decrease to a 52-year ASL is unwarranted. As shown on the graph below, my recommendation for a 54S0.5 life-curve combination is a superior fit to the OLT.

[74] Exhibit PSO_(JJS-2) page 32 of 353.



In addition, it should be noted that the 54S0.5 life-curve combination was also reviewed by Mr. Spanos and included in his workpapers as one of the curves he considered. However, without explanation he chose a poorer statistically fitting curve, which resulted in the proposal of a shorter ASL.

The Company also failed to take into account current or future expected changes in the operation and maintenance of its transmission poles. During the last decade or two, most utilities have implemented pole inspection programs. Such programs have resulted in the lengthening of ASLs after the initial wave of early retirements that often occur when a program is first initiated. However, the long run benefits of identifying potential problems on a timely basis and taking corrective action should result in longer ASLs. In addition, utilities are employing more and better chemical treatments to wood poles. Chemical treatment for wood poles is anticipated to result in much longer ASLs than for untreated poles. It is information of this nature that is not adequately reflected in the actuarial results and, if proper judgment were to be utilized, would result in a lengthening of ASL rather than a shortening of ASL, as Mr. Spanos has proposed.

Another consideration is a review of industry data as sponsored by Gannett Fleming. A review of such information clearly indicates that Gannett Fleming quite often recommends a 54-year ASL for the investment in this account.[75] Therefore, my recommendation for a 54-year ASL is reasonable when based on the experience of Mr. Spanos' firm in making recommendations elsewhere.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $596,176 reduction in annual depreciation expense based on plant as of December 31, 2012.[76]

Account 356 – Transmission Overhead Conductors and Devices

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 356 – TRANSMISSION OVERHEAD CONDUCTORS AND DEVICES?

A. The Company proposes a 65R2.5 life-curve combination.[77] This represents a five-year reduction in the existing ASL as well as a five-year reduction in the value proposed by the Company in its last depreciation study in Cause No. PUD 201000050.

Q. WHAT IS THE COMPANY'S BASIS FOR A FIVE-YEAR REDUCTION IN ASL FOR THIS ACCOUNT?

A. The Company presents no narrative explanation for its proposal. As previously noted, the Company does state in the 2012 Study at page II-24 that there was no external information that led to a significant departure from the indicated survivor curve

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[75] Response to OCS 1-3 in Docket No. 13-035-02, the 2013 Rocky Mountain Power Company depreciation case before the Utah Public Service Commission.

[76] Gannett Fleming calculates life in a manner different than that utilized by basically the rest of the industry. The impact of my adjustment is based on a calculation of remaining life using the industry standard approach.

[77] Exhibit PSO_(JJS-2) page 50 of 353.

developed from actuarial analyses. The Company declined to provide any further information associated with any other informed judgment that Mr. Spanos may have relied upon in order to establish his proposed value.[78]

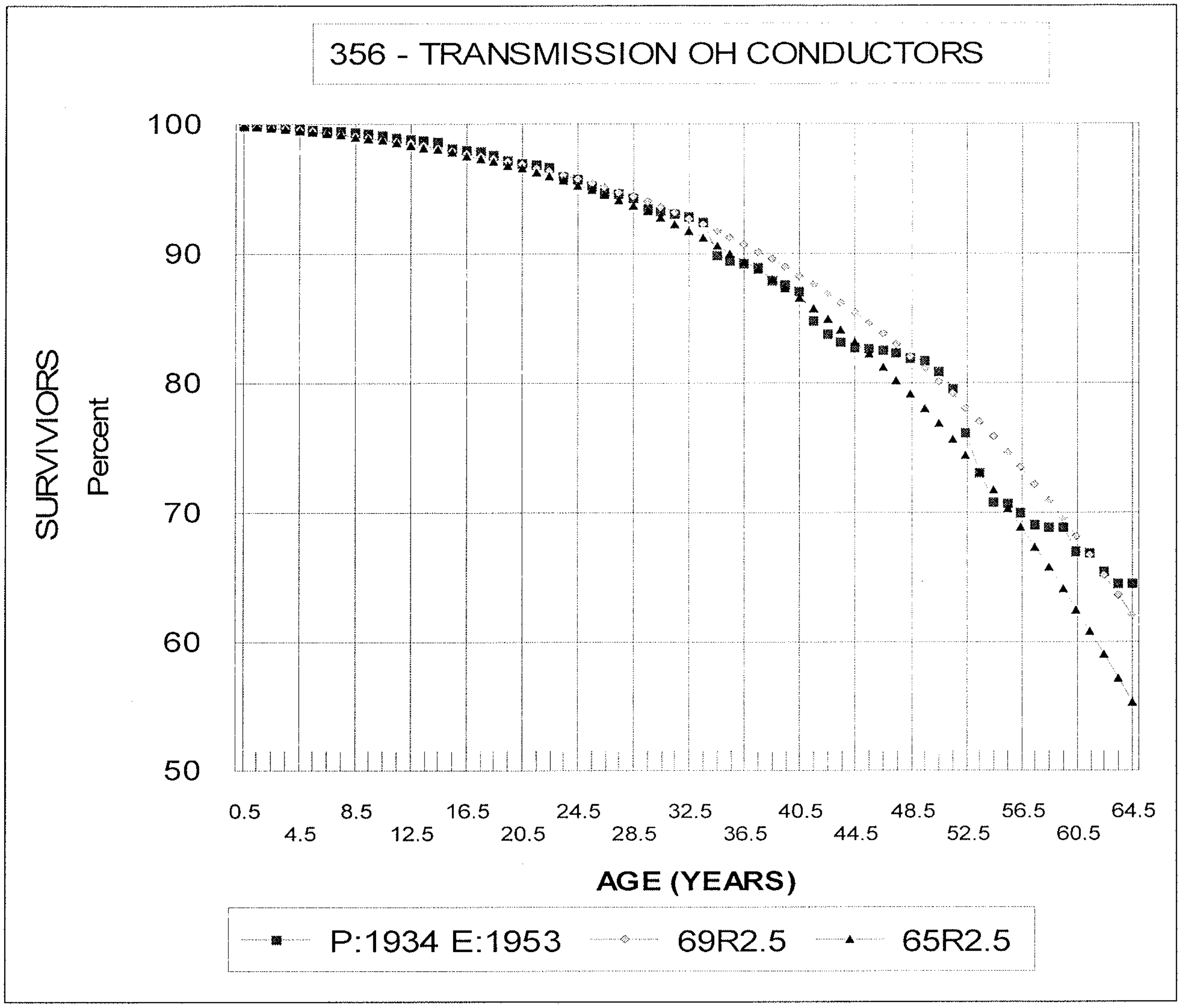
Q. DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

A. No. The Company' proposal represents too great of a reduction in ASL based on the results of actuarial analyses. I recommend nothing shorter than a 69R2.5 life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation also relies on the results of actual analysis of Company specific data. As shown on the graph below, my recommendation is slightly superior to the Company's proposal for the first approximately 33.5 years of age. The Company's proposal is then slightly better than my recommendation for approximately the next 12 years, at which point my recommendation is clearly superior through approximately 52.5years of age. The positions switch again in favor of the Company over the next five years and then back to my recommendation for the next six. In other words, either of the values proposed by the Company, or that I recommend are reasonable expectations based on analysis of historical data.

[78] Response to OIEC 4-1 and OIEC 17-10.

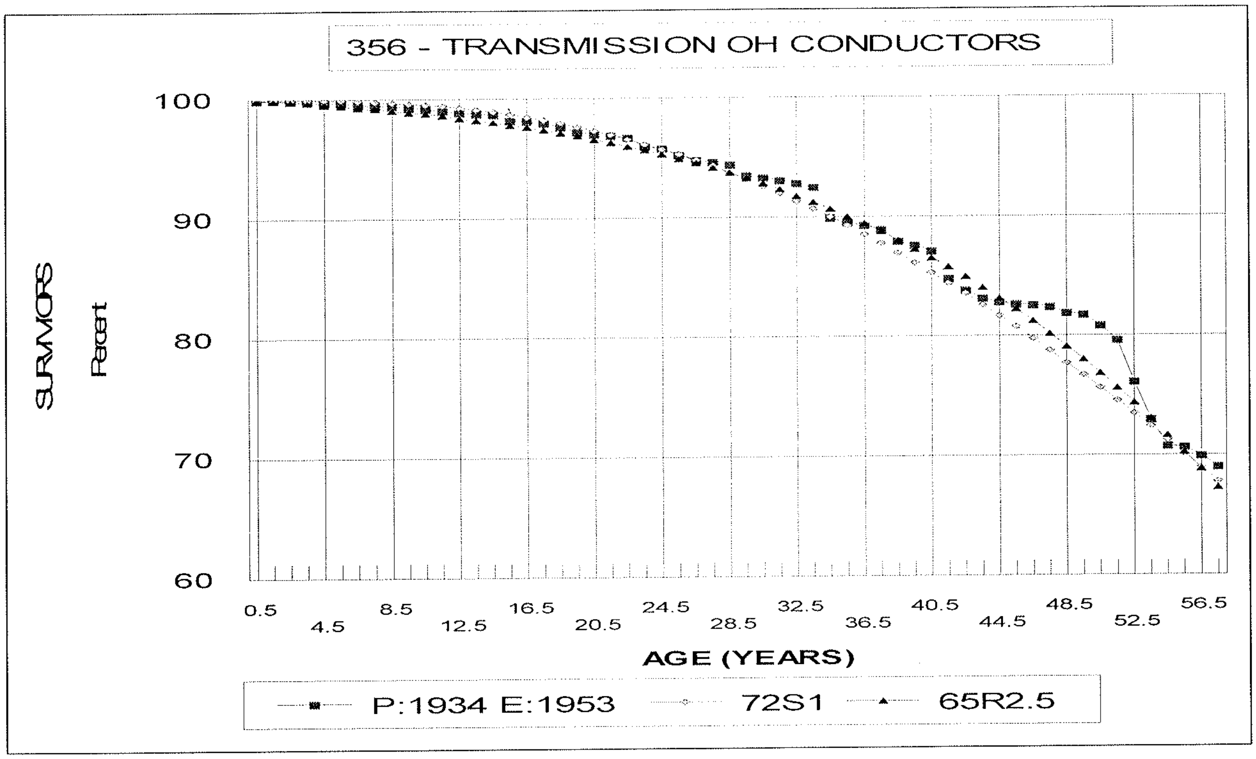


Given the general reasonableness of either of the above noted life-curve values and given Mr. Spanos' statement that one of the considerations in his life analysis is the review of existing parameters, it is more appropriate to adopt a one-year reduction in ASL rather than the more aggressive five-year proposal presented by the Company. This is especially true given the Company's failure to provide any meaningful narrative basis or explanation for its selection.

Another consideration for not reducing the ASL from the existing 70-year level is the fact that Mr. Spanos considered numerous curves of 70 years or longer in his analysis.[79] Indeed, as shown in the graph below, a 72S1 life-curve combination may even be a better fit to the overall historical data than either Mr. Spanos' proposal or my recommendation. However, rather than increasing the life, a limited downward adjustment in ASL is not unreasonable at this time.

Finally, the implementation of pole inspection programs also has a beneficial aspect for conductors. When Company personnel are inspecting poles, it is also appropriate to note any problems associated with conductors such as encroachment in right-of-ways by vegetation or other problems. Early detection of potential problems, and the correction of such problems, will prolong the life expectancy for conductors in comparison to what has transpired in the past and reflected in the actuarial analyses. In addition, utilities, including those serving in close proximity to the Company, are now utilizing dampers. The use of dampers has been shown to allow conductors to last longer, because without dampers, shattering of insulators has transpired, resulting in retirement activity. Thus, technological advancements further warrant at best a minimal reduction in ASL and may better support retaining the existing 70-year ASL.

[79] Response to AG 1.7 Attachment PSO-2012-Curves-Transmission.



Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $413,181 reduction in annual depreciation expense based on plant as of December 31, 2012.[80]

Account 391.1 – Office Furniture & Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 391.1 – GENERAL PLANT OFFICE FURNITURE AND EQUIPMENT?

A. The Company proposes a 20SQ life-curve combination.[81]

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

A. The Company's basis is unknown. The Company chose not to provide any meaningful information, other than comments that a 20-year life is "common" or "consistent" with

[80] Gannett Fleming calculates life in a manner different than that utilized by basically the rest of the industry. The impact of my adjustment is based on a calculation of remaining life using the industry standard approach.
[81] Exhibit PSO_(JJS-2) page 50 of 353.

the type of property.[82] Mr. Spanos states that accounts where statistical support for service life estimates were adequate to rely upon for establishing life parameters are listed in the 2012 Study. However, Account 391.1 is not one of the accounts listed. Therefore, the selection is based on an unknown estimation process by Mr. Spanos. As noted at the beginning of my testimony, Mr. Spanos was requested to provide the specifics as it relates to the informed judgment and experience relied upon to develop parameters for each account. Mr. Spanos declined to provide the requested information. Therefore, the Company has knowingly presented no basis for its proposal.[83]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED LIFE-CURVE COMBINATION FOR THIS ACCOUNT?

A. No. The Company's proposal is artificially short. I recommend a 25SQ life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. A review of the investment by vintage year as set forth on Exhibit PSO_(JJS-2) page 344 of 353, clearly demonstrates that <u>over 50%</u> of the investment in this account has lasted longer than the 20 years proposed by Mr. Spanos as of the end of December 2012.[84] In other words, the empirical data for the investment in this account clearly refutes the artificially short 20-year life estimate proposed by the Company and specifically refutes Mr. Spanos' unsupported comment that 20 years is "consistent" for this type of property. Based on the Company's actual investment, a longer useful life than 25 years may also be warranted. However, at a minimum, in order to capture what has already transpired for the investment in this system, a 25SQ life-curve should be adopted.

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[82] Response to OIEC 19-15.

[83] It should be noted that the Company attempts to rely on FERC Accounting Release No. 15 as noted in response to OIEC 19-16. AR-15 in no way sanctions the establishment of an artificially short amortization period. A 25-year amortization period is justified under AR-15.

[84] *Id.* at page 344 of 353.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $1,790,479 reduction in annual depreciation expense based on plant as of December 31, 2012.[85]

Account 395 – Laboratory Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 395 – GENERAL PLANT LABORATORY EQUIPMENT?

A. The Company proposes a 20SQ life-curve combination.[86]

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

A. As is the case for most other accounts, the Company has provided no basis other than its generalized statement of informed judgment on the part of Mr. Spanos. The Company has declined to respond to specific discovery seeking the Company's basis for its proposals.[87]

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED LIFE-CURVE COMBINATION FOR THIS ACCOUNT?

A. No. The Company's proposal is artificially short. I recommend a 25SQ life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. Again, a review of the investment by vintage year, as set forth on Exhibit PSO_(JJS-2) page 349 of 353, clearly demonstrates that over 28% of the investment in the account has already lasted longer than the 20 years proposed by Mr. Spanos as of the end of December 2012. In other words, the empirical data for the investment in this account clearly refutes the artificially short 20-year life estimate proposed by the Company.

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[85] Gannett Fleming employs a unique means of calculating remaining life different from that utilized throughout the industry. The impact of the 25-year SQ life-curve combination reflects the standard industry calculation procedure rather than Gannett Fleming's remaining life calculation procedure.
[86] Exhibit PSO_(JJS-2) page 349 of 353.
[87] Response to OIEC 4-1 and 17-10.

Based on the Company's actual investment, a longer useful life than 25 years may also be warranted. However, at a minimum, in order to capture what has already transpired for the investment in this system, a 25SQ life-curve combination should be adopted.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $263,192 reduction in annual depreciation expense based on plant as of December 31, 2012.[88]

Account 397 – Communication Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 397 – GENERAL PLANT COMMUNICATION EQUIPMENT?

A. The Company proposes a 15SQ life-curve combination.[89]

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

A. As was the case for Account 391.1, the Company has presented no basis other than a generalized statement of informed judgment on the part of Mr. Spanos, that the value is "common", or that 20 years is "reflective of the assets."[90] Also as was the case for Account 391.1, the Company was requested through discovery to provide a detailed discussion of what constitutes and supports the claimed informed judgment, and how it resulted in the proposed life value for all accounts. The Company declined to respond to such discovery. Therefore, the Company has presented nothing of credible value for its proposed 15SQ life-curve combination.

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[88] Gannett Fleming employs a unique means of calculating remaining life different from that utilized throughout the industry. The impact of the 20-year SQ life-curve combination reflects the standard industry calculation procedure rather than Gannett Fleming's remaining life calculation procedure.

[89] Exhibit PSO_(JJS-2) page 351 of 353.

[90] Response to OIEC 19-18.

Q. DO YOU AGREE WITH THE COMPANY'S PROPOSED LIFE-CURVE COMBINATION FOR THIS ACCOUNT?

A. No. The Company's proposal is artificially short. I recommend a 20-year SQ life-curve combination.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation reflects review of the actual vintage additions remaining on the Company's books as set forth in the 2012 Study. Almost 50% of the investment in this account already exceeds the Company proposed 15-year life expectancy.[91] In other words, the empirical data demonstrates that something significantly greater than 15 years is warranted just to capture actual historic values without consideration of the actual further useful life of the facilities.

In addition, a review of recommendations by Gannett Fleming in other jurisdictions clearly demonstrates that Gannett Fleming propose 20-year or longer life expectancies for investment in Account 397 for other companies.[92] Thus, both Company actual data and Gannett Fleming experience both support a longer life. Therefore, my recommendation for a minimum 20SQ life-curve combination is conservative and the Commission may need to extend the useful life in future proceedings depending on circumstances at that time.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $485,377 reduction in annual depreciation expense based on plant as of December 31, 2012.[93]

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[91] Exhibit PSO_(JJS-2) page 351 of 353.

[92] Response to OCS 1.3 in Rocky Mountain Power Company case in Docket No. 13-05-002 before the Utah Public Service Commission.

[93] Gannett Fleming employs a unique means of calculating remaining life different from that utilized throughout the industry. The impact of the 20-year SQ life-curve combination reflects the standard industry calculation procedure rather than Gannett Fleming's remaining life calculation procedure.

SECTION VII: MASS PROPERTY NET SALVAGE

A. General

Q. WHAT ISSUE DO YOU ADDRESS IN THIS PORTION OF YOUR TESTIMONY?

A. This portion of my testimony addresses the Company's proposed level of net salvage for transmission and general plant accounts.

Q. IS THERE A PRECISE PROCESS BY WHICH NET SALVAGE ESTIMATES FOR EACH ACCOUNT ARE ESTABLISHED?

A. No. Future estimates of net salvage are possibly the most difficult component of a depreciation analysis. While historical activity is normally reviewed, it often reflects unusual variances, limited data, and non-representative activity. Thus, while historical data is reviewed, reliance predominantly on such information can yield questionable results. Indeed, Mr. Spanos often chose not to rely on the simple averages of the Company's historical data.[94]

Q. CAN YOU PROVIDE AN EXAMPLE OF WHAT MAY CAUSE HISTORICAL RECORDED NET SALVAGE VALUES TO BE NONREPRESENTATIVE OF THE FUTURE?

A. Yes. Assume two poles identical in cost and size but located in different portions of the Company's service territory are to be retired. Pole A is struck by lightning on Saturday of a three-day holiday weekend at 2:00 a.m. during a severe storm. Given that the Company might not know the precise location of the pole that needs to be replaced or the specific terrain associated with reaching such pole, and with all efforts being performed at overtime pay levels, the cost of removal can be rather high compared to the future expected retirement of the majority of poles. Alternatively, Pole B is part of a section of line containing 30 poles that are to be retired at one time. The location of the 30 poles is

[94] Exhibit PSO_(JJS-2) pages 36 and 37 of 353.

directly next to one of the Company's service centers. All activities are to be performed on a planned basis with all material, equipment and personnel scheduled in advance. No overtime payments are anticipated. The mobilization costs for the removal of Pole A are nowhere near the mobilization costs associated with the retirement of Pole B. In addition, the overall concept of economies of scale of the two situations are appreciably different. When a single pole is to be retired all appropriate costs of removal must be borne by only one retirement unit versus spreading many common costs to 30 poles that are retired at the same location and time frame.

Q. ARE THERE OTHER CONCERNS REGARDING THE BLIND RELIANCE ON HISTORICAL RECORDED NET SALVAGE DATA?

A. Yes. Another major concern is whether the investment mix is equivalent to the retirement mix of assets in an account. For example, Account 353 – Station Equipment contains large transformers as well as small assets such as lightning arrestors. The cost to retire a large capital intensive transformer compared to a relatively inexpensive lightning arrestor can be dramatically different on a per-unit cost basis. This is significant given that transformers can often comprise between 20% and 50% of the entire investment in the station equipment account, while lightning arrestors may only account for one percent of the investment in the account. However, transformers may represent only 5% to 10% of the retirement account activity and lightning arrestors may represent 12%, thus severely skewing the results. Without proper matching of the mix of investment to the mix of retirement activity being reviewed, the credibility of simple historic averaging can be diminished to a great extent.

Q. DID THE COMPANY PRESENT ANY ANALYSIS OF ITS HISTORICAL DATA THAT WOULD ADDRESS SOME OF THE CONCERNS YOU HAVE RAISED?

A. No. As previously noted, the Company's presentation in support of its mass property net salvage proposals is limited to a few examples that are not applicable to investment in other accounts. In other words, the Company has knowingly chosen to omit support for the majority of its proposals, yet seeks approval of its proposals based on the belief that the experience and judgment of Mr. Spanos rises to the level of acceptable evidence, even though it is unsupported and undocumented.

Q. DO YOU HAVE AN OVERALL RECOMMENDATION PRIOR TO THE INDIVIDUAL SPECIFIC ACCOUNT RECOMMENDATIONS ADDRESSED HEREIN?

A. Yes. I recommend that the Commission order the Company to thoroughly and properly analyze its retirement process as it relates to the establishment and recording of cost of removal and gross salvage and present such results in its next depreciation study. The analysis should , at a minimum, demonstrate: (1) whether the historical retirement mix is representative of the existing investment at that time, (2) the level of overtime reflected in the historical data and support for any claim that such level is representative of the future by year for the prior 10 years, (3) the relationship between in-house personnel and outside contractors, from the standpoint both of the cost level for each equivalent activity, as well as the percent retirement activity for each account performed by each entity by year for the prior 10 years, (4) the level of emergency related retirements versus situations that are planned in advance by year for the prior 10 years, (5) the basis for allocation of costs incurred when an item of plant is retired and replaced at the same time, clearly demonstrating the validity of the assumed allocation of costs to cost of removal versus the assignment of costs to replacement installation, (6) the impact that economies of scale had in the establishment of cost of removal and gross salvage, if any, and the basis why the Company believes such situation is indicative of the future, and (7) all other major concerns or considerations relating to the retirement and incurrence of cost of removal and receipt of gross salvage, by account. It is only when the Company performs a more realistic analysis of its true net salvage requirements that values can be properly established for ratemaking purposes.

Q. BASED ON YOUR REVIEW, ARE YOU RECOMMENDING SPECIFIC ADJUSTMENTS?

A. Yes. Based on my review of the data, I am recommending less negative net salvage values for two transmission accounts, and I am recommending a positive net salvage level for two general plant accounts. My recommended net salvage values and the corresponding dollar impact for each account are set forth in the table below.

Summary of OIEC's Recommended Mass Property Net Salvage Adjustments

Account	PSO Existing	PSO Proposed	OIEC Proposed	OIEC Adjustment	Impact
353	(4%)	(10%)	(5%)	(5)	$295,398
356	(38%)	(60%)	(45%)	(15)	$512,828
390	35%	(5%)	25%	(30)	$296,054
392	0%	0%	17%	(17)	$189,839
Total					$1,294,119

B. Account Specific

Account 353 – Transmission Station Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 353 – TRANSMISSION STATION EQUIPMENT?

A. The Company proposes a -10% net salvage.[95] This represents a significant change from the existing -4% net salvage adopted by the Commission in Cause No. PUD 200800144.[96]

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

A. Mr. Spanos states that his analysis of historical data contributed significant towards the net salvage estimate for this account.[97] In addition, Mr. Spanos considered the historical

[95] Exhibit PSO_(JJS-2) page 50 of 353.
[96] Schedule (JP-1) page 11 of 12.

data recorded by the Company for the period 1985-2012 to be reasonable, and his review of industry values.[98]

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

A. No. The Company's proposal represents an excessive level of negative net salvage. I recommend a -5% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is also based on a review of historical data, but also takes into account problems and concerns that did not rise to a meaningful or significant level to the Company. First, the Company's historical data includes a negative gross salvage amount that exceeds all values reported for gross salvage during the 10 years prior to that period.[99] Next, the most recent year of net salvage reflects a -6% net salvage. In fact, not only is that indicative of the most recent reported activity on the Company's books, it is also the net salvage value corresponding to the three highest years of retirement activity during the past 10 years.[100] Indeed, approximately 60% of the retirement activity during the past 10 years occurred during the three years where the Company recorded a -6% net salvage. The situation may be indicative of the concept of economies of scale. In other words, when retirement activity occurs, it is often associated with a greater number of asset retirements occurring at the same time, thus reducing the per-unit level of cost of removal. Economies of scale are more indicative of what will transpire in the future associated with the existing plant in service.

Yet another consideration for a less negative level of net salvage than that proposed by the Company is again related to the large retirements that have occurred in three of the

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[97] Exhibit PSO_(JJS-2) pages 36 and 37 of 353.
[98] Response to OIEC 19-9.
[99] Exhibit PSO_(JJS-2) page 214 of 353. Negative gross salvage amounts are theoretically possible; however, to the extent the Company claims it represents a correction of a prior accounting error, it is worth noting that the error exceeded the summation of the entire positive gross salvage value reported for the prior 10 years. In other words, correction of an accounting error is highly unlikely.
[100] *Id.* for 2006, 2008, and 2012.

last 10 years. The investment in Account 353 is comprised of many different components. However, transformers normally represent one of the larger categories of investment in the account. Large transformers normally are not retired on an annual basis and thus only appear sporadically in a historical database. The cost to remove a large transformer, on a per-unit basis, is often less than the per-unit cost of removal to remove smaller assets such as lightning arrestors. In other words, the Company fails to provide any analysis that would demonstrate that the mix of investment retired in this account historically is representative of the mix of investment still in service waiting to be retired in the future. Due to the Company's failure to perform proper investigation into the historical retirement activity, it cannot validly claim that the simplistic averaging of historical data is representative of the future, which it is not.

Yet another consideration for a lower level of negative net salvage is the fact that the price of copper has increased hundreds of percents since the mid-2000s. Thus, large transformers that retire in the future should produce significant levels of positive gross salvage, which is not reflected in the Company's historical database during the past 10 years. In fact, years in which the Company reported significantly high levels of gross salvage, which could correspond to years where large transformers might have retired, were years where the Company also recognized an overall positive level of net salvage.[101] It must be noted that those years with positive levels of net salvage occurred prior to the dramatic increase in the price of scrap copper.

The Company also cannot identify the level of overtime reflected in its historical data. Quite often when assets are retired they are associated with emergency situations (storms, fires, etc.). In other words, the historical data may overstate the level of negative net salvage due to a disproportionate level of overtime charges.

Finally, giving any consideration to the illustrative example presented by Mr. Spanos for Account 367, one might need to review the existing net salvage level as well as what

[101] *Id.* for 1994 and 1997.

others in the industry propose. From this standpoint, the existing net salvage level is a -4%. Thus, my recommendation for a -5% is much more in line with the existing value than is the Company's proposal for a -10%. In addition, review of industry data indicates that 0, -5% and -10% values are often utilized by utilities throughout the country. Therefore, a review of the Company's prior net salvage values, as well as industry values, also support the adoption of a -5% net salvage more so than the Company's proposed -10%.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation represents a $295,398 reduction in annual depreciation expense based on plant as of December 31, 2012.

Account 356 – Transmission Overhead Conductors & Devices

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 356 – TRANSMISSION OVERHEAD CONDUCTORS AND DEVICES?

A. The Company proposes a -60% net salvage.[102] This represents a significant increase from the exiting -38% previously adopted by the Commission for this account.[103]

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

A. The Company claims to have relied on a review of historical recorded data, but selected a much less negative value in order to be conservative and be more in line with industry values.[104]

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

A. No. The Company's proposal represents an excessive level of negative net salvage. I recommend a -45% net salvage.

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[102] Exhibit PSO_(JJS-2) page 50 of 53.
[103] Cause No. PUD 200800144 Schedule (JP-1) page 11.
[104] Response to OIEC 19-11.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. My recommendation is based on a review of the historical data, industry values, and information applicable to the Company-specific data.

A review of the historical data identifies several concerns associated with strict reliance on the numerical averages. First, it must be noted that in the past five years, when the Company experienced a significant increase in negative net salvage, the average values are predominantly impacted by the retirements and corresponding net salvage recorded during 2010 and 2011. The Company admits that there were major ice storms during this period.[105] Further, a review of tornado activity in Tulsa County and Creek County indicate significant levels of tornado activity during 2010, which one would expect to result in excessive levels of negative net salvage due to the storm destruction and emergency response activity. Thus, while Mr. Spanos may consider these unusual storm related costs to be "typical/normal", he has provided no evidence to support his opinion.

Another concern associated with the Company's historic data is during 2011 it recorded a negative gross salvage. A negative gross salvage represents a theoretically impossible event, absent inaccurate or untimely recordkeeping. In fact, the negative gross salvage is the highest absolute value for gross salvage recorded by the Company throughout the entire database presented.[106] Thus, absent any other consideration, the credibility of the Company's historical data is suspect, a fact also recognized and acted on by Mr. Spanos as he heavily discounted Company recorded values.

Another consideration is the fact that transmission overhead conductors and devices have historically been replaced in association with storm damage, fires, or other events which may cause not only overtime-related replacement activity, but may result in individual span replacement. Obviously, the cost to replace and cost of removal associated with the

[105] Response to OIEC 19-14.
[106] Exhibit PSO_(JJS-2) page 220 of 353.

retirement of a single span of conductor between towers is more costly on a per-unit basis than is the replacement of an extensive number of overhead conductor spans at a given time and location. In other words, the concept of economies of scales is most likely missing from the Company's historic data and results in the appearance of an excessive level of negative net salvage being indicative of what can be expected when future assets are retired in greater quantities.

Another concern regarding the proposed level and corresponding values reported by the Company historically is the fact that the level of negative net salvage is at the high end, if not in excess of the normal high end, of negative net salvage recognized by Gannett Fleming throughout the industry. Indeed, a review of an extensive number of prior recommendations by Gannett Fleming indicates that Gannett Fleming recommended a negative net salvage as or more negative than the proposed -60% only twice in 52 occurrences.[107] Thus, even though Mr. Spanos claims to base his proposal at a level that is "more in line with estimates made by others in the industry"[108] in establishing the proposed -60% net salvage for this account, one finds that Mr. Spanos or his firm rarely recommends a value more negative than a -40%, with most values falling in the range of a -15% to -25%.[109] Thus, Mr. Spanos' experience and judgment should have resulted in nothing more negative than the -45% I recommend, if in fact he relied on his experience and judgment in establishing a realistic and appropriate net salvage value in this account.

Finally, the Company's proposal represents a 58% increase in negative net salvage compared to the Commission-approved -38% in the last proceeding. The Company simply has not justified why the Commission should adopt such a significant increase in negative net salvage. Therefore, while the Commission might consider retaining a -38% net salvage since the Company has not supported any change, my recommendation for

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[107] Response to OCS 1.3 Attachment in 2013 Rocky Mountain Power rate proceeding in Docket No. 13-05-002 before the Utah Public Service Commission.
[108] Response to OIEC 19-11.
[109] *Id.*

movement to a -45% is conservative given the concerns raised about the Company's historic database.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $512,828 reduction in annual depreciation expense based on plant as of December 31, 2012. In the event the Commission chooses to adopt the existing net salvage of a -38%, the impact is an annual reduction in depreciation expense of $752,272, also based on plant as of December 31, 2012

Account 390 – General Plant Structures & Improvements

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

A. The Company proposes a -5% net salvage for the investment in this account.[110] This represents a dramatic change from the existing positive 35% net salvage proposed by the Company and adopted by the Commission in Cause No. PUD 200800144.[111]

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

A. While the Company claims that its estimates were based on judgment which incorporates various items of information including analysis of historical information, the Company chose not to provide any narrative associated with its proposed -5% net salvage The Company does indicate that this is one of the accounts where the historical analysis contributed significantly towards the net salvage estimate.[112] The Company also provided the historical retirement activity associated with the investment in this account from 1986-2012.[113]

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[110] Exhibit PSO_(JJS-2) page 50 of 353.
[111] Cause No. PUD 200600285 Schedule (JP-2) page 7.
[112] Exhibit PSO_(JJS-2) page 36 of 353.
[113] *Id.* at page 245.

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

A. No. The Company's proposal dramatically changes the character of net salvage previously adopted by the Commission, as well as the net salvage that can be reasonably expected for future retirements. I recommend a positive 25% net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. It is important to place the Company's investment in this account in proper perspective. Investment in this account can be owned or leased, which makes a difference in the level of net salvage that can be expected. Obviously, if the investment is in facilities owned by the Company, then at the time of retirement the Company can sell such facilities and obtain a positive net salvage. Alternatively, if the investment is in leasehold improvements not owned by the Company, then at the end of the lease where such assets reside the Company most likely will not be able to sell such components, and thus not obtain positive net salvage, and in fact may incur negative levels of net salvage.

The Company notes that at least 57% of the investment in this account is associated with its investment in the 10 facilities that it owns.[114] Undoubtedly, a still sizeable portion of the remaining investment in the account is also owned by the Company. Therefore, at a minimum, a sizable positive level of net salvage is warranted for the identifiable investment in the Company's 10 largest facilities plus some additional component, which I assume is up to at least 75%.

A review of the Company's largest four or five facilities establishes that they are in metropolitan areas and thus have greater potential for positive net salvage at the time of retirement (i.e., sale of the facilities). Further, a review of the Company's historical data for the retirement of what appear to be facilities other than entire distribution centers or service centers yields a -6% net salvage.[115] This level of negative net salvage would appear to be more indicative of the retirement of leasehold improvements or components

[114] Response to OIEC 4-8 Attachment 1.
[115] Exhibit PSO_(JJS-2) page 245 of 343.

of buildings owned by the Company such as roofs and air conditioning systems. In order to obtain a conservative estimate of future expected value for such investments, I applied the -6% net salvage experienced historically to 25% of the investment, which is all investment other than that what I estimated as being Company owned. I then applied the Commission's previously adopted positive 35% net salvage to the remaining 75% of the investment, which yields a value of positive 26.25%. I rounded the net 24.75% (26.25%-1.5%) value to a positive 25% as a conservative estimation to be used for ratemaking purposes in this proceeding. In all likelihood, the ultimate sale of large facilities in the Tulsa, Lawton, or Bartlesville, Oklahoma, etc. areas should yield significantly higher levels of positive net salvage after 55 years of use, thus establishing that my recommendation is conservative.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

A. My recommendation results in a $296,054 reduction in annual depreciation expense based on plant as of December 31, 2012. Further, it should be noted the Commission would be well within reasonable bounds to retain the existing positive 35% net salvage. If it chose to do so, it would result in a $395,090 reduction in annual depreciation expense based on plant as of December 31, 2012.

Account 392 – General Transportation Equipment

Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 392 – GENERAL TRANSPORTATION EQUIPMENT?

A. The Company proposes a zero level of net salvage for the investment in this account.[116]

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

A. The Company lists this account as one of the accounts where the analysis of historical data contributed significantly towards the net salvage estimate.[117]

[116] Exhibit PSO_(JJS-2) page 50 of 353.
[117] *Id.* at pages 36 and 37 of 353.

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

A. No. I recommend a 17% positive level of net salvage.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

A. First, it is necessary to put the Company's presentation into proper perspective. The Company was requested to provide a detailed categorization of the current investment as well as the retirements during the past 10 years for this and other accounts. The Company failed to provide any detailed information associated with what type of vehicles are in service, or for that matter, what has retired in this account during the past 10 years. Therefore, the Company cannot tell us whether the vehicles are light trucks, heavy trucks, bucket trucks, or other types of vehicles. What we do know is that as of the end of 2012, the Company has approximately $4 million of investment in this account with an assumed 12 year ASL, and the Company assumes there will be no salvage associated with the retirement of 12-year-old vehicles.

Next, it is important to note that the 2012 Study only identifies historical net salvage information for the period 2006-2012. However, Mr. Spanos' workpapers actually identifies net salvage activity for the period 2002-2012.[118] This is significant given that the Company reports approximately $6 million of retirement activity with zero gross salvage for the period 2006-2012, but Mr. Spanos' workpapers identify approximately $1.1 million of gross salvage for the period contained therein. In other words, the Company's presentation as set forth in the 2012 Study leaves the impression that there is no gross salvage associated with the sale of millions of dollars of vehicles, which on its face lacks credibility. However, this apparently allows Mr. Spanos to give the appearance that his proposed zero level of net salvage is based on review of historical data. In reality, the actual net salvage database presented by the Company for this account demonstrates that a positive 17% net salvage is warranted based on the analysis of historical data.

[118] Exhibit PSO_(JJS-2) page 247 of 353 and Response to OIEC 4-9 Attachment "Salvage-TDG".

Indeed, this level of result is more indicative of what one would expect with the retirement of vehicles.

In order to test the credibility of the Company's proposal versus what is reflected in the Company's historical data, I tested the reasonable sale price of a 12-year-old F-150 Ford truck in the Tulsa, Oklahoma area. The information provided by the National Auto Dealers Association ("NADA") for the average trade-in and clean retail values for a 2003 Ford F-150 pickup truck compared to Auto Traders identification of original average sale price for such truck would also yield a positive 17% net salvage.[119] Therefore, the Company's recorded historical database is equivalent to what an independent market analysis would yield for the sale of pickup trucks. This confirms the lack of reasonableness associated with the zero level of gross salvage proposal by the Company.

Yet another consideration for a significant level of positive net salvage is the fact that Mr. Spanos, often when testifying elsewhere, recommends 10% to 15% positive salvage for investment in transportation vehicles. For example, in a recent Rocky Mountain Power Company case in Utah, he recommended 10% to 15% positive levels of net salvage depending on the type of transportation investment at issue.[120]

In summary, the Company's proposal for a zero level of net salvage on its face has no merit. The Company's actual historical database yields a positive 17% net salvage, which is confirmed as being reasonable by the marketplace for a 12-year-old Ford F-150 truck in the Tulsa area. In addition, my recommendation is further support by Mr. Spanos' own testimony in other proceedings where he recommends positive levels of net salvage.

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?

[119] Average trade-in value of $2,375 plus clean retail value of $5,300 yields an average gross salvage of $3,837.50. Dividing this value by the average original cost of $21,795 results in a 17.6% positive gross salvage value.

[120] Rocky Mountain Power Company Docket No. 13-035-02 before the Utah Public Service Commission based on a December 31, 2012 study at page III-17.

A. My recommendation results in an $189,838 reduction in annual depreciation expense based on plant as of December 31, 2012.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, to the extent I have not addressed an issue, method, procedures, or other matter relevant to the Company's proposals in its filed depreciation case, it should not be construed that I am in agreement with the Company's proposed issue, method, or procedures.

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Exhibit JP-1

JACOB POUS, P.E.

PRESIDENT, DIVERSIFIED UTILITY CONSULTANTS, INC.

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

I graduated from 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
Pacific Gas & Electric Company	App. No. 12-11-009	Depreciation, Mass Property Net Salvage, Mass Property Life, Hydroelectric
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, Ltd	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 LABRADOR BOARD OF COMMISSIONERS OF PUBLIC UTILITIES		
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
CONNECTICUT		
CONNECTICUT PUBLIC UTILITIES REGULATORY AUTHORITY		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
Connecticut Natural Gas Co.	13-06-08	Depreciation, Life, Net Salvage
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
Tampa Electric Co.	13-0040-EI	Depreciation, Amortization
Gulf Power Co.	130140-EI	Depreciation
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
Sierra Pacific Power Company	13-06004	Depreciation, Life, Net Salvage
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
Entergy Texas Inc.	41791	Nuclear License Extension, Fund After Tax Earnings, Nuclear Cost Escalation Factors
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 Company	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 Corporation	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, Affiliates

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/Investor 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
Rocky Mountain Power	13-035-02	Depreciation, Interim Additions, Production Plant Life Spans, Interim Retirements, Net Salvage, Mass Property Life
WYOMING		
WYOMING PUBLIC SERVICE COMMISSION		
JURISDICTION / COMPANY	DOCKET NO.	TESTIMONY TOPIC
PacifiCorp	20000-ER-00-162	Rate Parity

PUBLIC SERVICE COMPANY OF OKLAHOMA

SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2012

	ACCOUNT	ORIGINAL COST	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(4)	(9)	(10)
	STEAM PRODUCTION PLANT			
310.10	LAND RIGHTS - COAL			
	NORTHEAST RAIL SPUR	$ 206,091	$ 4,637	2.25%
310.31	LAND RIGHTS - OIL/GAS			
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2	$ 1	$ -	
311.00	STRUCTURES AND IMPROVEMENTS - COAL			
	NORTHEAST GENERATING PLANT - UNIT 3	$ 17,833,324	$ 299,600	1.68%
	NORTHEAST GENERATING PLANT - UNIT 4	$ 1,325,491	$ 22,268	1.68%
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4	*$ 19,158,815*	*$ 321,868*	
	OKLAUNION GENERATING PLANT	$ 16,349,291	$ 163,493	1.00%
	TOTAL STRUCTURES AND IMPROVEMENTS - COAL	$ 35,508,105	$ 731,222	
311.30	STRUCTURES AND IMPROVEMENTS - OIL/GAS			
	COMANCHE GENERATING PLANT	$ 4,172,051	$ 83,024	1.99%
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2	$ 9,946,131	$ 137,257	1.38%
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2	$ 8,638,917	$ 122,673	1.42%
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3	$ 8,239,230	$ 144,187	1.75%
	TULSA GENERATING PLANT - UNITS 2 AND 4	$ 6,680,204	$ 100,203	1.50%
	TOTAL STRUCTURES AND IMPROVEMENTS - OIL/GAS	$ 37,676,534	$ 587,343	
312.00	BOILER PLANT EQUIPMENT - COAL			
	NORTHEAST GENERATING PLANT - UNIT 3	$ 173,537,611	$ 2,689,833	1.55%
	NORTHEAST GENERATING PLANT - UNIT 4	$ 120,382,841	$ 1,865,934	1.55%
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4	*$ 293,920,451*	*$ 4,555,767*	
	OKLAUNION GENERATING PLANT	$ 48,280,996	$ 492,466	1.02%
	TOTAL BOILER PLANT EQUIPMENT - COAL	$ 342,201,448	$ 5,048,233	
312.11	COAL TRANSPORTATION EQUIPMENT			
	NORTHEAST GENERATING PLANT - UNITS 3 AND 4	$ 5,143,852	$ -	
312.12	BOILER PLANT EQUIPMENT - RAIL SPUR			
	NORTHEAST RAIL SPUR	$ 22,359,915	$ 292,915	1.31%
312.30	BOILER PLANT EQUIPMENT - OIL/GAS			
	COMANCHE GENERATING PLANT	$ 18,854,595	$ 429,885	2.28%
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2	$ 68,900,040	$ 1,054,171	1.53%
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2	$ 73,631,572	$ 1,045,568	1.42%
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4	$ 61,638	$ 875	1.42%
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3	$ 20,335,515	$ 380,274	1.87%
	TULSA GENERATING PLANT - UNITS 2 AND 4	$ 21,202,912	$ 335,006	1.58%
	TOTAL BOILER PLANT EQUIPMENT - OIL/GAS	$ 202,986,272	$ 3,245,779	

PUBLIC SERVICE COMPANY OF OKLAHOMA

SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2012

	ACCOUNT	ORIGINAL COST	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(4)	(9)	(10)
314.00	TURBOGENERATOR UNITS - COAL			
	NORTHEAST GENERATING PLANT - UNIT 3	$ 45,805,476	$ 641,277	1.40%
	NORTHEAST GENERATING PLANT - UNIT 4	$ 49,073,070	$ 687,023	1.40%
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4	*$ 94,878,546*	*$ 1,328,300*	
	OKLAUNION GENERATING PLANT	$ 14,738,708	$ 137,070	0.93%
	TOTAL TURBOGENERATOR UNITS - COAL	$ 109,617,254	$ 1,465,370	
314.30	TURBOGENERATOR UNITS - OIL/GAS			
	COMANCHE GENERATING PLANT	$ 51,551,534	$ 1,649,649	3.20%
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2	$ 117,650,037	$ 2,282,411	1.94%
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2	$ 69,858,413	$ 859,258	1.23%
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4	$ 1,551	$ 19	1.23%
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3	$ 22,153,720	$ 394,336	1.78%
	TULSA GENERATING PLANT - UNIT 3	$ 656	$ 89	13.64%
	TULSA GENERATING PLANT - UNITS 2 AND 4	$ 28,155,840	$ 447,678	1.59%
	TOTAL TURBOGENERATOR UNITS - OIL/GAS	$ 289,371,751	$ 5,633,441	
315.00	ACCESSORY ELECTRIC EQUIPMENT - COAL			
	NORTHEAST GENERATING PLANT - UNIT 3	$ 18,865,825	$ 199,978	1.06%
	NORTHEAST GENERATING PLANT - UNIT 4	$ 10,731,610	$ 113,755	1.06%
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4	*$ 29,597,434*	*$ 313,733*	
	OKLAUNION GENERATING PLANT	$ 6,306,505	$ 57,389	0.91%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT - COAL	$ 35,903,940	$ 371,122	
315.30	ACCESSORY ELECTRIC EQUIPMENT - OIL/GAS			
	COMANCHE GENERATING PLANT	$ 5,428,018	$ 103,132	1.90%
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2	$ 11,845,681	$ 182,423	1.54%
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2	$ 9,656,443	$ 124,568	1.29%
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3	$ 8,961,219	$ 159,510	1.78%
	SOUTHWESTERN GENERATING PLANT - UNITS 4 AND 5	$ 138,176	$ 2,460	1.78%
	TULSA GENERATING PLANT - UNIT 3	$ 1,462	$ 198	13.52%
	TULSA GENERATING PLANT - UNITS 2 AND 4	$ 7,198,737	$ 67,668	0.94%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT - OIL/GAS	$ 43,229,736	$ 639,959	
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT - COAL			
	NORTHEAST GENERATING PLANT - UNIT 3	$ 16,870,722	$ 258,122	1.53%
	NORTHEAST GENERATING PLANT - UNIT 4	$ 4,269,515	$ 65,324	1.53%
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4	*$ 21,140,237*	*$ 323,446*	
	OKLAUNION GENERATING PLANT	$ 5,537,229	$ 56,480	1.02%
	TULSA GENERATING PLANT - UNITS 2 AND 4	$ 42,400	$ 1,323	3.12%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - COAL	$ 26,719,866	$ 381,248	

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	ACCOUNT	ORIGINAL COST	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(4)	(9)	(10)
316.30	MISCELLANEOUS POWER PLANT EQUIPMENT - OIL/GAS			
	COMANCHE GENERATING PLANT	$ 2,030,934	$ 63,974	3.15%
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2	$ 7,151,153	$ 75,087	1.05%
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2	$ 5,428,538	$ 102,057	1.88%
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4	$ 604	$ 11	1.88%
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3	$ 1,291,420	$ 34,739	2.69%
	TULSA GENERATING PLANT - UNITS 2 AND 4	$ 2,779,092	$ 86,708	3.12%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - OIL/GAS	$ 18,681,741	$ 362,576	
	TOTAL STEAM PRODUCTION PLANT	**$ 1,169,606,506**	**$ 18,763,845**	**1.67%**
	OTHER PRODUCTION PLANT			
341.00	STRUCTURES AND IMPROVEMENTS			
	SOUTHWESTERN GENERATING UNIT - UNITS 4 AND 5	$ 6,052,791	$ 125,898	2.08%
	WELEETKA GENERATING PLANT	$ 773,234	$ 7,423	0.96%
	TOTAL STRUCTURES AND IMPROVEMENTS	$ 6,826,025	$ 133,321	
342.00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES			
	COMANCHE GENERATING PLANT - DIESEL UNIT	$ 2,994	$ 146	4.89%
	NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2	$ 63,289	$ 614	0.97%
	RIVERSIDE GENERATING PLANT - DIESEL UNIT	$ 24,392	$ 239	0.98%
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4	$ 9,755,832	$ 202,921	2.08%
	SOUTHWESTERN GENERATING PLANT - DIESEL	$ 67,052	$ 966	1.44%
	TULSA GENERATING PLANT - DIESEL UNIT	$ 70,372	$ 1,049	1.49%
	WELEETKA GENERATING PLANT - DIESEL UNIT	$ 10,291	$ 774	7.52%
	WELEETKA GENERATING PLANT	$ 2,134,695	$ 51,019	2.39%
	TOTAL FUEL HOLDERS, PRODUCERS AND ACCESSORIES	$ 12,128,917	$ 257,728	
344.00	GENERATORS			
	COMANCHE GENERATING PLANT - DIESEL UNIT	$ 754,469	$ 11,996	1.59%
	NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2	$ 241,260	$ 2,268	0.94%
	NORTHEAST GENERATING PLANT - UNITS 3 AND 4 - DIESEL UNIT	$ 437,950	$ 3,241	0.74%
	RIVERSIDE GENERATING PLANT - DIESEL UNIT	$ 470,175	$ 4,420	0.94%
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4	$ 48,069,472	$ 999,845	2.08%
	SOUTHWESTERN GENERATING PLANT - DIESEL	$ 212,484	$ 2,380	1.12%
	SOUTHWESTERN GENERATING UNIT - UNITS 4 AND 5	$ 43,028,849	$ 895,000	2.08%
	TULSA GENERATING PLANT - DIESEL UNIT	$ 608,404	$ 8,761	1.44%
	WELEETKA GENERATING PLANT - DIESEL UNIT	$ 666,380	$ 50,245	7.54%
	WELEETKA GENERATING PLANT	$ 23,489,988	$ 364,095	1.55%
	TOTAL GENERATORS	$ 117,979,430	$ 2,342,250	
345.00	ACCESSORY ELECTRIC EQUIPMENT			
	NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2	$ 50,951	$ 484	0.95%
	RIVERSIDE GENERATING PLANT - DIESEL UNIT	$ 28,635	$ 361	1.26%
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4	$ 3,798,712	$ 79,013	2.08%
	SOUTHWESTERN GENERATING UNIT - UNITS 4 AND 5	$ 9,543,177	$ 198,498	2.08%
	WELEETKA GENERATING PLANT - DIESEL UNIT	$ 36,296	$ 2,973	8.19%
	WELEETKA GENERATING PLANT	$ 310,109	$ 24,033	7.75%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT	$ 13,767,880	$ 305,362	

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	ACCOUNT	ORIGINAL COST	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(4)	(9)	(10)
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT			
	COMANCHE GENERATING PLANT - DIESEL UNIT	$ 17,858	$ 302	1.69%
	NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2	$ 3,019	$ 24	0.79%
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4	$ 50,535	$ 1,051	2.08%
	WELEETKA GENERATING PLANT - DIESEL UNIT	$ 911	$ 68	7.46%
	WELEETKA GENERATING PLANT	$ 1,996,863	$ 82,071	4.11%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT	$ 2,069,185	$ 83,516	
	TOTAL OTHER PRODUCTION PLANT	**$ 152,771,437**	**$ 3,122,177**	1.71%
	TRANSMISSION PLANT			
350.10	LAND RIGHTS	$ 37,260,572	$ 406,140	1.09%
352.00	STRUCTURES AND IMPROVEMENTS	$ 8,999,349	$ 169,188	1.88%
353.00	STATION EQUIPMENT	$ 284,645,394	$ 4,355,075	1.53%
354.00	TOWERS AND FIXTURES	$ 17,992,224	$ 201,513	1.12%
355.00	POLES AND FIXTURES	$ 196,472,027	$ 5,461,922	2.78%
356.00	OVERHEAD CONDUCTORS AND DEVICES	$ 158,614,786	$ 3,045,404	1.92%
358.00	UNDERGROUND CONDUCTORS AND DEVICES	$ 71,915	$ 2,165	3.01%
	TOTAL TRANSMISSION PLANT	**$ 704,056,267**	**$ 13,641,406**	1.90%
	DISTRIBUTION PLANT			
360.10	LAND RIGHTS	$ 2,471,912	$ 22,742	0.92%
361.00	STRUCTURES AND IMPROVEMENTS	$ 4,029,607	$ 16,521	0.41%
362.00	STATION EQUIPMENT	$ 220,550,986	$ 3,727,312	1.69%
364.00	POLES, TOWERS AND FIXTURES	$ 308,368,377	$ 6,753,267	2.19%
365.00	OVERHEAD CONDUCTORS AND DEVICES	$ 326,759,122	$ 10,162,209	3.11%
366.00	UNDERGROUND CONDUIT	$ 53,988,200	$ 1,085,163	2.01%
367.00	UNDERGROUND CONDUCTORS AND DEVICES	$ 264,888,946	$ 3,867,379	1.46%
368.00	LINE TRANSFORMERS	$ 286,842,877	$ 8,347,128	2.91%
369.00	SERVICES	$ 210,067,598	$ 4,495,447	2.14%
370.00	METERS	$ 72,360,024	$ 3,646,945	5.04%
370.16	AMI METERS	$ 8,507,189	$ 428,762	5.04%
371.00	INSTALLATIONS ON CUSTOMER PREMISES	$ 40,068,465	$ 993,698	2.48%
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	$ 53,056,933	$ 1,331,729	2.51%
	TOTAL DISTRIBUTION PLANT	**$ 1,851,960,234**	**$ 44,878,301**	2.45%
	GENERAL PLANT			
390.00	STRUCTURES AND IMPROVEMENTS	$ 40,317,807	$ 241,907	0.60%
391.10	OFFICE FURNITURE AND EQUIPMENT	$ 13,555,954	$ 889,271	6.56%
391.20	OFFICE FURNITURE AND EQUIPMENT - COMPUTERS	$ 87,540	$ -	0.00%
392.00	TRANSPORTATION EQUIPMENT	$ 3,959,243	$ 241,910	6.11%
393.00	STORES EQUIPMENT	$ 2,059,055	$ 66,507	3.23%
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	$ 16,342,983	$ 457,604	2.80%
395.00	LABORATORY EQUIPMENT	$ 4,277,296	$ 133,024	3.11%

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	ACCOUNT	ORIGINAL COST	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(4)	(9)	(10)
396.00	POWER OPERATED EQUIPMENT	$ 1,277,072	$ 70,239	5.50%
397.00	COMMUNICATION EQUIPMENT	$ 53,869,814	$ 2,240,984	4.16%
398.00	MISCELLANEOUS EQUIPMENT	$ 5,044,732	$ 223,482	4.43%
399.30	OTHER TANGIBLE PROPERTY	$ 529,811	$ 8,000	1.51%
	TOTAL GENERAL PLANT	**$ 141,321,307**	**$ 4,572,927**	3.73%
	TOTAL DEPRECIABLE PLANT	**$ 4,019,715,751**	**$ 84,978,656**	
	COMPANY PROPOSED	**$ 4,019,715,751**	**$ 112,997,178**	
	ADJUSTMENT	**$ 0**	**$ (28,018,522)**	
	NONDEPRECIABLE PLANT			
310.00	LAND	$ 7,134,369		
340.00	LAND	$ 62,660		
350.00	LAND	$ 2,860,843		
360.00	LAND	$ 7,414,872		
389.00	LAND	$ 4,183,229		
		$ 21,655,973		
	ACCOUNTS NOT STUDIED			
303.00	MISCELLANEOUS INTANGIBLE PLANT	$ 40,204,612		
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT WELEETKA GENERATING PLANT	$ -		
		$ 40,204,612		
	TOTAL ELECTRIC PLANT	**$ 4,081,576,336**	**$ 84,978,656**	

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SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE
AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2012

	ACCOUNT (1)	SURVIVOR CURVE (2)	IRR (3)	ORIGINAL COST (4)	NET SALVAGE PERCENT (5)	NET SALVAGE AMOUNT (6)	BOOK DEPRECIATION RESERVE (7)	FUTURE ACCRUALS (8)	CALCULATED ANNUAL ACCRUAL AMOUNT (9)	CALCULATED ANNUAL ACCRUAL RATE (10)	ARL (11)
	STEAM PRODUCTION PLANT										
310.10	LAND RIGHTS - COAL										
	NORTHEAST RAIL SPUR		0.0000	$ 206,091	-	$ -	$ 79,675	$ 126,416	$ 4,597	2.23%	27.5
310.31	LAND RIGHTS - OIL/GAS										
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2		0.0006	$ 1	-	$ -	$ -	$ 1	$ 0	-	23.3
311.00	STRUCTURES AND IMPROVEMENTS - COAL										
	NORTHEAST GENERATING PLANT - UNIT 3		0.0065	$ 17,833,324	(1.00)	$ (178,333)	$ 9,282,263	$ 8,729,394	$ 348,588	1.95%	25.0
	NORTHEAST GENERATING PLANT - UNIT 4		0.0065	$ 1,325,491	(1.00)	$ (13,255)	$ 370,525	$ 968,221	$ 38,664	2.92%	25.0
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4			*$ 19,158,815*		*$ (191,588)*	*$ 9,652,788*	*$ 9,697,615*	*$ 387,251*	*2.02*	
	OKLAUNION GENERATING PLANT		0.0004	$ 16,349,291	(1.00)	$ (163,493)	$ 10,255,922	$ 6,256,862	$ 188,032	1.15%	33.3
	TOTAL STRUCTURES AND IMPROVEMENTS - COAL			$ 35,508,105			$ 19,908,710	$ 15,954,476	$ 731,222	2.06	
311.30	STRUCTURES AND IMPROVEMENTS - OIL/GAS										
	COMANCHE GENERATING PLANT		0.0015	$ 4,172,051	(4.00)	$ (166,882)	$ 3,003,830	$ 1,335,103	$ 60,356	1.45%	22.1
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2		0.0006	$ 9,946,131	(3.00)	$ (298,384)	$ 5,418,441	$ 4,826,074	$ 206,823	2.08%	23.3
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2		0.0011	$ 8,638,917	(5.00)	$ (431,946)	$ 4,338,713	$ 4,732,150	$ 168,684	1.95%	28.1
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3		0.0015	$ 8,239,230	(2.00)	$ (164,785)	$ 4,028,332	$ 4,375,683	$ 181,942	2.21%	24.0
	TULSA GENERATING PLANT - UNITS 2 AND 4		0.0008	$ 6,680,204	(3.00)	$ (200,406)	$ 3,393,885	$ 3,486,725	$ 163,580	2.45%	21.3
	TOTAL STRUCTURES AND IMPROVEMENTS - OIL/GAS			$ 37,676,534		$ (1,262,403)	$ 20,183,201	$ 18,755,736	$ 781,386	2.81	
312.00	BOILER PLANT EQUIPMENT - COAL										
	NORTHEAST GENERATING PLANT - UNIT 3		0.0057	$ 173,537,611	(1.00)	$ (1,735,376)	$ 97,457,954	$ 77,815,033	$ 3,070,270	1.77%	25.3
	NORTHEAST GENERATING PLANT - UNIT 4		0.0057	$ 120,382,841	(1.00)	$ (1,203,828)	$ 67,065,335	$ 54,521,334	$ 2,151,194	1.79%	25.3
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4			*$ 293,920,451*		*$ (2,939,205)*	*$ 164,523,289*	*$ 132,336,367*	*$ 5,221,464*	*1.78*	
	OKLAUNION GENERATING PLANT		0.0013	$ 48,280,996	(1.00)	$ (482,810)	$ 27,988,834	$ 20,774,972	$ 633,953	1.31%	32.8
	TOTAL BOILER PLANT EQUIPMENT - COAL			$ 342,201,448		$ (3,422,014)	$ 192,512,123	$ 153,111,339	$ 5,855,416	2.16	
312.11	COAL TRANSPORTATION EQUIPMENT										
	NORTHEAST GENERATING PLANT - UNITS 3 AND 4		0.0053	$ 5,143,852	(1.00)	$ (51,439)	$ 5,143,852	$ -	$ -	-	25.5
312.12	BOILER PLANT EQUIPMENT - RAIL SPUR										
	NORTHEAST RAIL SPUR		0.0000	$ 22,359,915	-	$ -	$ 15,478,122	$ 6,881,793	$ 250,247	1.12%	27.5

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ACCOUNT (1)	SURVIVOR CURVE (2)	IRR (3)	ORIGINAL COST (4)	NET SALVAGE PERCENT (5)	NET SALVAGE AMOUNT (6)	BOOK DEPRECIATION RESERVE (7)	FUTURE ACCRUALS (8)	CALCULATED ANNUAL ACCRUAL AMOUNT (9)	CALCULATED ANNUAL ACCRUAL RATE (10)	ARL (11)
312.30 BOILER PLANT EQUIPMENT - OIL/GAS										
COMANCHE GENERATING PLANT		0.0070	$ 18,854,595	(4.00)	$ (754,184)	$ 12,495,993	$ 7,112,786	$ 343,147	1.82%	20.7
NORTHEAST GENERATING PLANT - UNITS 1 AND 2		0.0030	$ 68,900,040	(3.00)	$ (2,067,001)	$ 45,037,295	$ 25,929,746	$ 1,143,709	1.66%	22.7
RIVERSIDE GENERATING PLANT - UNITS 1 AND 2		0.0023	$ 73,631,572	(5.00)	$ (3,681,579)	$ 46,675,308	$ 30,637,843	$ 1,111,439	1.51%	27.6
RIVERSIDE GENERATING PLANT - UNITS 3 AND 4		0.0023	$ 61,638	(5.00)	$ (3,082)	$ 966	$ 63,754	$ 1,543	2.50%	41.3
SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3		0.0038	$ 20,335,515	(2.00)	$ (406,710)	$ 13,826,612	$ 6,915,613	$ 296,051	1.46%	23.4
TULSA GENERATING PLANT - UNITS 2 AND 4		0.0095	$ 21,202,912	(3.00)	$ (636,087)	$ 14,029,181	$ 7,809,818	$ 404,563	1.91%	19.3
TOTAL BOILER PLANT EQUIPMENT - OIL/GAS			$ 202,986,272		$ (7,548,643)	$ 132,065,355	$ 78,469,560	$ 3,300,453	2.43	
314.00 TURBOGENERATOR UNITS - COAL										
NORTHEAST GENERATING PLANT - UNIT 3		0.0032	$ 45,805,476	(1.00)	$ (458,055)	$ 21,610,287	$ 24,653,243	$ 937,742	2.05%	26.3
NORTHEAST GENERATING PLANT - UNIT 4		0.0032	$ 49,073,070	(1.00)	$ (490,731)	$ 23,256,470	$ 26,307,331	$ 1,000,659	2.04%	26.3
TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4			*$ 94,878,546*		*$ (948,785)*	*$ 44,866,757*	*$ 50,960,574*	*$ 1,938,401*	*2.04*	
OKLAUNION GENERATING PLANT		0.0008	$ 14,738,708	(1.00)	$ (147,387)	$ 10,401,710	$ 4,484,385	$ 135,680	0.92%	33.1
TOTAL TURBOGENERATOR UNITS - COAL			$ 109,617,254		$ (1,096,173)	$ 55,268,467	$ 55,444,959	$ 2,074,082	2.52	
314.30 TURBOGENERATOR UNITS - OIL/GAS										
COMANCHE GENERATING PLANT		0.0122	$ 51,551,534	(4.00)	$ (2,062,061)	$ 28,239,006	$ 25,374,590	$ 1,307,168	2.54%	19.4
NORTHEAST GENERATING PLANT - UNITS 1 AND 2		0.0162	$ 117,650,037	(3.00)	$ (3,529,501)	$ 74,271,538	$ 46,908,000	$ 2,465,368	2.10%	19.0
RIVERSIDE GENERATING PLANT - UNITS 1 AND 2		0.0016	$ 69,858,413	(5.00)	$ (3,492,921)	$ 33,693,810	$ 39,657,524	$ 1,423,958	2.04%	27.9
RIVERSIDE GENERATING PLANT - UNITS 3 AND 4		0.0016	$ 1,551	(5.00)	$ (78)	$ 22	$ 1,607	$ 38	2.47%	42.0
SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3		0.0021	$ 22,153,720	(2.00)	$ (443,074)	$ 15,039,913	$ 7,556,882	$ 316,588	1.43%	23.9
TULSA GENERATING PLANT - UNIT 3		0.0040	$ 656	(2.00)	$ (13)	$ 667	$ 2	$ 4	0.67%	0.5
TULSA GENERATING PLANT - UNITS 2 AND 4		0.0040	$ 28,155,840	(3.00)	$ (844,675)	$ 14,341,803	$ 14,658,712	$ 712,435	2.53%	20.6
TOTAL TURBOGENERATOR UNITS - OIL/GAS			$ 289,371,751		$ (10,372,323)	$ 165,586,759	$ 134,157,316	$ 6,225,561	2.75	
315.00 ACCESSORY ELECTRIC EQUIPMENT - COAL										
NORTHEAST GENERATING PLANT - UNIT 3		0.0013	$ 18,865,825	(1.00)	$ (188,658)	$ 12,660,119	$ 6,394,364	$ 236,754	1.25%	27.0
NORTHEAST GENERATING PLANT - UNIT 4		0.0013	$ 10,731,610	(1.00)	$ (107,316)	$ 7,455,713	$ 3,383,213	$ 125,265	1.17%	27.0
TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4			*$ 29,597,434*		*$ (295,974)*	*$ 20,115,832*	*$ 9,777,577*	*$ 362,019*	*1.22*	
OKLAUNION GENERATING PLANT		0.0004	$ 6,306,505	(1.00)	$ (63,065)	$ 4,541,999	$ 1,827,572	$ 54,922	0.87%	33.3
TOTAL ACCESSORY ELECTRIC EQUIPMENT - COAL			$ 35,903,940		$ (359,039)	$ 24,657,831	$ 11,605,148	$ 416,942	1.63	

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	ACCOUNT	SURVIVOR CURVE	IRR	ORIGINAL COST	NET SALVAGE PERCENT	NET SALVAGE AMOUNT	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	ARL
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
315.30	ACCESSORY ELECTRIC EQUIPMENT - OIL/GAS										
	COMANCHE GENERATING PLANT		0.0006	$ 5,428,018	(4.00)	$ (217,121)	$ 4,348,660	$ 1,296,478	$ 58,013	1.07%	22.3
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2		0.0074	$ 11,845,681	(3.00)	$ (355,370)	$ 7,797,577	$ 4,403,475	$ 205,226	1.73%	21.5
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2		0.0020	$ 9,656,443	(5.00)	$ (482,822)	$ 6,617,611	$ 3,521,655	$ 127,192	1.32%	27.7
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3		0.0022	$ 8,961,219	(2.00)	$ (179,224)	$ 3,499,201	$ 5,641,242	$ 236,632	2.64%	23.8
	SOUTHWESTERN GENERATING PLANT - UNITS 4 AND 5		0.0022	$ 138,176	(2.00)	$ (2,764)	$ 1,988	$ 138,951	$ 3,355	2.43%	41.4
	TULSA GENERATING PLANT - UNIT 3		0.0018	$ 1,462	(2.00)	$ (29)	$ 1,349	$ 142	$ 285	19.49%	0.5
	TULSA GENERATING PLANT - UNITS 2 AND 4		0.0018	$ 7,198,737	(3.00)	$ (215,962)	$ 3,394,044	$ 4,020,655	$ 190,697	2.65%	21.1
	TOTAL ACCESSORY ELECTRIC EQUIPMENT - OIL/GAS			$ 43,229,736		$ (1,453,293)	$ 25,660,430	$ 19,022,599	$ 821,400	2.61	
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT - COAL										
	NORTHEAST GENERATING PLANT - UNIT 3		0.0061	$ 16,870,722	(1.00)	$ (168,707)	$ 8,229,697	$ 8,809,732	$ 349,684	2.07%	25.2
	NORTHEAST GENERATING PLANT - UNIT 4		0.0061	$ 4,269,515	(1.00)	$ (42,695)	$ 2,133,860	$ 2,178,350	$ 86,465	2.03%	25.2
	TOTAL NORTHEAST GENERATING PLANT UNITS 3 AND 4			*$ 21,140,237*		*$ (211,402)*	*$ 10,363,557*	*$ 10,988,083*	*$ 436,149*	*2.06*	
	OKLAUNION GENERATING PLANT		0.0024	$ 5,537,229	(1.00)	$ (55,372)	$ 3,869,884	$ 1,722,717	$ 53,578	0.97%	32.2
	TULSA GENERATING PLANT - UNITS 2 AND 4		0.0348	$ 42,400	(3.00)	$ (1,272)	$ 6,678	$ 36,994	$ 2,749	6.48%	13.5
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - COAL			$ 26,719,866		$ (268,047)	$ 14,240,119	$ 12,747,794	$ 492,476	2.48	
316.30	MISCELLANEOUS POWER PLANT EQUIPMENT - OIL/GAS										
	COMANCHE GENERATING PLANT		0.0154	$ 2,030,934	(4.00)	$ (81,237)	$ 1,413,307	$ 698,865	$ 37,570	1.85%	18.6
	NORTHEAST GENERATING PLANT - UNITS 1 AND 2		0.0078	$ 7,151,153	(3.00)	$ (214,535)	$ 4,437,324	$ 2,928,363	$ 137,184	1.92%	21.3
	RIVERSIDE GENERATING PLANT - UNITS 1 AND 2		0.0037	$ 5,428,538	(5.00)	$ (271,427)	$ 1,864,755	$ 3,835,210	$ 142,059	2.62%	27.0
	RIVERSIDE GENERATING PLANT - UNITS 3 AND 4		0.0037	$ 604	(5.00)	$ (30)	$ 25	$ 610	$ 15	2.52%	40.0
	SOUTHWESTERN GENERATING PLANT - UNITS 1, 2 AND 3		0.0230	$ 1,291,420	(2.00)	$ (25,828)	$ 779,432	$ 537,816	$ 30,563	2.37%	17.6
	TULSA GENERATING PLANT - UNITS 2 AND 4		0.0348	$ 2,779,092	(3.00)	$ (83,373)	$ 1,095,717	$ 1,766,748	$ 131,290	4.72%	13.5
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - OIL/GAS			$ 18,681,741		$ (676,430)	$ 9,590,560	$ 9,767,611	$ 478,680	3.08	
	TOTAL STEAM PRODUCTION PLANT			**$ 1,169,606,506**		**$ (26,509,804)**	**$ 680,375,204**	**$ 516,044,749**	**$ 21,432,462**	**2.41**	
	OTHER PRODUCTION PLANT										
341.00	STRUCTURES AND IMPROVEMENTS										
	SOUTHWESTERN GENERATING UNIT - UNITS 4 AND 5		0.0004	$ 6,052,791	(1.00)	$ (60,528)	$ 583,850	$ 5,529,469	$ 128,230	2.12%	43.1
	WELEETKA GENERATING PLANT		0.0004	$ 773,234	(2.00)	$ (15,465)	$ 252,474	$ 536,225	$ 71,604	9.26%	7.5
	TOTAL STRUCTURES AND IMPROVEMENTS			$ 6,826,025		$ (75,993)	$ 836,324	$ 6,065,694	$ 199,834	3.56	

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SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2012

ACCOUNT (1)	SURVIVOR CURVE (2)	IRR (3)	ORIGINAL COST (4)	NET SALVAGE PERCENT (5)	NET SALVAGE AMOUNT (6)	BOOK DEPRECIATION RESERVE (7)	FUTURE ACCRUALS (8)	CALCULATED ANNUAL ACCRUAL AMOUNT (9)	CALCULATED ANNUAL ACCRUAL RATE (10)	ARL (11)
342.00 FUEL HOLDERS, PRODUCERS AND ACCESSORIES										
COMANCHE GENERATING PLANT - DIESEL UNIT		0.0000	2,994	(1.00)	(30)	1,258	1,766	78	2.62%	22.5
NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2		0.0000	63,289	(3.00)	(1,899)	49,995	15,193	646	1.02%	23.5
RIVERSIDE GENERATING PLANT - DIESEL UNIT		0.0000	24,392	(1.00)	(244)	4,104	20,532	720	2.95%	28.5
RIVERSIDE GENERATING PLANT - UNITS 3 AND 4		0.0000	9,755,832	(5.00)	(487,792)	946,781	9,296,842	213,721	2.19%	43.5
SOUTHWESTERN GENERATING PLANT - DIESEL		0.0000	67,052	(1.00)	(671)	28,070	39,653	1,934	2.88%	20.5
TULSA GENERATING PLANT - DIESEL UNIT		0.0000	70,372	(3.00)	(2,111)	56,311	16,172	752	1.07%	21.5
WELEETKA GENERATING PLANT - DIESEL UNIT		0.0000	10,291	(1.00)	(103)	9,104	1,290	172	1.67%	7.5
WELEETKA GENERATING PLANT		0.0000	2,134,695	(2.00)	(42,694)	1,642,904	534,485	71,265	3.34%	7.5
TOTAL FUEL HOLDERS, PRODUCERS AND ACCESSORIES			12,128,917		(535,543)	2,738,527	9,925,933	289,289	3.06	
344.00 GENERATORS										
COMANCHE GENERATING PLANT - DIESEL UNIT		0.0000	754,469	(1.00)	(7,545)	620,389	141,625	6,294	0.83%	22.5
NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2		0.0000	241,260	(3.00)	(7,238)	188,565	59,933	2,550	1.06%	23.5
NORTHEAST GENERATING PLANT - UNITS 3 AND 4 - DIESEL UN		0.0000	437,950	-	-	349,881	88,069	3,203	0.73%	27.5
RIVERSIDE GENERATING PLANT - DIESEL UNIT		0.0000	470,175	(1.00)	(4,702)	384,757	90,119	3,162	0.67%	28.5
RIVERSIDE GENERATING PLANT - UNITS 3 AND 4		0.0000	48,069,472	(5.00)	(2,403,474)	4,521,536	45,951,409	1,056,354	2.20%	43.5
SOUTHWESTERN GENERATING PLANT - DIESEL		0.0017	212,484	(1.00)	(2,125)	178,433	36,175	1,796	0.85%	20.1
SOUTHWESTERN GENERATING UNIT - UNITS 4 AND 5		0.0000	43,028,849	(1.00)	(430,288)	4,290,774	39,168,363	900,422	2.09%	43.5
TULSA GENERATING PLANT - DIESEL UNIT		0.0000	608,404	(3.00)	(18,252)	493,821	132,835	6,178	1.02%	21.5
WELEETKA GENERATING PLANT - DIESEL UNIT		0.0016	666,380	(1.00)	(6,664)	571,924	101,120	13,564	2.04%	7.5
WELEETKA GENERATING PLANT		0.0072	23,489,988	(2.00)	(469,800)	18,815,285	5,144,502	704,968	3.00%	7.3
TOTAL GENERATORS			117,979,429		(3,350,087)	30,415,365	90,914,151	2,698,492	3.02	
345.00 ACCESSORY ELECTRIC EQUIPMENT										
NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2		0.0083	50,951	(3.00)	(1,529)	41,251	11,229	529	1.04%	21.2
RIVERSIDE GENERATING PLANT - DIESEL UNIT		0.0237	28,635	(1.00)	(286)	24,409	4,513	239	0.83%	18.9
RIVERSIDE GENERATING PLANT - UNITS 3 AND 4		0.0237	3,798,712	(5.00)	(189,936)	360,271	3,628,376	172,150	4.53%	21.1
SOUTHWESTERN GENERATING UNIT - UNITS 4 AND 5		0.0000	9,543,177	(1.00)	(95,432)	926,785	8,711,824	200,272	2.10%	43.5
WELEETKA GENERATING PLANT - DIESEL UNIT		0.0140	36,296	(1.00)	(363)	26,344	10,315	1,452	4.00%	7.1
WELEETKA GENERATING PLANT		0.0557	310,109	(2.00)	(6,202)	147,186	169,125	28,504	9.19%	5.9
TOTAL ACCESSORY ELECTRIC EQUIPMENT			13,767,880		(293,747)	1,526,246	12,535,382	403,146	5.33	
346.00 MISCELLANEOUS POWER PLANT EQUIPMENT										
COMANCHE GENERATING PLANT - DIESEL UNIT		0.0253	17,858	(1.00)	(179)	10,995	7,041	438	2.45%	16.1
NORTHEAST GENERATING PLANT - DIESEL UNITS 1 AND 2		0.0000	3,019	(3.00)	(91)	2,462	648	28	0.91%	23.5
RIVERSIDE GENERATING PLANT - UNITS 3 AND 4		0.0000	50,535	(5.00)	(2,527)	3,047	50,015	1,150	2.28%	43.5
WELEETKA GENERATING PLANT - DIESEL UNIT		0.0000	911	(1.00)	(9)	655	265	35	3.87%	7.5
WELEETKA GENERATING PLANT		0.0035	1,996,863	(2.00)	(39,937)	919,296	1,117,504	150,982	7.56%	7.4
TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT			2,069,185		(42,742)	936,455	1,175,472	152,632	8.26	
TOTAL OTHER PRODUCTION PLANT			**152,771,437**		**(4,298,112)**	**36,452,917**	**120,616,631**	**3,743,393**	**2.45**	

PUBLIC SERVICE COMPANY OF OKLAHOMA

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	ACCOUNT (1)	SURVIVOR CURVE (2)	IRR (3)	ORIGINAL COST (4)	NET SALVAGE PERCENT (5)	NET SALVAGE AMOUNT (6)	BOOK DEPRECIATION RESERVE (7)	FUTURE ACCRUALS (8)	CALCULATED ANNUAL ACCRUAL AMOUNT (9)	CALCULATED ANNUAL ACCRUAL RATE (10)	ARL (11)
	TRANSMISSION PLANT										
350.10	LAND RIGHTS	100R4		$ 37,260,572	-	$ -	$ 14,936,434	$ 22,324,138	$ 286,906	0.77%	77.8
352.00	STRUCTURES AND IMPROVEMENTS	65-S2.5		$ 8,999,349	(15.00)	$ (1,349,902)	$ 4,049,135	$ 6,300,116	$ 135,486	1.51%	46.5
353.00	STATION EQUIPMENT	63SO		$ 284,645,394	(5.00)	$ (14,232,270)	$ 86,996,738	$ 211,880,925	$ 4,212,344	1.48%	50.3
354.00	TOWERS AND FIXTURES	75-R4		$ 17,992,224	(50.00)	$ (8,996,112)	$ 7,376,133	$ 19,612,203	$ 447,767	2.49%	43.8
355.00	POLES AND FIXTURES	54-S0.5		$ 196,472,027	(75.00)	$ (147,354,020)	$ 51,627,165	$ 292,198,882	$ 6,542,743	3.33%	44.7
356.00	OVERHEAD CONDUCTORS AND DEVICES	69R2.5		$ 158,614,786	(45.00)	$ (71,376,654)	$ 56,815,025	$ 173,176,414	$ 3,371,159	2.13%	51.4
358.00	UNDERGROUND CONDUCTORS AND DEVICES	45-R4		$ 71,915	-	$ -	$ 38,152	$ 33,763	$ 1,806	2.51%	18.7
	TOTAL TRANSMISSION PLANT			**$ 704,056,267**		**$ (243,308,958)**	**$ 221,838,782**	**$ 725,526,443**	**$ 14,998,210**	**2.13**	
	DISTRIBUTION PLANT										
360.10	LAND RIGHTS	70-R4		$ 2,471,912	-	$ -	$ 959,598	$ 1,512,314	$ 24,877	1.01%	60.8
361.00	STRUCTURES AND IMPROVEMENTS	42-S0		$ 4,029,607	(5.00)	$ (201,480)	$ 1,090,528	$ 3,140,560	$ 102,491	2.54%	30.6
362.00	STATION EQUIPMENT	60-R1.5		$ 220,550,986	(10.00)	$ (22,055,099)	$ 68,328,573	$ 174,277,511	$ 3,695,474	1.68%	47.2
364.00	POLES, TOWERS AND FIXTURES	52-R1		$ 308,368,377	(80.00)	$ (246,694,701)	$ 97,407,217	$ 457,655,861	$ 11,029,915	3.58%	41.5
365.00	OVERHEAD CONDUCTORS AND DEVICES	47-R1		$ 326,759,122	(50.00)	$ (163,379,561)	$ 62,158,648	$ 427,980,034	$ 11,317,393	3.46%	37.8
366.00	UNDERGROUND CONDUIT	65-R2		$ 53,988,200	(60.00)	$ (32,392,920)	$ 8,260,975	$ 78,120,145	$ 1,362,293	2.52%	57.3
367.00	UNDERGROUND CONDUCTORS AND DEVICES	65-R1.5		$ 264,888,946	(20.00)	$ (52,977,789)	$ 53,456,572	$ 264,410,164	$ 4,705,831	1.78%	56.2
368.00	LINE TRANSFORMERS	36-R1		$ 286,842,877	(5.00)	$ (14,342,144)	$ 101,242,436	$ 199,942,584	$ 7,354,982	2.56%	27.2
369.00	SERVICES	58-R1.5		$ 210,067,598	(60.00)	$ (126,040,559)	$ 64,650,297	$ 271,457,860	$ 5,718,088	2.72%	47.5
370.00	METERS	28-R0.5		$ 72,360,024	(25.00)	$ (18,090,006)	$ 8,224,891	$ 82,225,139	$ 6,934,077	9.58%	11.9
370.16	AMI METERS	15-S2.5		$ 8,507,189	-	$ -	$ 377,324	$ 8,129,865	$ 582,081	6.84%	14.0
371.00	INSTALLATIONS ON CUSTOMER PREMISES	30-O1		$ 40,068,465	(25.00)	$ (10,017,116)	$ 16,276,118	$ 33,809,463	$ 1,352,110	3.37%	25.0
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	35-R0.5		$ 53,056,933	(30.00)	$ (15,917,080)	$ 27,725,975	$ 41,248,037	$ 1,452,580	2.74%	28.4
	TOTAL DISTRIBUTION PLANT			**$ 1,851,960,234**		**$ (702,108,455)**	**$ 510,159,152**	**$ 2,043,909,537**	**$ 55,632,192**	**3.00**	

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ACCOUNT (1)		SURVIVOR CURVE (2)	IRR (3)	ORIGINAL COST (4)	NET SALVAGE PERCENT (5)	NET SALVAGE AMOUNT (6)	BOOK DEPRECIATION RESERVE (7)	FUTURE ACCRUALS (8)	CALCULATED ANNUAL ACCRUAL AMOUNT (9)	CALCULATED ANNUAL ACCRUAL RATE (10)	ARL (11)
	GENERAL PLANT										
390.00	STRUCTURES AND IMPROVEMENTS	55-S0.5		$ 40,317,807	25.00	$ 10,079,452	$ 13,080,600	$ 17,157,755	$ 419,505	1.04%	40.9
391.10	OFFICE FURNITURE AND EQUIPMENT	25SQ		$ 13,555,954	-	$ -	$ 9,628,555	$ 3,927,399	$ 689,017	5.08%	5.7
391.20	OFFICE FURNITURE AND EQUIPMENT - COMPUTERS	5-SQ		$ 87,540	-	$ -	$ 10,363	$ 77,177	$ 24,118	27.55%	3.2
392.00	TRANSPORTATION EQUIPMENT	12-L3		$ 3,959,243	17.00	$ 673,071	$ 2,426,691	$ 859,481	$ 238,745	6.03%	3.6
393.00	STORES EQUIPMENT	30-SQ		$ 2,059,055	-	$ -	$ 1,415,790	$ 643,265	$ 59,015	2.87%	10.9
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ		$ 16,342,983	-	$ -	$ 5,460,163	$ 10,882,820	$ 549,637	3.36%	19.8
395.00	LABORATORY EQUIPMENT	25SQ		$ 4,277,296	-	$ -	$ 2,723,272	$ 1,554,024	$ 189,746	4.44%	8.2
396.00	POWER OPERATED EQUIPMENT	20-S4		$ 1,277,072	-	$ -	$ 427,110	$ 849,962	$ 104,934	8.22%	8.1
397.00	COMMUNICATION EQUIPMENT	25SQ		$ 53,869,814	-	$ -	$ 42,591,887	$ 11,277,927	$ 1,472,314	2.73%	7.7
398.00	MISCELLANEOUS EQUIPMENT	20-SQ		$ 5,044,732	-	$ -	$ 1,931,429	$ 3,113,303	$ 234,083	4.64%	13.3
399.30	OTHER TANGIBLE PROPERTY	30-SQ		$ 529,811	-	$ -	$ 309,684	$ 220,127	$ 68,790	12.98%	3.2
	TOTAL GENERAL PLANT			**$ 141,321,307**		**$ 10,752,523**	**$ 80,005,544**	**$ 50,563,240**	**$ 4,049,904**	**2.87**	
	TOTAL DEPRECIABLE PLANT			**$ 4,019,715,751**		**$ (965,472,805)**	**$ 1,528,831,599**	**$ 3,456,660,599**	**$ 99,856,162**		
	COMPANY PROPOSED			**$ 4,019,715,751**			**$ 1,528,831,599**	**$ 3,680,773,116**	**$ 112,997,178**		
	DIFFERENCE			**$ -**			**$ -**	**$ (224,112,517)**	**$ (13,141,016)**		
	NONDEPRECIABLE PLANT										
310.00	LAND			$ 7,134,369							
340.00	LAND			$ 62,660							
350.00	LAND			$ 2,860,843							
360.00	LAND			$ 7,414,872			$ (6)				
389.00	LAND			$ 4,183,229			$ 19,355				
				$ 21,655,973			**$ 19,349**				
	ACCOUNTS NOT STUDIED										
303.00	MISCELLANEOUS INTANGIBLE PLANT			$ 40,204,612			$ 26,711,656				
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT WELEETKA GENERATING PLANT			$ -			$ 32				
				$ 40,204,612			**$ 26,711,688**				
	TOTAL ELECTRIC PLANT			**$ 4,081,576,336**		**$ (965,472,805)**	**$ 1,555,562,636**	**$ 3,456,660,599**	**$ 99,856,162**		

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ACCOUNT	SURVIVOR CURVE	IRR	ORIGINAL COST	NET SALVAGE PERCENT	NET SALVAGE AMOUNT	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	ARL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)