**BEFORE THE CORPORATION COMMISSION OF OKLAHOMA**

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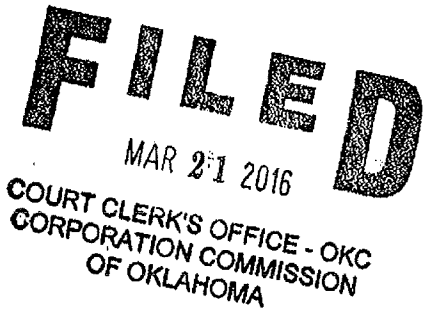
| **IN THE MATTER OF THE APPLICATION OF OKLAHOMA GAS AND ELECTRIC COMPANY FOR AN ORDER OF THE COMMISSION AUTHORIZING APPLICANT TO MODIFY ITS RATES, CHARGES, AND TARRIFS FOR RETAIL ELECTRIC SERVICE IN OKLAHOMA** | ) ) ) ) ) ) | **CAUSE NO. PUD 201500273** |

Direct Testimony

*of*

Jacob Pous




*on behalf of*

Oklahoma Industrial Energy Consumers and

Oklahoma Energy Results, LLC

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March 21, 2016

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## ACRONYMS AND DEFINED TERMS

| | |
|---|---|
| **2009 HC STUDY** | 2009 Holding Company Depreciation Study |
| **2014 Study** | Gannett Fleming's Depreciation Study as of December 31, 2014 |
| **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** | Oklahoma Gas & Electric Company |
| **CPUC** | California Public Utility Commission |
| **DUCI** | Diversified Utility Consultants, Inc. |
| **FERC** | Federal Energy Regulatory Commission |
| **Gannett Fleming** | Gannett Fleming Valuation and Rate Consultants, LLC |
| **MDU** | Montana-Dakota Utilities |
| **NARUC** | National Association of Regulatory Utility Commissioners |
| **OCC** | Oklahoma Corporation Commission |
| **OER** | Oklahoma Energy Results, LLC |
| **OGE** | Oklahoma Gas & Electric Company |
| **OIEC** | Oklahoma Industrial Energy Consumers |
| **OLT** | Original Life Table |
| **PSO** | Public Service Company of Oklahoma |
| **SCE** | Southern California Edison |
| **SPR** | Simulated Plant Records |

## 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. I have also testified before this Commission on numerous occasions over the past two decades, including on behalf of the Commission Staff.[1] Also worthy of note is that I have testified on behalf of the staff of six different state regulatory commissions and one Canadian regulator, and been asked to speak to the National

[1] Cause Nos. PUD 960000214, PUD 200200166, PUD 200300088, PUD 200600285, PUD 200800144, PUD 201000050, PUD 201100087, PUD 201300217, and PUD 201500208.

Association of Regulatory Utility Commissioners ("NARUC") on several occasions regarding the topic of depreciation.

**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 other states.

**Q. ON WHOSE BEHALF ARE YOU PROVIDING THIS TESTIMONY?**

A. I am testifying on behalf of the Oklahoma Industrial Energy Consumers ("OIEC") and Oklahoma Energy Results, LLC ("OER").

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to review and analyze the proposed depreciation rates of the Oklahoma Gas and Electric Company ("OGE" or "Company") as filed with the Oklahoma Corporation Commission ("OCC" or "Commission"). My testimony is to address the Company's proposed changes to depreciation rates as reflected in a new study performed by Gannett Fleming Valuation and Rate Consultants, LLC ("Gannett Fleming") and sponsored by Mr. John Spanos. The new depreciation study is based on plant as of the end of December 2014 ("2014 Study"). The 2014 Study reflects an overall increase in depreciation expense of $29,639,005 based on plant as of June 30, 2015, or approximately a 10% increase over test year depreciation expense.[2] Based on my independent review of the development of depreciation parameters for major accounts, it is necessary to recommend many adjustments to the proposed new depreciation rates and corresponding expense. Due in part to the extensive problems throughout the 2014 Study and other factors, not all appropriate adjustments are being recommended.[3]

[2] OGE W/P H-2-21 line 72.

[3] Some of the other major problems in the 2014 Study are the calculation of remaining life that differs from the industry standard, the calculation methodology used for interim retirements, and the process establishing the level of interim net salvage. Given all the potential issues in the 2014 Study, it was determined that correction of all potential problems might best be accomplished over a few depreciation studies, and that focus should be limited to the issues addressed herein for this case. In addition, my engagement excluded the review of distribution depreciation proposals.

A brief summary of the various adjustments I recommend relating to depreciation and/or amortization expense are presented below.

- **Production Plant Net Salvage** – The Company proposes terminal and interim negative net salvage total values exceeding $317 million for its steam and other production generating facilities. The amount is based extensively on the undefined and unsubstantiated "judgment" of Mr. Spanos. In particular, Mr. Spanos provides nothing of value to support his estimated $225 million of terminal net salvage costs to dismantle or decommission each generating site subsequent to the projected retirement of a generating unit. As discussed later, there is no basis to accept or adopt any portion of the terminal net salvage request. Denial of the Company's unsupported claim for terminal net salvage results in a $19.9 million reduction to depreciation expense based on plant as of December 31, 2014.[4]

- **Wind Farm Life Span** – The Company proposes an artificially short 25-year life span for its investment in wind farms. Mr. Spanos relies on his judgment, which in turn relies on a claim that some undefined and unsubstantiated discussion with Company personnel is an adequate basis for adopting his proposal. The Company and Mr. Spanos have provided nothing of substance in support of its request. Alternatively, the overall investment in a wind farm can realistically exceed 30 years. Therefore, reliance on a 30-year life span, a life span that Mr. Spanos has previously recommended for this type of investment, is a more realistic life span estimate and is within Mr. Spanos' judgmental range. Adjusting the Company's proposed life span from 25 to 30 years results in a reduction in annual depreciation expense of $6.5 million based on plant as of December 31, 2014.

[4] OGE's calculation understates the impact due to reliance on an unusual rounding approach.

- **Holding Company Depreciation** – The Company incorporates, but remains silent on the basis and support for, a $10 million annual accrual for its Holding Company's depreciation expense. Based on independent analyses, it appears the Company is relying on the composite results of Mr. Spanos' 2009 Holding Company Depreciation Study ("2009 HC Study"), which was reflected in the settlement of OGE's last case (Cause No. PUD 201100087). The largest component of the investment in the Holding Company is in various software systems. The life reflected in the 2009 HC Study for software systems is only half as long as Mr. Spanos now is assigning to the software systems recorded at the electric portion of the Company. Recognizing a first step towards a more realistic life for major investments in software systems results in a $4.3 million reduction to the annual depreciation expense based on plant as of December 2014, and $5.2 million as of December 2015.

- **Utility Electric Company Amortization of Software** – While Mr. Spanos recommends extending the 3-year amortization of investment in software to 10 years, he fails to properly capture the ongoing impact of the existing 3-year amortization. The 3-year amortization will be in place until the Commission adopts a final order for rates to change sometime past the middle of 2016. That means that the Company's $29 million software investment in 2012 will be fully accrued before rates in this case go into effect. Therefore, Mr. Spanos' theoretical calculation that incorrectly assumes that the proposed 10-year amortization is applicable as of the end of 2014, if adopted, would result in double recovery of the majority of the investment reflected in his amortization calculation. Proper recognition of the fact that the 3-year amortization will remain in place at least through the middle of 2016 results in a $3.1 million reduction in revenue requirement.

- **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. Mr. Spanos' interpretation of the actuarial results is inappropriate and leads to artificially short ASLs for numerous accounts. Relying on more appropriate interpretation of actuarial results, information relating to unusual historical events, and other information results in a $6.7 million reduction in annual depreciation expense based on plant as of December 31, 2014.

- **Mass Property Net Salvage** – The Company's proposals for several mass property accounts result in excessive levels of negative net salvage. The Company's proposal fails to take into account specific impacts reflected in historical data that are not indicative of future net salvage expectations. Corrections of this and other problems results in a $5.6 million reduction to annual depreciation expense based on plant as of December 31, 2014.

- **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 $45.1 million reduction in the proposed annual depreciation expense based on plant as of December 31, 2014 as set forth on Exhibit (JP-1) through (JP-3).[5] The test year impact of my recommendations are a reduction of $47,018,778 for plant as of December 31, 2015 and will be reflected in the revenue requirement testimony submitted by OIEC witness Mr. Garrett.

[5] The impact of the electric system software adjustment is based on activity through mid 2016.

**Q. IS THERE A PARTICULAR CONCERN THAT NEEDS TO BE ADDRESSED BEFORE YOU BEGIN THE BALANCE OF YOUR TESTIMONY?**

A. Yes. Depreciation represents a large revenue requirement. Indeed, the Company identifies $315 million of annual test year accruals.[6] Mr. Rowlett states that the Company's proposed depreciation expense represents an increase of approximately $26.9 million and claims that such proposed increase is "fully discussed by OG&E witness Spanos."[7] (Emphasis added).

The problem with the Company's filing is that Mr. Rowlett's statement that the changes are fully discussed by the Company's depreciation witness Mr. Spanos is simply not accurate. Mr. Spanos' depreciation testimony, depreciation study, depreciation exhibits, and depreciation workpapers fail to fully discuss, present, support, or justify the Company's request at anything other than a very high-generalized level. Moreover, the Company's depreciation request is extensively based on conclusory statements without meaningful or significant explanation and substantiation. In particular, as addressed later, Mr. Spanos uses the word "judgment" as an answer to how he determined most values contained in the depreciation request. However, judgment is a process, not an answer or justification. A judgment process relies on various factors or inputs in order to focus various components into a final result.

While Mr. Spanos does identify "factors" considered in his judgmental process, simply referencing statistical analyses of historical data, generalized information obtained from Company personnel, review of the existing depreciation parameters, and review of other mortality characteristics utilized by other utilities provides very little transparency or clarity to the word "judgment".[8]

[6] Schedule I-1-1.
[7] Direct Testimony of Mr. Rowlett at page 12.
[8] Direct Exhibit JJS-2 pages I-4, III-3 and IV-2.

While I am aware the Company has a burden of proof that it must meet in support of its request, its failure to provide meaningful or significant items of information and how such information was utilized in order to determine the final results cannot be considered adequate evidence in support of its request. Regulatory commissions would not accept a return on equity request by a utility simply based on the word "judgment" presented by a return on equity witness. Even if the return on equity witness expanded the basis by claiming to have reviewed what other companies propose, but never identifying the other companies let alone the criteria for claiming the companies were comparable, it would still not be acceptable. Nor would claims by the return on equity witness, that discussions were held with Company personnel in order to confirm that the proposed return on equity value was reasonable and appropriate, rise to the level of being an acceptable approach to meeting the utility's burden of proof on that issue. The same situation should apply to the depreciation issue.

**Q. BASED ON YOUR INVESTIGATION OF MR. SPANOS' PRESENTATION, ARE THERE SERIOUS CONCERNS REGARDING THE RELIABILITY OF STATEMENTS MADE BY THE COMPANY IN THIS PROCEEDING?**

A. Yes. While Mr. Rowlett's claim that Mr. Spanos will fully discuss the depreciation increase bears no relationship to what is actually presented, there are particular examples that are of such a significant nature that they warrant highlighting upfront. These examples identify the approach and attitude the Company is willing to adopt as it relates to a revenue requirement request in excess of $300 million annually.

**Q. WHAT ARE THE PARTICULAR EXAMPLES?**

A. While there are several areas where it appears the Company and Mr. Spanos have intentionally failed to provide any meaningful or credible support for sizable revenue requirement requests, the requests for decommissioning expense associated with its generating facilities as well as the request for the Holding

Company depreciation expense demonstrate the overall approach and attitude taken in this case.

**Q. WHAT IS THE SPECIFIC SITUATION ASSOCIATED WITH THE COMPANY'S REQUEST FOR DECOMMISSIONING EXPENSE ATTRIBUTABLE TO ITS GENERATING FACILITIES?**

A. As discussed in more detail later, the Company is requesting a specific and large revenue requirement relating to its claim of future costs that it might incur at the time it retires generating facilities. Mr. Rowlett's statement that Mr. Spanos will fully discuss such requested increase can easily be tested. Indeed, Mr. Spanos does not discuss the specific issue in his direct testimony, nor his depreciation study, or in his workpapers other than to claim that the request is based on cost assigned to comparable facilities.[9] While Mr. Spanos incorporated in excess of $18 million of annual revenue requirements into his proposed production plant depreciation rates, there is not a single item of information that would permit an investigation of such amount other than the final values he proposed by individual generating unit. Only through discovery was the first layer of the information relied upon by Mr. Spanos even identified at a cursory level. In spite of discovery seeking specifics as to the underlying information relied upon and the calculations performed to derive the values requested, Mr. Spanos chose not to provide even basic underlying information. Mr. Spanos would not identify the names of the claimed comparable facilities, the documents he reviewed and/or relied upon, or any other meaningful information other than a conclusory statement that his proposal was predicated on a $40 per kW judgmental selection. Not only is the total lack of presentation and support troubling, but more so is the realization that the Company believed it was reasonable, adequate and acceptable for it to make such a presentation to meet its burden of proof for such a large revenue requirement request.

The Company and Mr. Spanos apparently are willing to take a risk associated with the failure to present any support or justification for a major dollar revenue

[9] Direct Exhibit JJS-2 at pages IV-4 and 5.

requirement request because they believe that there are no consequences for such action in the long run. In other words, the Company and Mr. Spanos believe that if they are denied the request in this proceeding, they will simply ask for it in a future proceeding and continue to do so until they achieve a level of success that they desire, not one that is justified. This situation arises because historically depreciation is often viewed by a utility as a revenue requirement timing difference issue rather than a revenue requirement issue that if lost is lost forever. This is not how a utility's revenue requirement request should be presented, nor is it a process that interveners and/or the Commission should have to spend their valuable resources addressing.

**Q. WHAT IS THE SECOND EXAMPLE THAT DEMONSTRATES THE UNUSUAL PRACTICE UNDERTAKEN BY THE COMPANY AND MR. SPANOS?**

A. The second example that helps identify the overall problem is the Company's request for Holding Company depreciation expense. The Company seeks approximately $10 million of annual revenue requirements for its Holding Company depreciation expense. However, Mr. Spanos provides no narrative anywhere in his testimony or in the 2014 Study addressing this request. Indeed, the request is based on a 2009 HC Study that neither the Company nor Mr. Spanos chose to enter into the record or even identify in the Company's filing.

It appears the Company again is willing to simply provide large quantities of paper, which contain limited levels of quality information, and expect interveners and/or the Commission to find either the needle in the haystack or that a particular needle was never placed in the haystack in the first place. In this case, the missing needle in the haystack is the reliance on the 2009 HC Study that was presented in a settled case, and in which the settlement agreement specifically noted that there was no precedential value assigned to the depreciation rates. Again, this type of presentation and approach appears to be made under the concept that there is no negative ramification to the Company if someone actually identifies what the

Company has done and challenges such action. The Company will simply come back in future proceedings until it can obtain what it requests, not through the correctness of its position or presentation, but rather through wearing down the customers and its regulator.

**Q. ARE OTHER REGULATORS RECOGNIZING THE LACK OF MEANINGFUL PRESENTATION IN SUPPORT OF DEPRECIATION REQUESTS?**

A. Yes. For example, even though a recent Montana-Dakota Utilities ("MDU") rate case ended in a settlement after the end of a full evidentiary hearing, the Public Service Commission of Montana added the following to its order accepting the settlement agreement between the parties:

> One of the concerns the Commission had in this case was the adequacy of the supporting documentation for the depreciation study performed by MDU's witness. The Stipulation resolves the issue for this rate case and establishes rates on a going forward basis. MDU is strongly encouraged to ensure there is supporting documentation for any change in depreciation rates going forward. The testimony of MCC's witness [Mr. Pous] should provide guidance to MDU to what will be expected for supporting documentation in its depreciation studies going forward.[10] (Emphasis added).

Another recent example relating to the recognition of less than adequate support for depreciation related requests is a series of rate cases in California dealing with Southern California Edison Company ("SCE") before the California Public Utilities Commission ("CPUC"). The order in the first case stated:

> We agree with TURN [Mr. Pous] that SCE's use of "judgment" is often opaque and SCE's explanation of changes to ASL [("average service life")] and dispersion patterns yielding the curve-lives tends to be limited and conclusory.[11] (Emphasis added).

[10] IN THE MATTER OF THE APPLICATION of MONTANA-DAKOTA UTILITIES CO., a Division of MDU Resources Group, Inc., for Authority to Establish Increased Rates for Natural Gas Service, ORDER NO. 7254b in DOCKET NO. D2012.9.100 before the Public Service Commission of Montana.

[11] D.12-11-051 at page 665 before the California Public Utilities Commission.

The CPUC continued in that order informing SCE that it "should include a better description of changes to underlying causes of retirement, life characteristics, or mix of investments considered when forecasting ASL or NSR in an account."[12] When SCE failed to heed the CPUC's request in the next rate case, the CPUC not only significantly reduced SCE's depreciation request, but also found it necessary to establish a new motivational standard so that the utility "can and must do more to explain and justify its use of judgment in its depreciation showing."[13] The CPUC also:

> direct[s] SCE to provide considerably more detail in support of its net salvage proposals for at least five of the largest accounts, as measured by proposed annual depreciation expense. At a minimum, this detail shall include:
>
> 1. A quantitative discussion of the historical and anticipated future Cost of Removal (COR) on a per unit basis for the large (greater than 15% as measured by portion of plant balance) asset classes in the account. This discussion should identify and explain the key factors in changing or maintaining the per-unit COR.
>
> 2. A quantitative discussion of the historical and anticipated future retirement mix (i.e., retirements among different asset classes), identifying and explaining the key factors in changing or maintaining this mix.
>
> 3. A quantitative discussion of the life of assets and original cost of assets being retired, in relation to the COR, on both a historical and anticipated future basis. This discussion should be integrated with and/or cross-reference the proposal for life characteristics.
>
> 4. An account-specific discussion of the process for allocating costs to COR.

The CPUC also "encouraged" parties in the next rate case to propose shifting "a portion of the under-collection [depreciation] risk from future customers to SCE's

[12] Id., at page 686.
[13] D.15-11-021, a Southern California Edison General Rate Case before the CPUC at page 395 of the Proposed Decision adopted on November 5, 2015.

shareholders if the utility exhibits the same types of shortcomings in a widespread manner." In other words, regulators are finding it necessary to motivate utilities to do what is required to meet their assigned burden of proof associated with a major area of revenue requirement.[14]

**Q. WHAT DO YOU SUGGEST THE COMMISSION CONSIDER AS IT RELATES TO THIS SITUATION?**

A. I suggest the Commission direct the Company to provide a detailed narrative explaining, supporting, and justifying each of its life and net salvage proposals in its next depreciation study. The level of transparency and detail expected should be such that the reader can identify what the most significant or meaningful specific items of information relied upon were for each proposal, not generalized references to statistical analyses or discussions with Company personnel. In addition, the presentation should include the underlying documentation and workpapers that support the most significant or meaningful specific items of information relied upon, especially those that relate to information pertaining to the outlook or expectations of management.

## SECTION II: DEPRECIATION

**Q. WHAT IS DEPRECIATION?**

A. There are two commonly cited definitions of depreciation. The first comes from the Federal Energy Regulatory Commission ("FERC"):[15]

> '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

[14] *Id.*
[15] Title 18 of the Code of Federal Regulations ("CFR") Part 101, Definition 12.

> 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.

**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:[16]

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

The remaining life technique is as follows:

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

[16] 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.

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

**Q. ARE THERE ADDITIONAL CONSIDERATIONS IN DEPRECIATION BEYOND THE DEFINITIONS?**

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

**Q. WHAT IS A DEPRECIATION SYSTEM?**

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

**Q. BRIEFLY DESCRIBE WHAT IS MEANT BY "METHOD."**

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

**Q. BRIEFLY DESCRIBE WHAT IS MEANT BY "PROCEDURE."**

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

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

A. There are two main categories of 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 III: PRODUCTION PLANT NET SALVAGE

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

A. This portion of my testimony addresses the Company's claimed initial request for terminal net salvage for production plant.

**Q. WHAT DOES THE COMPANY REQUEST FOR TERMINAL NET SALVAGE ASSOCIATED WITH ITS INVESTMENT IN GENERATION?**

A. The Company claims that it is for the first time introducing a request for dismantlement costs for its generating facilities. The Company's request is for an annual revenue requirement of $19.9 million.[17] The Company further claims that it is proposing to begin the recovery of such dismantlement costs associated with its generating stations in this proceeding.[18]

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

A. Nothing. The Company and Mr. Spanos knowingly chose to effectively remain silent regarding the basis for its request for terminal net salvage, which corresponds to $225 million of additional capital recovery over the remaining life of its generating units.[19] What the Company and Mr. Spanos presented in support of a request for $225 million of new capital recovery is as follows:

> **Mr. Rowlett**
>
> The Company has developed an estimate of the cost of dismantling its electric generation units and is proposing systematic recovery of those costs. …
>
> Retirement of these plants is inevitable. Delaying the recovery of dismantlement costs will only increase the burden for customers in the future when the plants are no longer providing benefits.[20] …

[17] Direct Testimony of Mr. Rowlett at page 12 adjusted to reflect proper rounding.
[18] *Id.*
[19] See OGE's Response to OCC 1-10 Attachment.
[20] Direct Testimony of Mr. Rowlett at pages 12 and 13.

**Mr. Spanos**

The final net salvage or dismantlement component was determined based on the assets anticipated to be retired at the concurrent date of final retirement.

Q. Have you included a dismantlement component in the overall recovery of generating facilities?
A. Yes. A dismantlement component has been included in the net salvage percentage for steam and other production facilities.

Q. Can you explain how the dismantlement component is included in the depreciation study?
A. Yes. The dismantlement component is part of the overall net salvage for each location/unit within the production assets. Based on studies of comparable facilities of other utilities, it was determined that the dismantlement or decommissioning cost for steam and other production facilities is best calculated by dividing the dismantlement cost by the surviving plant at final retirement. These location basis amounts are added to the interim net salvage percentage of the assets anticipated to be retired on an interim basis to produce the weighted net salvage percentage for each location. The detailed calculation for each location is set forth in pages VIII-2 and VIII-3 of Direct Exhibit JJS-2.[21] (Emphasis added).

**Q. WHAT DOES MR. SPANOS PROVIDE IN HIS DEPRECIATION STUDY RELATING TO THE TERMINAL NET SALVAGE REQUEST?**

A. As it relates to terminal net salvage, Mr. Spanos' depreciation study (Direct Exhibit JJS-2) states that:

Final net salvage is net salvage experienced at the end of a production plant's life span. Interim net salvage is the net salvage experienced for interim retirements that occur prior to the final retirement of the plant. The final net salvage estimates in the study were based on decommissioning costs assigned to comparable facilities.[22] (Emphasis added).

**Q. DO THE WORKPAPERS SUBMITTED BY THE COMPANY IN SUPPORT OF ITS DEPRECIATION REQUEST IDENTIFY OR PRESENT THE**

[21] Direct Testimony of Mr. Spanos at page 8.
[22] Direct Exhibit JJS-2 at pages VI-4 and VI-5.

**UNDERLYING DETAILED INFORMATION ALLUDED TO IN THE NARRATIVE PORTION OF THE COMPANY'S TESTIMONY?**

A. No. The Company's filed workpapers are devoid of any underlying assumptions or values "assumed", "determined", or "assigned" that relate to the "studies for comparable facilities" reviewed and/or relied upon to arrive at the $225 million request for additional capital recovery.

**Q. DOES MR. ROWLETT'S REFERENCE TO THE INEVITABILITY OF THE ULTIMATE RETIREMENT OF GENERATING FACILITIES SUPPORT THE COMPANY'S REQUEST?**

A. No. No one is arguing with the concept that generating facilities will ultimately be retired. Obviously that is not the issue. The issue is what will transpire subsequent to the retirement of generating facilities. What will transpire after a unit is retired is precisely what the Company and Mr. Spanos failed to identify and/or address other than through the innuendo that some unidentified form of dismantlement or decommissioning will occur.

**Q. DOES A SPECIFIC REQUIREMENT EXIST THAT REQUIRES THE COMPANY TO DEMOLISH ITS POWER PLANTS?**

A. No. The Company states that it "knows of no such statutory requirement regarding demolition of power plants."[23]

**Q. ARE THERE THRESHOLD ISSUES THAT MUST BE ADDRESSED PRIOR TO RECOVERY OF COSTS ASSOCIATED WITH THE ULTIMATE RETIREMENT OF GENERATING FACILITIES?**

A. Yes. Again, it must be noted that the issue is not whether a generating unit will retire, but what will transpire and what costs or proceeds can be expected associated with the activities undertaken subsequent to the retirement of a generating facility. Given there is no statutory requirement to dismantle a plant subsequent to retirement and the fact that a wide array of alternative actions are

[23] Response to OIEC 6-14.

available and have occurred associated with the retirement of generating facilities, the Company has a duty to at least identify what it is proposing, and then to demonstrate that its request is both reasonable and necessary. This duty to identify and defend a request is always present, but is especially necessary when such a large amount of revenue requirement is being requested associated with an attempt to create a new $225 million capital recovery requirement in this proceeding.

**Q. WHAT ARE SOME OF THE WIDE ARRAY OF RETIREMENT ACTIVITIES FOR THE COMPANY'S POWER PLANTS SUBSEQUENT TO THE RETIREMENT OF SUCH FACILITIES?**

A. The options available to the Company range from full dismantlement and greenfielding the site at one end of the spectrum to the full sale of facilities without any demolition activity at the other end. As one would expect, the resulting revenue requirement or revenue credit associated with either end of the spectrum of alternatives is quite different.

**Q. HAS THE COMPANY EVEN IDENTIFIED THAT ALTERNATIVES EXIST WHEN ITS GENERATING FACILITIES ARE RETIRED?**

A. No. Therefore, it is clear that the Company has not presented any valid basis for granting it any request for recovery of an unknown potential activity in the future that has not been specifically identified or substantiated in any valid manner.

**Q. HAVE GENERATING UNITS BEEN SOLD IN THEIR ENTIRETY WITHOUT THE OWNING REGULATED UTILITY EVER PAYING ANY DEMOLITION OR DISMANTLEMENT COSTS?**

A. Yes. Since the late 1990s, over 1,000 generating units that were previously owned by regulated electric utilities were sold for substantial positive levels of net salvage even though many utilities had recovered funds from customers in anticipation for dismantlement costs relating to such facilities. While the vast majority of such

sales were associated with the implementation of deregulation in the electric utility industry, some sales transpired irrespective of the deregulation movement.[24]

**Q. DOES THE ABSENCE OF ELECTRIC DEREGULATION IN OKLAHOMA ELIMINATE THE POTENTIAL FOR THE COMPANY TO SELL SOME OF ITS ELECTRIC GENERATING UNITS?**

A. No. The potential exists for the sale of generating sites, with or without the issue of electric deregulation. A generating facility may be of interest to an entity that would either refurbish or replace the existing generating facilities as part of its business model.

**Q. WHY WOULD A GENERATING FACILITY RETIRED BY THE COMPANY BE A POTENTIAL CANDIDATE FOR PURCHASE?**

A. The Company's existing generating facilities already have in place the basic infrastructure for future electric generation of various types. The Company's generating stations either have rail access or are served by large gas lines. The Company's existing generating stations are connected to the electric grid through the existing transmission corridors. Some of the existing facilities have water rights associated with them that may also be beneficial to a new owner. There are also additional infrastructure and zoning or location aspects of the existing stations that may also provide beneficial aspects to a potential purchaser.

**Q. SETTING ASIDE THE COMPLETE SALE OF A RETIRED GENERATING FACILITY, DO OTHER OPTIONS EXIST THAT CAN AND HAVE PRODUCED POSITIVE LEVELS OF SALVAGE?**

A. Yes. Portions of the Company's existing facilities may either be transferred to other generating locations of the Company, be sold as a usable or operating component, or provide other potential beneficial aspects to a potential purchaser.

[24] For example, the sale of Centralia Units 1and 2 by PacifiCorp, and the sale of the RS Nelson Units 1 and 2 by Gulf States Utilities Company.

**Q. SETTING ASIDE ANY OF THE SCENARIOS RELATING TO POTENTIAL SALE OF ANY PORTION OF A FACILITY, ARE THERE DIFFERENT DEGREES OF DISMANTLEMENT OR DECOMMISSIONING AVAILABLE AT GENERATING FACILITIES THAT WILL RETIRE IN THE FUTURE?**

A. Yes. Some generating facilities have been de-energized and secured for extended periods of time without being demolished to any extent. Other generating facilities can be partially removed aboveground. In addition, if no offsetting value is assumed in the decommissioning cost estimate for the ultimate sale of the site, then it would be inappropriate and inconsistent to incur costs associated with belowground remediation or for the restoration of the site after the demolition of aboveground facilities. Even though the value of the site might not technically be considered as part of a depreciation study since it could be considered land related, that does not prohibit in any manner the recognition of the offsetting value elsewhere in a rate case.

**Q. IS THERE YET ANOTHER THRESHOLD ISSUE THE COMPANY HAS FAILED TO ADDRESS IN ITS REQUEST FOR DECOMMISSIONING COSTS IN THIS PROCEEDING?**

A. Yes. The Company has operated for an extended period of time as both a retail and wholesale provider of power. If the Company's statement that it is for the first time seeking the recovery of what it believes are necessary decommissioning costs is correct, then it has failed to collect a proportionate share of such costs from its prior wholesale customers. If the Company chose to forgive the allocable portion of decommissioning costs from its prior wholesale customers who received service from the same generating facilities, then it has not demonstrated why retail customers should bear the entire burden. In other words, the Company has not demonstrated or supported that whatever costs or credits may be appropriate for the inclusion in rates associated with the ultimate retirement of its various generating facilities, that 100% of such amounts are appropriately assignable to the current and future retail customers in Oklahoma.

**Q. GIVEN THE LACK OF SPECIFICITY OR EVEN BASIC INFORMATION ASSOCIATED WITH THE COMPANY'S DEMOLITION COST REVENUE REQUIREMENT REQUEST, DID YOU SEEK FURTHER INFORMATION FROM THE COMPANY?**

A. Yes. Through discovery, it was identified for the first time that the Company's request is predicated on an assumed $40 per kW demolition cost estimate for steam production plant, a $10 per kW estimate for other production generating facilities other than wind, and a $5 per kW demolition cost estimate for wind generation.[25]

**Q. WHAT HAS THE COMPANY PROVIDED IN SUPPORT OF ITS PROPOSED DOLLAR PER KW DEMOLITION COST BY TYPE OF GENERATING FACILITY?**

A. Again, the Company provides nothing in support of its request. While the Company claims that the values are based on decommissioning costs assigned to comparable facilities, it could not identify the name of a single comparable facility or the owner of a single comparable facility. When requested to provide the specific type, age, and fuel type of each separate generating facility relied upon for its proposed values, the Company simply stated that the underlying studies were either for gas or coal-fired facilities and the ages related to generating facilities constructed since the 1950s. The Company further admitted that the majority of the facilities reviewed were still in service and had not actually been dismantled, but did claim that its proposed costs were associated with full dismantlement to a brown field state.[26] As discussed later, it is important to note that Mr. Spanos now knows that the majority of the facilities reviewed were still in service and had not actually been dismantled

**Q. COULD THE COMPANY PROVIDE ANY ANALYSES TO DEMONSTRATE THAT THE DECOMMISSIONING COSTS IT**

[25] See OGE's Response to OCC 1-10 Attachment and OIEC 5-8.
[26] See OGE's Response to OIEC 5-8 parts (a-f).

**PROPOSES ARE APPROPRIATELY APPLICABLE TO EACH OF ITS GENERATING FACILITIES?**

A. No. The Company admitted that it has not performed any specific analysis to determine whether every cost component in every study was applicable to each of its generating facilities. In fact, the Company cannot or did not provide a single analysis to demonstrate any aspect of comparability between what was relied upon for its cost estimates for any of the Company's generating facilities.[27]

**Q. DID THE COMPANY PROVIDE THE UNDERLYING STUDIES THAT IT CLAIMS ARE THE BASIS FOR ITS DOLLAR PER KW COST ESTIMATE FOR DECOMMISSIONING?**

A. No. It states the studies are not available.[28]

**Q. IS THIS INFORMATION PROVIDED BY THE COMPANY IN RESPONSE TO DISCOVERY REASONABLE OR APPROPRIATE?**

A. No, but it is not surprising.

**Q. WHY IS THE COMPANY'S INABILITY TO PROVIDE EVEN THE MOST BASIC FOUNDATION FOR ITS PROPOSAL NOT SURPRISING?**

A. Having been involved in other proceedings with Mr. Spanos regarding this same issue, I am aware that Mr. Spanos has presented requests for decommissioning costs such as he has done in this proceeding based on information that he has never had in his possession or has actually reviewed and analyzed. During a deposition in a Texas proceeding, Mr. Spanos testified that:

- Basis for $ per mW decommission recommendation identified in depreciation study, but not provided in filing.
- Mr. Spanos did not perform the underlying decommissioning cost calculations.
- Mr. Spanos never saw the underlying decommissioning cost data.
- Mr. Spanos never had direct contact with the presenter of the summarized decommissioning cost values he relied upon.

[27] *Id.* at (h).
[28] See OGE's Response to OIEC 5-8 at (g).

- Mr. Spanos admitted that another individual at Gannett Fleming obtained the underlying decommissioning cost data at an industry presentation in the early 1990s.
- Mr. Spanos only held discussions with the Gannett Fleming individual who obtained the underlying summary decommissioning cost data, but was unaware if any direct contact was made with presenter of summary data.
- Mr. Spanos incorrectly thought that the summary data relied on was related to actual retired and decommissioned generating units.
- Mr. Spanos relied on the underlying decommissioning cost data for an extended period because of the "comfort level" he obtained from discussions with a Gannett Fleming employee.
- Mr. Spanos recognized and applied a lower $ per mW level of decommissioning costs to gas-fired generation compared to coal-fired generation based on the 1990 presentation that he had not attended and was not in the possession of underlying data.[29]

**Q. THEN BASED ON PAST EXPERIENCE, DOES IT APPEAR THAT THE REASON MR. SPANOS CANNOT PROVIDE THE REQUESTED DOCUMENTS IS BECAUSE HE DOES NOT HAVE THEM OR THAT IT WILL DEMONSTRATE INCONSISTENT PRACTICES?**

A. Yes, and apparently he never had them. It is unreasonable to request approximately $225 million of future capital recovery from customers based on information that may not exist, has not been seen firsthand by the witness, and is claimed to be developed on analyses performed possibly a quarter of a century ago. Moreover, it is not known that Mr. Spanos was incorrect in his understanding that whatever values he relied on were associated with units that had actually been retired and decommissioned. We also know that Mr. Spanos inconsistently incorporates his estimate of future inflation in his decommissioning estimates, even though he states that it is a requirement to do so.

**Q. IS THERE ANY BASIS UPON WHICH YOU BELIEVE IT IS APPROPRIATE FOR THE COMMISSION TO ADOPT THE COMPANY'S PROPOSAL FOR $225 MILLION OF DECOMMISSIONING COSTS?**

[29] April 20, 2010 deposition of Mr. Spanos in Application of Entergy Texas, Inc., For Authority to Change Rates and Reconcile Fuel Costs in Docket No. 37744 before the Public Utility Commission of Texas.

A. No. The Company has provided no evidence let alone credible evidence to support such a claim. The Company has not addressed any of the threshold issues associated with this claimed first-time request for decommissioning costs. The Company's proposal, however, does provide one critical item of information. That critical item of information is insight into the underlying concept behind the term "judgment" that its depreciation witness relies upon in establishing parameters to be utilized for revenue requirement purposes.

While I have been able to establish the quality and underlying basis for the judgmental conclusion reached by Mr. Spanos as it relates to decommissioning costs, the same cannot be determined in many other instances. In spite of significant efforts to obtain additional information, Mr. Spanos' practice of not providing specific bases for his claimed judgmental determinations exists in most if not all other areas of the depreciation study. Therefore, Mr. Spanos' reliance on generalized statements associated with his "judgment" must be viewed based on what has been identified relating to his proposed "judgment" based proposal for decommissioning costs. In other words, any claim of valid support for a position taken by Mr. Spanos for either life or salvage purposes for the remaining depreciation components requested in this proceeding cannot be given credence as meeting the Company's burden of proof for its various proposals. As previously noted, judgment is a process and not an answer. Mr. Spanos' use of the term "judgment" as valid support for whatever he proposes should not and cannot be accepted as being credible evidence absent specific support, not vague or generalized statements.

**Q. WHAT DO YOU RECOMMEND REGARDING THE COMPANY'S REQUEST FOR DISMANTLEMENT COSTS FOR ITS PRODUCTION FACILITIES?**

A. It is my understanding that the Company will file another base rate case within the next two years; therefore, I recommend that the Company's request for dismantlement costs in this proceeding be denied. I further recommend that the

Commission order the Company to present a thorough and detailed study addressing and supporting the results of the previously noted threshold issues and whatever else it chooses to submit in the next proceeding. In other words, the Company must investigate all alternatives available for the future retirement of its generating facilities and assign appropriate probabilities to such potential events. Further, the Company must address its failure to recover whatever retirement costs or credits it chooses to propose for its various generating units as it relates to its prior service to wholesale customers. Finally, the Company must be put on notice that, at a minimum as it relates to requests for decommissioning costs, clear and substantial evidence along with all assumptions, workpapers, and material reviewed and/or relied upon will be required in order for it to meet its burden of proof in the next rate proceeding.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in a $19.9 million reduction in annual depreciation expense based on plant as of December 31, 2014.

## SECTION IV: WIND FARM LIFE SPAN

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

A. This portion of my testimony will address the Company's proposed life span for wind farm investments.

**Q. WHAT DOES THE COMPANY PROPOSE FOR THE LIFE SPAN OF ITS WIND FARMS?**

A. The Company proposes a 25-year life for both the OU Spirit and Centennial wind farms and a 26-year life span for its Crossroads wind farm.[30]

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

[30] Direct Exhibit JJS-2 at page III-7.

A. As was the situation in the Company's last case, the Company and Mr. Spanos continue to present virtually nothing in support of its request. In Cause No. PUD 201100087, I pointed out that Mr. Spanos' basis for his life span proposals was that a "review" took place between Company personnel and Mr. Spanos and that "it was determined" that his proposals "best represented" the future.[31] Moreover, in response to a request in that case to provide "all support and justification for the assumed life spans for the Company's investment in wind farms," the following response was provided:

> Wind generation assets are relatively new so limited statistical analyses is available or conclusive in determining life characteristics. Therefore, judgment is the primary factor for determining the life span. Based on information from wind generation manufacturers, life expectancy of wind assets range from 20 to 30 years. The initial wind farm at Centennial was depreciated with a life span of 25 years.
>
> Therefore, given the 25-year life span for Centennial and the approved life spans of most other utilities being 20 to 30 years and Mr. Spanos' recommendations for others being primarily 25 years, then the life span for all wind generation is 25 years.[32] (Emphasis added.)

In spite of the fact that Mr. Spanos presented no meaningful basis or support for his proposal in the prior case[33], he now chooses to support his proposal in this case by stating "life spans for wind turbines were estimated at 25 years."[34] (Emphasis added). In addition, Mr. Spanos claims that the life span estimates for power generation stations, not limited to wind generation, were the result of considering experienced life spans of similar generating units, the age of surviving units, general operating characteristics of units, major refurbishing, and discussions with management personnel concerning probable long-term outlooks for the units, and

[31] Direct Testimony of Mr. Pous in Cause No. PUD 201100087 at page 9.
[32] Id.
[33] Reliance on a unsupported claims from unidentified manufacturers, which do go up to 30 years, on an initial estimate for Centennial that has not been adjudicated, and on a claim of approved live spans for other utilities that also go as high as 30 years, all tied together with the conclusory word "therefore" does not constitute meaningful basis.
[34] Direct Exhibit JJS-2 at page III-6.

the estimates of the operating partner, if applicable.[35] However, only the above reference to discussions with management can be considered applicable to wind generation, but nothing of substance was identified or provided.

**Q. HAS THE COMPANY PRESENTED ANY STUDIES, ANALYSES, OR OTHER VERIFIABLE INFORMATION THAT DEMONSTRATES THE VALIDITY OR THE SPECIFIC BASIS FOR THE DETERMINATION OF A 25-YEAR LIFE SPAN FOR WIND UNITS?**

A. No. In other words, neither the Company nor Mr. Spanos provide any specific basis for the 25-year life span estimate other than Mr. Spanos' "judgment". Mr. Spanos' generalized reference to various considerations, including a vague reference to "discussions" with management concerning "probable" future outlooks, is of no value in determining whether a 25, 30 or even a 35-year life span is appropriate. The Company has not attempted to meet any burden of proof on this matter. It is worth reemphasizing that "judgment" is a process, not an answer or basis for his 25-year proposal, especially when Mr. Spanos' judgment also recognizes life spans for wind investment at least up to 30 years.

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

A. No. I recommend a 30-year life span for the Company's investment in wind farms.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

A. My recommendation is based on several factors and considerations. First, my experience with the industry's development of initial life spans for various types of generation during the last 40+ years, has clearly established that the industry appreciably underestimates realistic initial life spans. The industry efforts to underestimate the initial life spans in the past were inappropriate then and are now also inappropriate in this case. In addition, my recommendation relies on information from wind generation manufacturers, "design life" consideration, and

[35] *Id.*

on what some others in the industry rely upon. My recommendation also relies on the fact that others, including Mr. Spanos, have relied on a 30-year life span.

**Q. PLEASE EXPLAIN YOUR CONCERNS ASSOCIATED WITH THE INDUSTRY'S CONTINUOUS PRACTICE OF UNDERESTIMATING INITIAL LIFE SPANS FOR GENERATING FACILITIES.**

A. As new types of generation were placed into service over the past 50 years, the industry continuously underestimated the realistic time frame for the operation of new facilities. Nuclear plants initially were assumed to have 25- to 30-year life spans. There is no question that almost all such generating facilities now rely on 60-year life spans. The introduction of high-pressured/temperature coal units was initially estimated by the industry to have initial life spans of around 30 years. Basically all of those units have far exceeded those initial life estimates. Many gas turbines were estimated to have lives as short as 20 years, while we now know that many can and have lasted for much longer periods. Even the recent introduction of modern-day combined cycle units are already experiencing the life span creep as time passes. The industry often relied on initial life spans as short as 20 to 25 years for new combined cycle technology. However, within a relatively short period, the recognized life span by the industry has increased to at least 35 to 45 years. Therefore, when the utility industry presents its initial offering for wind farms with a 15- to 20-year, or even a 25-year life span, absent strong evidence (in this case there is no evidence), one can easily expect a longer realistic useful life for the facilities. In this case, a minimal step to 30 years is appropriate.

**Q. PLEASE EXPAND ON THE ISSUE MANUFACTURER BASED SUPPORT FOR A LONGER LIFE SPAN.**

A. Manufacturers of wind turbines are now toting the advancements in technology and longer expected life. For example, one manufacturer states:

> In the last 15 years the whole industry has drastically increased its technical know-how and operational experience, now making a longer operation lifetime

possible.

...

The useful life extension program involves investing in preventive and corrective activities -only when it is really necessary- to keep wind turbines working for 30 years, so an immediate replacement of the existing components is not required.[36]

**Q. PLEASE EXPAND ON THE ISSUE OF DESIGN LIFE.**

A. Quite often during the past 40 years when I have challenged the artificially low life spans proposed by utilities, the response from the utility industry has been that the artificially short life spans were attributable to a referenced "design life". In other words, utilities attempted to equate some unidentified reference to "design life" with the expectation of a realistic life spans. The two values are not the same and were never intended to be.

In prior cases, I requested documentation that would support the "design life" claims made by the industry in support of the artificially short overall life spans being proposed for generating units. Utilities, for whatever reason, have not provided documentation in support of such claims. It appears the assumed "design life" is associated with some component of the overall generating facility and maybe implied to be the equivalent of a warranty period or minimum life expectation. By analogy, automobile manufacturers normally provide as little as three and as long as 10-year warranties on major components of vehicles that they sell. It is well known that the warranty period is not representative of the expected life span of the vehicle. The warranty period normally is based on an actuarially-derived value related time period corresponding to when various major components can at a minimum be expected to last so that the manufacturer does not incur significant replacement costs. No one purchases a new car with a three-year warranty and expects the car to last only three years. However, the warranty

[36] Gamesa Corporacion Tecnologica, an international manufacturer of wind generation.

period does provide assurance to the purchaser that if the transmission or engine fails during the first three years it will be replaced at no cost.

**Q. HAVE YOU IDENTIFIED DESIGN LIFE INFORMATION FOR WIND FARMS?**

A. Yes. While design lives references of 20 to 25 years have been raised by the industry as a basis for limiting the life span used for capital recovery purposes, investigation finds that the 20- to 25-year design life normally corresponds to the turbine and other moving parts and does not correspond to an overall life span for a wind farm.

**Q. HAVE YOU IDENTIFIED OTHERS IN THE UTILITY INDUSTRY THAT HAVE SEGMENTED THE COMPONENTS OF A WIND FARM IN ORDER TO QUANTIFY A LIFE SPAN FOR WIND FARM INVESTMENT?**

A. Yes. In a relatively recent Consumers Energy case in Michigan, that utility segmented the expected life for various components of its wind farm investment.[37] While it did rely on a 20-year estimated life for the gearbox, generator, rotor, etc., at least that utility recognized that the design life for a particular component is more of a minimum expectation for that component and not the realistic overall life span expectation. Yet, even with minimum design life for the major moving parts and an artificial 60-year maximum for certain long-lived components such as roads and concrete foundations, the weighted life span was a little over 30 years as proposed by Consumers Energy. It must be noted that the 60-year life span for various components was used due to a lease arrangement for the property corresponding to a 60-year maximum period. Absent such artificial limitation in situations where the land is owned rather than leased, an overall life span greater than 30 years could easily be reached.

[37] In the matter of the application of CONSUMERS ENERGY COMPANY for accounting and rate making approval of depreciation practices for other production - wind plant. Case No. U-16536 before the Michigan Public Service Commission, Exhibit: A-4(DAW-1).

In addition to the concerns associated with the 60-year limitation due to the lease on which the wind farm operated, an increase in the estimated design life for the moving parts from 20 to 25 years would also raise the dollar-weighted life span to an overall 34-year period. As previously noted, some in the industry already are using a 25-year "design life" for turbines.

**Q. ARE THERE OTHERS IN THE INDUSTRY THAT RELY ON LONGER THAN 20- OR 25-YEAR LIFE SPANS FOR WIND FARMS?**

A. Yes. Indeed, Mr. Spanos has relied on a 30-year life span at least twice and a 29-year life span at least once in the past.[38] In addition, NextEra Energy, the largest owner and operator of wind farms in the United States, relies on a 25- to 30-year expected useful life for the investment in its wind farms.[39] If NextEra Energy, a non-regulated generating entity who undoubtedly recognizes as rapid a capital recovery as reasonably appropriate relies on a 25- to 30-year life, then at a minimum, a 30-year life expectancy should be relied upon at this point in time for regulated entities. In summary, the Company's proposed 25-year life span is not supported by any study, analysis, presentation, etc. As with many of the values reflected in the Company's depreciation study, reference to the basis for a value is a conclusory statement that such value was estimated, determined, derived, assigned, etc. Such conclusory statements are not evidence and do not reflect appropriate support and justification for millions of dollars of revenue requirements.

When the concept of design life is properly viewed and understood and the component investment of a wind farm is segregated and recognized for individual life expectations, a 30-year life span is more realistic at this point in time and most likely understates the overall life span that will be achieved for wind farms. The industry is already moving towards longer life spans with the largest owner of wind farms in the United States already claiming to use life spans as long as 30

[38] See OGE's Response to OIEC 12-9 in PUD 201100087

[39] NextEra Energy SEC Form 10-K dated December 2014 at page 83.

years. Therefore, the Commission should adopt a 30-year life span for the Company's wind farm investment.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in a $6,536,674 decrease in revenue depreciation expense based on plant as of December 31, 2014.[40]

## SECTION V: HOLDING COMPANY DEPRECIATION

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

A. This portion of my testimony will address the Company's request for corporate depreciation.

**Q. WHAT DOES THE COMPANY REQUEST IN THIS PROCEEDING FOR CORPORATE DEPRECIATION?**

A. The Company requests $10,409,178 of annual depreciation expense associated with Holding Company assets.[41]

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

A. The Company presented no support or justification for its $10 million request for annual depreciation expense associated with Holding Company investment. Rather, as determined through discovery, the Company is proposing to utilize the depreciation rates established in its 2009 HC study.[42]

[40] The quantification of the adjustment as of the end of December 2014 is based on adding five years to the remaining life for Centennial and OU Spirit and adding a four years to the remaining life for Crossroads.
[41] Schedule I-1-1 at line 77.
[42] See OGE's Response to OIEC 5-19 Attachment 2009 study at pages III-4 and 5 and Schedule I-1-1.

**Q. ARE THE RATES REFLECTED IN THE COMPANY'S 2009 DEPRECIATION STUDY A RESULT OF A SETTLEMENT AGREEMENT?**

A. Yes. The Company submitted its 2009 depreciation study in the last rate proceeding Cause No. PUD 201100087. That case was ultimately settled and therefore the depreciation rates proposed by the Company were never adjudicated and have no precedential value.

**Q. DO YOU BELIEVE IT IS APPROPRIATE FOR THE COMPANY TO RELY ON A SIX-YEAR-OLD DEPRECIATION STUDY?**

A. No. The Company found it appropriate and necessary to file a new depreciation study for its electric plant in service. The vast majority of the investment in electric plant in service is very long-lived assets and normally is subject to limited change in life and salvage characteristics. The industry standard for depreciation studies for such investment is normally every three to five years and the Company followed such general guidelines, relying on the longest time frame between studies normally recognized as appropriate.

**Q. SHOULD THE COMPANY HAVE UPDATED ITS 2009 DEPRECIATION STUDY FOR ESTABLISHING HOLDING COMPANY DEPRECIATION REVENUE REQUIREMENTS IN THIS CASE?**

A. Absolutely. While the industry standard for long-lived assets is normally three to five years, the Holding Company assets have much shorter lives. Indeed, less than one percent of the assets reflected in the 2009 HC Study were assigned a life in excess of 20 years. Moreover, 87% of the assets in the 2009 HC Study were assigned a service life of five years or less.[43] Under these circumstances, even a three-year period in between studies may be excessive.

[43] See OGE's Response to OIEC 5-19 Attachment 2009 study at pages III-4 and 5.

**Q. ARE THE DEPRECIATION RATES PROPOSED BY THE COMPANY THROUGH ITS SIX-YEAR-OLD DEPRECIATION STUDY APPROPRIATE?**

A. No.

**Q. IS THERE ONE ACCOUNT IN THE HOLDING COMPANY DEPRECIATION STUDY THAT STANDS OUT FROM ALL THE OTHERS?**

A. Yes. Account 303.2 – Miscellaneous Intangible Plant – Software represents 69% of the entire investment and 63% of the entire depreciation expense for Holding Company assets.[44] The investment in software and the associated level of depreciation expense are not the only aspects worth noting as it applies to this account.

The Company proposed a 5SQ life-curve combination, which represents an amortization of the investment over five years. Further, the Company's proposed 5-year life resulted in a 2.6-year remaining life in the 2009 HC Study. Given the fact that the rates reflected in Cause No. PUD 201100087 did not become effective until July 2, 2012 means that the estimated remaining life was completed by the time the rates corresponded to $6.2 million of estimated revenue requirements went into effect. This is significant since the Company's amortization process for software differs from its depreciation practice.

**Q. HOW DOES THE COMPANY'S AMORTIZATION PRACTICE DIFFER FROM ITS DEPRECIATION PRACTICE?**

A. The Company's election to use amortization results in a predetermined period over which the investment in individual computer software systems is to be recovered. In theory, the amortization period is intended to be the period during which the investment is used and useful so that those customers that receive the benefit of the asset pay for the asset. However, for accounting purposes the Company does not

[44] *Id.*

identify when a particular asset is physically retired and no longer provides useful service to customers. In other words, software systems can remain in service long after the Company has recovered its investment. This situation creates intergenerational inequity.

**Q. DOES INTERGENERATIONAL INEQUITY EXIST FOR THE COMPANY?**

A. Yes. An intergenerational equity problem was clearly presented in the Company's 2009 HC Study. Indeed, as shown in the following table, the 2009 HC Study identified $46.5 million in a separate line item for fully accrued investment as of the end of 2009.

Account 303.2 - Software 2009 Holding Company Depreciation Study

| Description | Original Cost | Reserve | Future Accruals | Annual Accruals |
|---|---|---|---|---|
| Accrued | $46,512,789 | $46,512,789 | $0 | $0 |
| Amortized | $27,379,075 | $11,057,980 | $16,321,095 | $6,160,504 |
| Total | $73,891,864 | $57,570,769 | $16,321,095 | $6,160,504 |

That fully accrued line represented 62% of the entire investment in software.[45] In other words, for 62% of the Holding Company software investment as of the end of 2009, customers had overpaid amortization expense in comparison to their use of the software systems. This situation occurs when an artificially short useful life is assigned to an asset, as was the case in the Company's proposal in its 2009 HC Study.

**Q. DOES IT MATTER WHETHER AN INCORRECT RECOVERY PERIOD IS EMPLOYED THROUGH AN AMORTIZATION APPROACH RATHER THAN A DEPRECIATION APPROACH?**

[45] Response to OIEC 5-19 Attachment 2009 study at page III-4.

A. Both yes and no. An incorrect capital recovery period is inappropriate whether using an amortization or depreciation mechanism. However, there are unique issues that may arise under an amortization approach.

**Q. WHAT PROBLEM DOES THE COMPANY'S UNDERESTIMATION OF AMORTIZATION PERIODS CAUSE?**

A. The reliance on artificially short amortization periods violates the regulatory principle of intergenerational inequity and the matching principle. In other words, it requires one generation of customers to fully pay for an asset, which is then used by future customers that will not pay their fair amortization expense or a return on the investment, but still receive service from the asset.

**Q. IS THERE ANOTHER MAJOR PROBLEM THAT OCCURS WHEN AN ARTIFICIALLY SHORT AMORTIZATION PERIOD IS UTILIZED FOR INDIVIDUAL SOFTWARE SYSTEMS?**

A. Yes. Once an amortization amount is reflected in a rate case revenue requirement, it is built into the rates charged to customers. If the amortization period is artificially short and the software system becomes fully accrued or recovered in between rate cases, then the Company ceases to book the amortization expense to the amortization reserve. This is significantly different then the treatment afforded group depreciation for all other assets of the Company.

**Q. PLEASE FURTHER EXPLAIN WHAT TRANSPIRES WHEN A SOFTWARE SYSTEM BECOMES FULLY AMORTIZED IN BETWEEN RATE PROCEEDINGS.**

A. When this situation occurs, the Company no longer incurs an expense but it still collects the revenue for such expense from customers. In other words, if a software system was amortized at $1 million per year and became fully accrued immediately after the rates in a rate proceeding went into effect, the $1 million of annual revenues received through rates for an expense that no longer exists flows to the Company's bottom line and becomes additional return on equity. Moreover,

customers receive no benefit for such payments that they continue to make through the rates charged for providing service to them. In effect, customers are overcharged for the capital recovery for those software systems, and unlike the normal depreciation practices employed for all other assets, the over collection is not returned to customers but is kept for the benefit of shareholders.

**Q. IS THE FIVE-YEAR LIFE PROPOSED IN THE 2009 HC STUDY FOR INVESTMENT IN SOFTWARE SYSTEMS REALISTIC AND APPROPRIATE?**

A. It was not realistic and appropriate in 2009 and it is most definitely not appropriate today.

**Q. HAS MR. SPANOS DEMONSTRATED THAT THE ASSUMED LIFE FOR SOFTWARE SYSTEMS CAN AND HAS CHANGED DRAMATICALLY SINCE THE LAST DEPRECIATION STUDY?**

A. Yes. Mr. Spanos proposes to more than triple the three-year amortization or 3SQ life-curve combination he recommended for the investment in electric plant Account 303 Intangible Plant – Software in the 2014 electric Depreciation Study. In other words, in the 2009 electric depreciation study, Mr. Spanos proposed a three-year amortization, but now in the 2014 electric Depreciation Study he has increased the amortization period for that same account to 10 years or a 10SQ life-curve combination.

**Q. IS THE LENGTHENING OF THE SERVICE LIFE FOR SOFTWARE SYSTEMS APPROPRIATE?**

A. Yes. Both the level of investment and the software systems themselves are appreciably different now compared to periods relating to the Y2K problem. The architecture and scalability of software systems changed dramatically as old legacy software systems were replaced due to the Y2K problem. Major software systems, not those for PCs, have become very expensive but have a much longer useful life than five or even 10 years. The newer software systems are designed to allow for

expansion, enhancements, and additional functionality without retiring the core initial software system as was often the case with older systems. In fact, due to the scalability and the overall design of the major software systems, other utilities are proposing life expectancies now up to 15 and even up to 20 years in recognition of the change in technology. For example, Florida Power & Light Company recently proposed an increase on its own for software systems up to 20 years.[46]

**Q. WHAT DO YOU RECOMMEND?**

A. I recommend that the useful life for Holding Company software be increased to 10 years as a first step in the correction of the situation presented by the Company. In other words, I recommend adjusting the Company's 2009 Holding Company composite depreciation rate to reflect a 10SQ or 10-year amortization instead of the proposed 5SQ or 5-year amortization. In addition, I further recommend that the Commission order the Company to perform a detailed study that fully analyzes, identifies, supports and justifies the expected useful life for its software systems and file such study along with all supporting workpapers, assumptions, considerations, and material reviewed and/or relied upon in sufficient detail to demonstrate the validity of its results in its next depreciation filing.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. As set forth on Exhibit (JP-2), my recommendation results in a $5,227,169 reduction in annual depreciation expense based on plant as December 31, 2015. The corresponding depreciation rate for Holding Company software to be utilized in this proceeding should be reduced to 7.79% from the Company's proposed 22.50% and the composite Holding Company rate is 5.32% rather than the Company's proposed 9.08%.

[46] Testimony of Kim Ousdahl in Docket No. 120015-EI, a Florida Power & Light Company case before the Florida Public Service Commission.

## SECTION VI: AMORTIZATION OF ELECTRIC PLANT - SOFTWARE

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

A. I address the Company's failure to properly identify and present the appropriate revenue requirement associated with its decision to utilize an amortization approach for each individual software system rather than utilizing a group depreciation approach.

**Q. WHAT DOES THE COMPANY PROPOSE FOR ITS INVESTMENT IN ACCOUNT 303 – MISCELLANEOUS INTANGIBLE PLANT – SOFTWARE?**

A. Mr. Spanos proposes a 10-year amortization or a 10SQ life-curve combination.[47] Mr. Spanos' proposal results in a $3,948,825 annual depreciation expense based on his calculations as of the end of December 2014.[48] Further, once plant additions through December 2015 are recognized, the Company's revenue requirement request for its investment in this account increases to $4,365,014.[49]

**Q. IS THERE AN UNUSUAL PROBLEM ASSOCIATED WITH THE COMPANY'S PRESENTATION AND REQUEST FOR THIS INVESTMENT?**

A. Yes. The unusual problem that exists, but is not captured through the calculations and presentations submitted by the Company in this filing, masks the fact that a substantial portion of the investment will be fully accrued before rates in this proceeding go into effect. Therefore, if the Company's proposal is adopted, it will not only have recovered its full investment in substantial portions of its software prior to the rates in this case going into effect, but would then continue to collect a revenue requirement for such fully accrued software systems. If the Company's proposal is adopted it would actually result in an increase in bottom line return

[47] Direct Exhibit JJS-2 at page VI-4.
[48] Direct Exhibit JJS-2 at page IX-3.
[49] Schedule I-1-1 lines 3 and 4.

above and beyond the actual return granted by the Commission and would further result in double recovery of its investment.

**Q. WHAT IS THE EXISTING AMORTIZATION PERIOD FOR ELECTRIC PLANT SOFTWARE?**

A. As set forth in both the 2004 and 2009 Studies, Mr. Spanos recommended a 3SQ life-curve combination or a three-year amortization period for investment in electric software.[50]

**Q. WHAT IS THE COMPANY'S EXISTING AMORTIZATION PRACTICE FOR ELECTRIC PLANT SOFTWARE?**

A. Normal amortization accounting for depreciation as presented by Mr. Spanos requires one-third of the investment be amortized each year. When the three-year amortization period is over, the utility retires the software system for accounting purposes whether or not the individual software system is still physically being utilized. The three-year amortization period set forth in the 2009 study was specifically adopted in the settlement agreement in Cause No. PUD 201100087. Therefore, even though Mr. Spanos has proposed a switch to a 10-year amortization period for the investment in this account, such change will not transpire until the rates in this case are adopted by the Commission in a final order.

**Q. WHY IS THE TIMING OF THE ADOPTION OF THE PROPOSED CHANGE CRITICAL IN THIS PARTICULAR INSTANCE?**

A. Mr. Spanos identifies $28.8 million and $21.4 million of investment additions in software during 2012 and 2014, respectively.[51] In other words, $50 million of the $63 million total investment in this account was placed in service recently. Mr. Spanos also identifies that $3.65 million of the $3.95 million, or 92%, of proposed amortization expense for the entire account relates to these two years of software

[50] See OGE's Response to OIEC 5-19 Attachments 1 and 2. Mr. Spanos sets forth a three-year amortization in the 2009 Study at page III-4 and in the 2004 study, also at page III-4.
[51] Direct Exhibit JJS-2 at page IX-3.

additions.[52] Under normal group depreciation practices, there would be no unique issue with Mr. Spanos' calculation and presentation of his 6.24% proposed depreciation rate for this account. However, Mr. Spanos' presentation fails to identify the unique differences that exist for this account that distinguishes it from the normal depreciation situation.

First, the existing 3-year amortization period is the shortest useful life for any account. Second, the Company's decision to employ separate software system amortization rather than group depreciation is unusual. Third, the Company's decision to cease the recording of amortization expense when it believes a software system becomes fully accrued creates an unusual situation compared to what will transpire for all other accounts between the end of the 2014 depreciation test year and when the Commission adopts new depreciation rates. Therefore, when these unusual circumstances are properly recognized, the reality of what has or will transpire in 2015 through the middle of 2016 results in a dramatically different situation than what Mr. Spanos proposes in his 2014 Study.

**Q. WHY DO YOU REFERENCE THE MIDDLE OF 2016 FOR YOUR DISCUSSION?**

A. The proposed change in amortization periods and resulting depreciation rates in this proceeding cannot go into effect any earlier than the middle of 2016. Even if a settlement was reached among the parties and a settlement agreement was presented to the Commission, the final order adopting such settlement could not transpire prior to the middle of 2016. Therefore, the major plant additions in 2012 and 2014 noted above will either be fully accrued or at least two-thirds accrued rather than the nominal level proposed by Mr. Spanos.

**Q. WHAT TRANSPIRES WITH THE MAJORITY OF THE INVESTMENT AND CORRESPONDING AMORTIZATION EXPENSE REQUESTED BY**

[52] *Id.*

**THE COMPANY IN THIS PROCEEDING THROUGH THE MIDDLE OF 2016?**

A. First, as shown on Exhibit (JP-3), the Company identifies $5.8 million of additional investment in this account through the end of 2015.[53] Also shown on Exhibit (JP-3) is the fact that the 2012 and 2013 plant addition to this account will be fully recovered by the middle of 2016. Next, the 2014 investment will have been amortized for two years out of the three-year existing amortization period currently in effect, thus leaving a balance of $7.1 million to be recovered subsequent to the middle of 2016. Therefore, the continuation of the existing amortization will yield a total of only $7.1 million of future book accruals as of the middle of 2016. This amount is comparable to the $33.6 million Mr. Spanos identifies through his theoretical, but inaccurate, presentation. Moreover, as shown on Exhibit (JP-3), the annual accrual proposed by Mr. Spanos for plant in service through 2014 would decline to $890,610 compared to the $4 million amount reflected in the proposed composite amortization rate.

Finally, the 2015 investment addition proposed by the Company subsequent to the end of the 2014 Study would also be a little over one-third recovered by the middle of 2016. Therefore, only a total of $10.4 million of future book accruals would remain rather than the $39.4 million assumed by the Company.[54]

**Q. HOW DOES THE PROPOSED CHANGE TO A 10-YEAR AMORTIZATION IMPACT THE REQUEST?**

A. The Company's proposed change in the amortization period for this account only comes into play when the Commission issues a final order in this case. The proper synchronization of the unique circumstances in place for this account reflected in my recommendation is the only way to protect customers from paying at least $3.1 million in double recovery of the Company's investment in software systems.

[53] Schedule I-1-1 line 4.

[54] Exhibit (JP-3), Direct Exhibit JJS-2 page IX-3 and Schedule I-1-1 line 4 ($7.1 million + $3.4 million = $10.5 million) and ($33.6 million + $5.8 million = $39.4 million).

**Q. PLEASE FURTHER EXPLAIN WHY THE COMPANY'S REQUEST WOULD RESULT IN OVER $3 MILLION IN ANNUAL INCREMENTAL BOTTOM LINE RETURN.**

A. When the Company makes an investment it begins a capital recovery process through a depreciation or amortization process. The annual depreciation or amortization accrual is booked to a reserve account, which is an offset to rate base. The capital recovery process creates an expense requirement, which is included in the Company's revenue requirement in a rate case. Customers will pay that annual amount reflected in the overall base rates charged for service until the end of the next rate proceeding. However, for this particular account the Company ceases to book amortization expense to the amortization reserve when it believes the investment becomes fully accrued. In other words, the day before a software system becomes fully accrued, the amounts received through charges to customers for such expense are booked to the reserve and become an offset to rate base. However, the day after the plant becomes fully accrued, while the Company still receives the same revenue for providing the same service as it did the day before, it no longer incurs an offsetting expense according to the proposed capital recovery mechanism utilized by the Company. Therefore, the revenues received become additional return since an offsetting expense no longer exists.

**Q. WHY DOES THIS SITUATION EXIST TO SUCH A GREAT IMPACT IN THIS PROCEEDING?**

A. It is unusual to find any utility that utilizes a three-year amortization period for major software investments. However, that is precisely what the Company has proposed and reflected in its revenue requirements up until now. This extremely short amortization period, the large investments in recent years for software systems, and the Company's timing of rate cases have created an issue that is not desirous for the Company. However, rather than accept the results of its own doing, the Company has chosen to present its capital recovery case for software in an inconsistent time-related manner. The Company's "heads I win, tails you lose"

presentation for the capital recovery scenario it created for software system is inappropriate and cannot be allowed.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. As previously noted, my recommendation results in a $3,121,077 reduction in annual revenue requirements.

## SECTION VII: 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 five mass electric property accounts. My recommended changes to the ASL's compared to the Company's proposals are set forth in the table below.

**Summary of OIEC's and OER's Recommended Mass Property Life Adjustments**

| Account | OGE Proposed | OIEC, et al Proposed | OIEC, et al Adjustment | Impact |
|---|---|---|---|---|
| 350.2 | 75R4 | 100R4 | 25 | $416,606 |
| 353 | 60R2 | 63R2 | 3 | $803,660 |
| 355 | 55R1 | 65S-.5 | 10 | $4,145,272 |
| 356 | 60R3 | 65R3 | 5 | $1,364,153 |

| | | | | |
|---|---|---|---|---|
| **Total** | | | | **$6,729,691** |

The combined impact of these five adjustments is a $6.7 million reduction to depreciation expense based on plant as of December 31, 2014.

**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 the Company. 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 ago. 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. Not recognizing 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. In addition, the mix of investment has changed over time. The Company has been adding more steel poles, which last longer than wood poles. The investment in steel poles is now seven times the level of investment in wood poles.[55] Simple review of the historical data would not capture the longer life for the account in the future due to the investment in steel poles. 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 MASS PROPERTY PLANT ACCOUNTS?**

A. The Company proposes a life-curve combination to define the life characteristics of the investment for each mass property 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 2014 Study[56] correctly identifies what an Iowa Survivor curve is.

**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 a 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. Mr. Spanos performed an actuarial analysis, which relied on an overall placement band and generally an 18-year experience band combination. Placement bands establish the years of data reflected in the database analyzed, while experience

[55] See OGE's Response to OIEC 4-20 Attachment.
[56] Direct Exhibit JJS-2, page II-3.

bands identify the time frame over which transactions reflected in the database are reviewed.

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

A. The Company relies on placement bands dating back to the mid 1950s, all of which end in 2014.[57] All experience bands are based on the 18-year period 1997 through 2014.[58]

**Q. WHAT RESULT IS OBTAINED FROM ACTUARIAL ANALYSES?**

A. The results produced by actuarial analyses are identified as an Observed Life Table ("OLT"). An OLT simply represents the pattern of actual retirement activity over history, and thus survivors by individual age groups. The OLT is normally presented in a graph showing the actual experience data points in order to facilitate visual curve fitting with standard Iowa Survivor curves. In other words, at the beginning of the zero (0) age interval, 100% of the investment survives, and 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 a 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

[57] Direct Exhibit JJS-2 pages VII-48 and VII-57, for examples, respectively.
[58] *Id.*

provides 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 for the final life-curve combination selection due to the different levels of significance associated with different points of the OLT.

In addition to the normal industry practice, Mr. Spanos has recently reduced his reliance on the visual curve-fitting of the OLTs with standardized Iowa Survivor curves and significantly elevated his reliance on an "expectation" of what he believes the tail or maximum life should look like. In other words, Mr. Spanos now assumes that it is permissible for him to diminish the predictive capacity of the curves that best fit actual historical data and postulates that his judgment based "expectation" better satisfies the concept of life estimation.[59] While Mr. Spanos has not changed his overall approach, he has changed the degree of emphasis he places on different components of his overall approach.[60]

**Q. DOES MR. SPANOS SUPPORT AND JUSTIFY HIS NEW BASIS FOR LIFE ANALYSIS?**

[59] Mr. Spanos' rebuttal testimony in Docket No. D.P.U. 14-150, a NSTAR Gas Company case before the Massachusetts Department of Public Utilities.

[60] It must be noted that Mr. Spanos does not provide specifics as to what actual degree of emphasis he place on the curve fitting to the OLT data points or the portion of the Iowa Survivor curve beyond the end of the OLT data points. However, his emphasis on what he claims is the appropriate forecast beyond the end of the OLT data points is now emphasized in his rebuttal testimonies, which was not the situation before.

A. No. While Mr. Spanos previously identified actuarial analyses as a "powerful tool" used for life analysis, which is consistent with normal industry practices, he no longer desires to be constrained with the results of such a "powerful tool" when performing life estimation. Mr. Spanos, now believes it is more important to override life indications obtained from life analyses and determine life estimation results based on his judgment.

**Q. DO YOU OPPOSE RELIANCE ON JUDGMENT WHEN PERFORMING THE LIFE ESTIMATION PORTION OF A DEPRECIATION ANALYSIS?**

A. No, of course not. Judgment is absolutely necessary in the development of depreciation parameters. However, judgment is only a process that relies on input. Indeed, one of the key inputs to the judgmental process for life estimation purposes is the best results obtained from using the powerful analytical actuarial tool. In order to properly rely on a judgment based process for life estimation purposes, especially one that deviates from the best results obtained from the life analysis portion of the process, meaningful or significant items of information must be presented to demonstrate that a valid basis exists for such deviation. In other words, the selection of a life-curve combination "should avoid becoming ensnared in the mechanics of the historical life study and rely solely on mathematical solutions",[61] but also unsupported or unsubstantiated expectations that deviate from the historically based life indications are also not appropriate.

**Q. DOES MR. SPANOS PROVIDE ANY MEANINGFUL OR SIGNIFICANT INPUT OR BASIS FOR HIS JUDGMENT BASED LIFE ESTIMATIONS?**

A. No, not to any meaningful extent and that is the real problem. For example, Mr. Spanos now focuses on what the tail end and maximum life of an Iowa Survivor curve will look like based on the general concept that plant will retire at a more rapid pace as it ages. However, Mr. Spanos provides no definition or criteria that support his expectation of the more rapid pace of retirement versus any other value, other than his "judgment." Compounding the problem relating to the lack of

[61] NARUC's publication *Public Utility Depreciation Practices* at page 45.

form or substance to Mr. Spanos' judgment is that any other life estimation proposal is deemed wrong based on his judgment. For example, Mr. Spanos claims that better fitting life-curve combinations to a company's actual historical data are inappropriate because the resulting maximum life exceeds his judgment-based expectation of what is reasonable. Mr. Spanos' often takes such position without support or justification, even in instances where he has made recommendations elsewhere that result in even a longer maximum life than what he dismisses as being too long.

**Q. DOES MR. SPANOS PROVIDE ANY DEPRECIATION LITERATURE TO SUPPORT HIS DECISION TO DISMISS THE PREDICTIVE TREND EMBEDDED IN THE BEST FITTING LIFE-CURVE COMBINATION OBTAINED FROM THE ACTUARIAL ANALYSIS?**

A. No, as that would be contrary to depreciation practices, literature, and his previous position on life estimation. While Mr. Spanos does quote from depreciation publications in an effort to give the appearance of legitimacy to what he does, his interpretation of the literature is misplaced. As previously noted, there is no dispute over the need for judgment, which is what the literature refers to when Mr. Spanos claims his approach is supported by depreciation literature. The issue is "what" went into or what was not considered in the judgment process and "how" and "why" the input items were treated (i.e., identification of and justification for the actual steps taken in the process) to arrive at the judgment based result. Mr. Spanos' use of the word judgment as an answer rather than as a process highlights his misuse of depreciation literature. Indeed, Mr. Spanos quotes the NARUC publication on the use of judgment, which includes the statement "[u]sing judgment, the analyst considers such things as personal experience, maintenance policies, past company studies, and other company owned equipment to determine if the stub curve represents this class of property."[62] It is precisely the specific, not general, factors or other items of input considered and the support and justification for the factors considered that define whether the judgment process yields valid or

[62] NARUC's publication *Public Utility Depreciation Practices* at page 128.

invalid results. There is nothing in the literature that states or implies that any unsupported or unsubstantiated conclusory statement is appropriate or adequate to be considered credible evidence. The use of unsupported or unsubstantiated conclusory statements is precisely what the recent CPUC decision in the SCE case referenced earlier found is not acceptable as credible evidence and may result in sanctions in the future.

**Q. HAS MR. SPANOS PREVIOUSLY RECOGNIZED THE SIGNIFICANCE OF THE PREDICTIVE TREND EMBEDDED IN THE BEST FITTING LIFE-CURVE COMBINATION OBTAINED FROM THE ACTUARIAL ANALYSIS?**

A. Yes. Mr. Spanos has properly recognized that actuarial based life analysis is a "powerful tool". The importance of this "tool" is determined by whether the results of the actuarial analysis are proper representations of future expectations, the life estimation process. Indeed, the NARUC depreciation publication often referenced by Mr. Spanos states that

> Trends in life or retirement dispersion can often be expected to continue. Likewise, unless there is some reason to expect otherwise, stability in life or retirement dispersion can be expected to continue, at least in the near term. …
>
> The reason for making an historical life analysis is to develop a sufficient understanding of history in order to evaluate whether it is a reasonable predictor of the future."[63] (Emphasis added).

As will be discussed later, other factors may be taken into account in making the determination as to whether the historical relationships, including trends, can be expected to continue in the future. Mr. Spanos relied on this approach of normally emphasizing the virtue of the curve fitting process to the OLT, not emphasizing the maximum life or rate of decline of the survivor curve past the point where the OLT ends, when estimating the mortality characteristics of an account. However, Mr.

[63] NARUC's publication *Public Utility Depreciation Practices* at page 126.

Spanos has recently shifted his emphasis when responding to testimony identifying better fitting life-curve combination to OLTs.

**Q. ARE THERE OTHER REFERENCES TO THE IMPORTANCE OF TRENDS IN OTHER DEPRECIATION TEXT?**

A. Yes. *Depreciation Systems* is another depreciation publication often referenced by Mr. Spanos. That publication states that

> If the future is expected to reflect the past, these trends can be expected to continue and forecasters would indicate future lives that are reflections of continuation of the trend.[64] ...
>
> Supporting evidence rests heavily with results of the life analysis. A historical trend can be expected to continue.[65]...
>
> A convincing forecast must examine the forces causing the trend in the life characteristics and examine their likelihood of continuing into the future.[66] (Emphasis added).

In other words, a trend in the data can be expected to continue absent meaningful and supporting evidence to the contrary. Mr. Spanos' failure to properly recognize trends cannot simply be marginalized by generalized references to some unsubstantiated degree of "more" rapid rate of retirement in the future as plant ages or inconsistent claims that a particular maximum life is too long.

**Q. TURNING BACK TO THE INDUSTRY NORMAL PROCESS OF MATCHING AN OLT WITH IOWA SURVIVOR CURVES, ARE THERE DIFFERENT AREAS OF THE PROCESS THAT ARE SIGNIFICANT?**

A. Yes. Generally, it is more important to match a standard Iowa Survivor curve with the middle and earlier portions of an OLT than the lower middle or tail portion, depending on the dollar level of exposures at issue. The middle and earlier portions of an OLT often include the surviving data points between 80% and 30% to 40%

[64] Depreciation Systems by Fitch and Wolf at page 281.
[65] Id., at 282.
[66] Id.

surviving, sometimes less.[67] If the lower portions of an OLT are matched while sacrificing the middle or the upper middle portions of the survivor curve, then an inappropriate result will be obtained. Therefore, part of the judgment process employed by a depreciation analyst is to determine what ASL and corresponding survivor curve constitutes the "best" fit of the meaningful portion of an OLT taking into consideration identifiable items of information that can be substantiated.[68] As discussed herein, while I include all meaningful data points in my analyses, I also review and recognize the pattern of data points beyond those that are statistically stable. However, I do not assign inappropriate and excessive levels of credence to the statistically unstable tail portion of the OLT in order to select an artificially short ASL.[69]

**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

[67] It should be noted that the identification of the more significant portions of the OLT has become more definitive in this testimony than in some prior testimonies, but the actual portion of the OLT considered significant has not changed. The more definitive identification has become necessary due to incorrect characterizations attempted by Mr. Spanos in rebuttal testimonies in other cases.

[68] Published texts on the topic of depreciation refer to portions of an OLT that should be given more weight in the curve fitting process. Such texts suggest that "often the middle section of the curve (that section ranging from approximately 80% to 20% surviving for illustrative purposes) is given more weight than the first and last sections" as noted in Depreciation Systems authored by Frank Wolf and Chester Fitch. However, as noted in the same publication, the actual criterion reflected in the 80% to 20% illustrative example is the limited significance of the dollar level of exposures at older age brackets. Each analysis must stand on its own based on the actual underlying criteria, and not on the noted example. Indeed, the OLT for Account 353 does not decline below 71% surviving, and obviously cannot be relied upon down to 20% surviving. This discussion corrects Mr. Spanos' mischaracterization of this issue made in another proceeding (rebuttal testimony of Mr. Spanos at page 62 in Cause No. PUD 201300217, a Public Service Company of Oklahoma case before the Oklahoma Corporation Commission) where he incorrectly identifies the portion of the curve fitting process I address in my testimony.

[69] It must be noted that Gannett Fleming now claims to "place the most reliance on" the area "from age 0 through about age 25" in the curve fitting process in Proceeding ID No.: 3524 an AltaLink Management LTD rate case before the Alberta Utilities Commission during cross examination on December 8, 2015. This area corresponds to a dollar level of exposure from 100% down to 17% of the initial dollar level of plant exposed to retirement forces. Gannett Fleming further stated it would not compromise the fit between age 0 to 20 to try and fit the ages from about 22 through 40, or 16% down to about 1%.

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. The Company relies on Mr. Spanos' judgment, which primarily includes the statistical analysis of data. In other words, the Company normally performs an actuarial analysis, 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. 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 adequate specifics regarding the selection of life or net salvage parameters based

on judgmental considerations when specifically requested to do so in discovery.[70] For example, Mr. Spanos relied on a judgment process to recognize that an unusual dollar level of retirement was recorded at age 9.5 for Account 353. While Mr. Spanos "expected" the level not to be representative of all assets in the account and claims he "put little emphasis on the large retirement", he never identifies what constitutes "little emphasis" or any specific analyses or impact associated with his claimed consideration.[71] Moreover, Mr. Spanos did not provide any supporting documentation as requested, but was able to state unequivocally that what he proposed "is the most appropriate life and curve combination".[72] Mr. Spanos' conclusory statement has no evidentiary value in support of the Company meeting its burden of proof for its proposal.

**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 and credible utility specific data is available, as is the situation in this case as it relates to life analysis. 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. Mr. Spanos performed an actuarial analysis on the Company's historical database. 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 selections and no real support for ignoring or significantly discounting the Company specific results. It must be noted that Mr.

[70] See OGE's Response to OIEC 3-4.
[71] *Id.*
[72] *Id.*

Spanos does not discount Company specific life data to the same degree as he does for net salvage data when estimating the future. Mr. Spanos' different treatment of life and net salvage data in the life and net salvage estimation process is appropriate and not inconsistent given the different types of data and other factors that most often cause the historical net salvage data to be less stable and reliable than the life data.

**B. Account Specific**

**Account 350.2 – Transmission Land Rights (Existing: 75R4, OGE: 75R4, OIEC and OER: 100R4)**

**Q. WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 350.2 – TRANSMISSION LAND RIGHTS?**

A. The Company proposes to retain the existing 75R4 life-curve combination.[73]

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

A. The Company provided no specific narrative discussion for its basis associated with its proposed life-curve combination for this account. Mr. Spanos does provide a generalized reference, which he claims is applicable for all accounts. Mr. Spanos claims he relies on "judgment" that considers statistical analysis, management's outlook for the future, typical range of lives for other electric utilities, and estimates from previous studies.[74] In discovery, Mr. Spanos was given the opportunity to provide a narrative explaining and justifying how he determined his proposal. In response to that opportunity, Mr. Spanos admits that the statistical analyses are not conclusive, "so judgment is needed to determine the most appropriate estimate."[75] (Emphasis added). Mr. Spanos also states that his expectation for this account is that it "will have an overall life cycle that is similar to the assets that utilize the land rights. There is no expected change in life

[73] Direct Exhibit JJS-2 pages VI-9.
[74] Direct Exhibit JJS-2 pages III-3 and III-7.
[75] See OGE's Response to OIEC 6-21.

characteristics, the industry averages are around 65 to 70 years with a high mode curve, such as an R4. The associated assets will have an overall life cycle around 100 years."[76] (Emphasis added).

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

A. No. The Company's proposal does not reflect reality. I recommend a 100R4 life-curve combination.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

A. Mr. Spanos' reliance on a concept that land rights should have a life cycle similar to associated assets that utilize the land rights reflects a fatal flaw in logic and understanding of the assets at issue. Mr. Spanos' reliance on such concept is curious given his admission that the Company's land rights are perpetual easements and will be utilized and maintained as long as there is an associated asset in service that resides upon that land right.[77]

The reality associated with the investment in this account is that the right-of-way must be in place for a minimum of one complete life cycle, not average service life, for the assets that reside upon it. Again, reality – not Mr. Spanos' vague reference to "expectations" or "judgment", is that the land right should be in place for periods greatly in excess of a complete life cycle for the assets that reside upon it because assets such as towers and poles will be replaced over time. The new replacement tower or pole creates a new life cycle for the new investment, but still requires the use of the initial perpetual land right.

By analogy, while railroad ties and railroad rails may have average service lives ranging from 20 to 70 years, the railroad company will continue to replace rails and ties over numerous life cycles as long as it has economic reason to operate the rail line. As long as the railroad company operates the rail line, it must rely on the

[76] *Id.*
[77] See OGE's Response to OIEC 6-20.

land right on which the ties and rails are placed. If a rail line were first placed in service in the 1860s and that same rail line exists today, but with newer rails, ties, and other investment that had been replaced over the past 150 years, then it is easy to see that the land right itself must have a much longer life than even one maximum life cycle of the facilities that reside upon it.

Even under the most restrictive assumption, only one complete life cycle for the transmission assets that reside upon the transmission right-of-way, then it must be recognized that the maximum life for Account 354 – Transmission Towers and Fixtures is approximately 115 years.[78] Therefore, given that the land right must be in place until the last dollar of an asset is retired for a transmission tower, then even without recognition of replacement of transmission towers or addition of new transmission towers at later dates mandates a life expectancy for the perpetual land right to be greater than 115 years.

Yet another consideration for at least a 100-year life is the statistical results of the actuarial analyses of Company historical data. As set forth on page VII-42 of the 2014 Study, the 75R4 life-curve combination proposed by Mr. Spanos begins to deviate from the actual historical activity of the Company at an age of approximately 35 years. However, the OLT presented by Mr. Spanos continues for approximately an additional 20 years to age 56. As noted in the introduction for this section, very stub OLTs, which is the case for this account, normally provide limited information, but that is not the case here. The very stub OLT for this account provides useful and meaningful information that there will be an extremely long ASL for this account. Unfortunately, the limited stub OLT does not tell us just how long the ASL will be for this account, but it is clearly much longer than the proposed 75-year value proposed by the Company.

[78] Mr. Spanos proposes a 75R4 life-curve combination that expects the investment placed in any vintage to have a component last for approximately 115 years.

Next, Mr. Spanos' reliance on the existing life-curve combination illogically reinforces his erroneous understanding of the life characteristics of assets in this account. Mr. Spanos' reliance on the same fatally flawed concept in the prior settled case in no way results in a conclusion that a 75-year ASL is appropriate now. Finally, any reliance on Mr. Spanos' industry data, which corresponds to what Gannett Fleming proposes elsewhere, only perpetuates Mr. Spanos' lack of understanding of the type of assets contained in this account. Other commissions and utilities have recognized ASLs for investment in this account equivalent to what I recommend for OGE.[79]

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in a $416,606 reduction in annual depreciation expense based on plant as of December 31, 2014.[80]

**Account 353 – Transmission Station Equipment (Existing: 55R2, OGE: 60R2, OIEC and OER: 63R2)**

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

A. The Company proposes a 60R2 life-curve combination.[81] This represents a five-year increase from the existing 55R2 life-curve combination.[82]

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

A. This is one of the accounts the Company claims its statistical analysis resulted in "good" to "excellent" indications of survivor patterns experienced and that no information external to the statistics led to any significant departure from the

[79] Public Service Company of Colorado in Docket No. 14AL-0660E before the Public Utility Commission of the State of Colorado, as an example.
[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] Direct Exhibit JJS-2 at page VI-9.
[82] See OGE's Response to OIEC 6-22.

indicated survivor curve obtained from the statistical analysis.[83] In response to discovery, Mr. Spanos also indicated that his proposal was above the upper end of the industry which he identified as being between 45 and 55 years.[84] Mr. Spanos further noted that he did not emphasize the major retirement that occurred at age 9.5 in his life analysis and further supported his proposal based on the claim that the smooth Iowa Survivor curve goes well above the statistical analysis (the OLT) as shown on page VII-48 of his depreciation study.[85]

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

A. No. I recommend a 63R2 life-curve combination.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

A. My recommendation is based on various factors including the review of historical analysis, normalization of the unusual retirement at age 9.5, an understanding of the equipment in the account, and a recognition of the underlying basis for the statistical analyses.

First, it must be recognized that while the Company has proposed an increase in ASL for this account during the past several studies, part of the basis for such increase is due to the changing statistical analyses and the robustness of the data. In the Company's 2004 depreciation study, Mr. Spanos employed a Simulated Plant Records ("SPR") statistical analysis. The SPR method is not as accurate a statistical measure as is the actuarial approach. However, the Company had very little of the required aged data, which it only began to maintain in 1997.[86] In the 2009 depreciation study, Mr. Spanos increased the ASL from 50 years to 55 years, relying for the first time on actuarial analysis. In other words, while there has been a constant or continuous increase in ASL for this account during the past three studies, some of the increase is due to the type of analysis performed as well as the

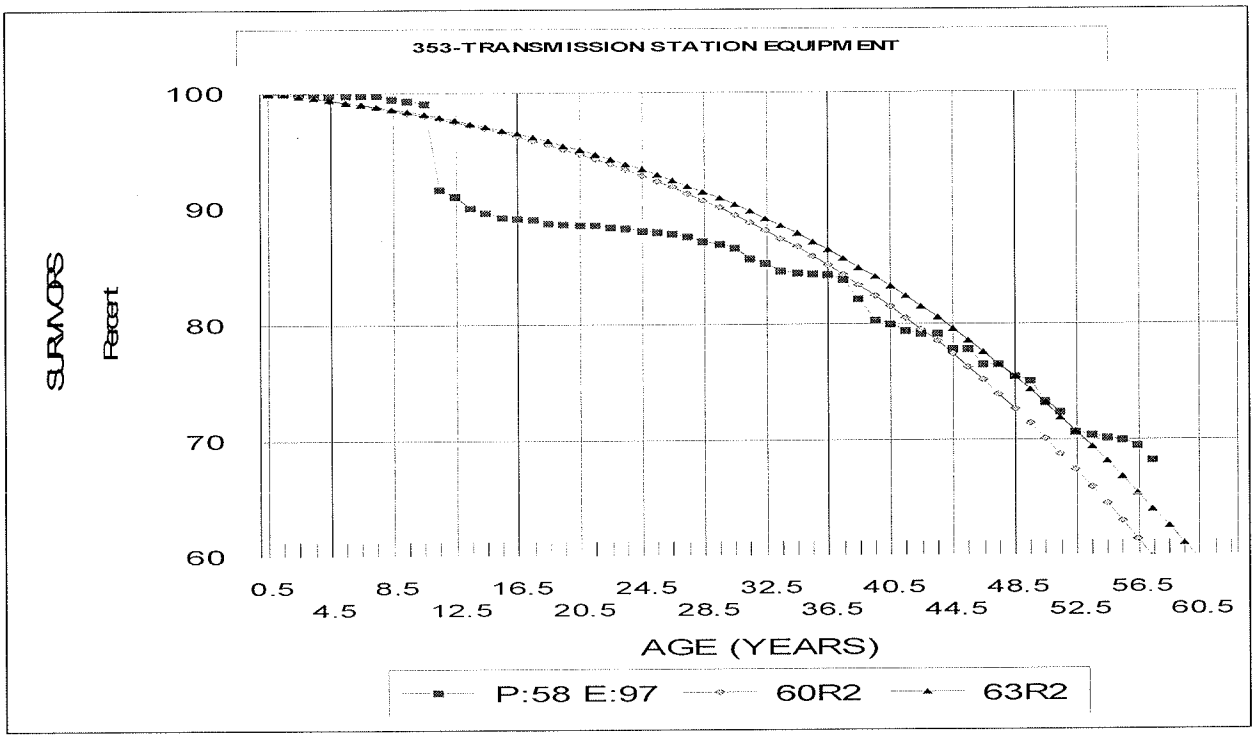
[83] Direct Exhibit JJS-2 at pages III-3 and 4.
[84] See OGE's Response to OIEC 6-22.
[85] See OGE's Response to OIEC 6-23.
[86] See OGE's Response to OIEC 5-19 and 2004 Study at page III-8.

robustness of the database relied upon. Stated differently, the ASL historically may actually have been higher than reflected in the 2004 and 2009 depreciation studies, but due to the analytical tools used and the robustness of the database, the ASL may have been understated historically. Therefore, claims that necessary increases in ASL have already been captured by Mr. Spanos by adjustments made in prior studies would be inaccurate.

**Q. PLEASE DISCUSS THE ACTUARIAL BASIS FOR YOUR RECOMMENDATION.**

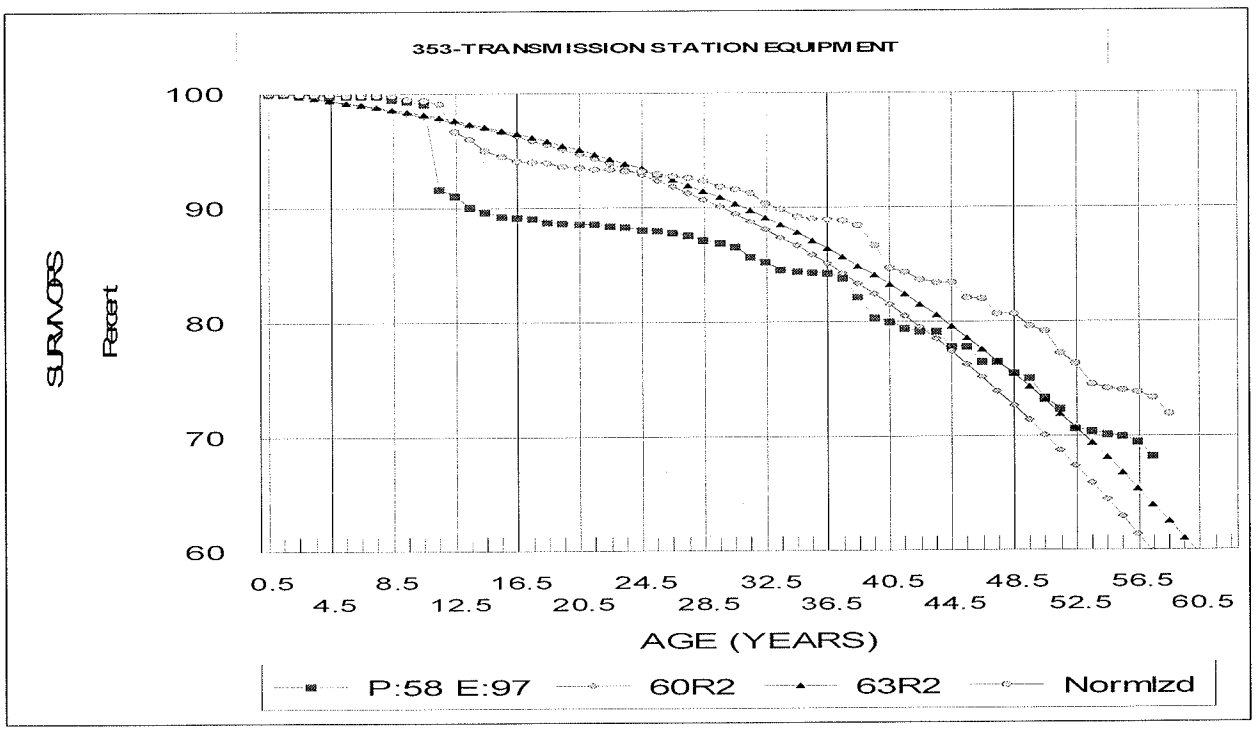
A. While Mr. Spanos states that his statistical analysis resulted in "good" to "excellent" indications of the survivor pattern for this account, he fails to note that there are superior life indications than his proposal. Indeed, there are better statistical life indications compared to his presentation in the depreciation study at page VII-48, which reflects results prior to the impact of his claim that he gave limited consideration to the retirement activity that occurred at age 9.5.

As previously noted, Mr. Spanos normally claims that the most significant portion of the curve-fitting process occurs between 20% and 80% surviving on the OLT. However, as can be seen, the OLT only declines to approximately 68% surviving and therefore one would have expected Mr. Spanos to attempt to more so fit the OLT between 80% and 68% surviving. As shown on the graph below, my recommended 63R2 life-curve combination is a superior fit to the OLT for the majority of the portion of the OLT from 80% down to 68% surviving




While the above graph depicts the comparison of life parameters as presented in the depreciation study, both Mr. Spanos and I recognize the unusual nature of the retirement activity that occurred at age bracket 9.5. While Mr. Spanos provides no indication of how he deemphasized such particular retirement activity in this case, he has done so in a recent case before this Commission. In Cause No. PUD 201500208, a Public Service Company of Oklahoma case, he criticized my normalization of an unusual event and presented what he claimed to be a more appropriate way to normalize retirement activity.[87] While I disagree with Mr. Spanos' normalization approach, in order to minimize any further potential differences I have incorporated his claimed more appropriate approach for the normalization of the unusual event in this case. As shown on the graph below, the normalized OLT is substantially elevated indicating an even longer ASL is appropriate.

[87] Mr. Spanos' rebuttal in Cause No. PUD 201500208 at page 73.




Indeed, if Mr. Spanos actually deemphasized the retirement at page 9.5 as he claims to have done in response to discovery, then his proposed life-curve combination becomes a poor indicator of retirement experience for this account. Furthermore, while both Mr. Spanos' and my recommendation are similar through the first 24 years of age, my recommendation is superior from that age onward. In fact, my recommendation is actually low compared to the normalized curve and therefore is conservative compared to historical indications.

In summary, from an actuarial standpoint, Mr. Spanos' presentation prior to his claimed normalization analyses is not an appropriate selection. However, Mr. Spanos' proposal becomes significantly more inappropriate once a review is performed on a normalized database, which he claims to have performed. In either instance, my recommendation is more appropriate and superior to Mr. Spanos' proposal, and in fact understates the realistic historic life indications on a normalized basis. Finally, Mr. Spanos' claim that his proposal takes into account his limited emphasis on the retirement at 9.5 years because he claims "the smooth curve goes well above the statistical analysis as shown on page VIII-48" of his

depreciation study is not accurate based on the meaningful portion of the survivor curve as defined by Mr. Spanos. In fact such claim is inaccurate through the vast majority of the OLT once even Mr. Spanos' limited normalization approach is taken into account. Therefore, from an actuarial statistical standpoint, there is no valid basis to accept Mr. Spanos' proposal.

**Q. ARE THERE OTHER FACTORS THAT SUPPORT YOUR RECOMMENDATION?**

A. Yes. Mr. Spanos does not state in this particular proceeding but did raise the issue in the resent Public Service Company of Oklahoma ("PSO") case during rebuttal that, based on his meetings with various utility personnel in the past, he has consistently been told that many new substation assets should not be expected to last as long as older equipment because the newer equipment is engineered and designed with tighter tolerances than was the case 40 years ago.[88] It is surprising to find that Mr. Spanos still holds on to such claim as the basis for his proposal. Not only is this statement refuted by OGE's experience for this account (a 10-year increase in ASL during the last 11 years), but even other members of Gannett Fleming admit in testimony that whatever downward effects of tighter tolerances that may exist are more than offset by improved technology in the newer equipment. Indeed, I first ran across this issue probably 25 to 30 years ago, but most depreciation experts no longer rely on such claims as Mr. Spanos appears to still cling to. Simply put, the older assets were over engineered and the tighter tolerances simply eliminated the unnecessary safety margins that existed in the past. Now with improved maintenance and monitoring of equipment, overloading of assets such as transformers is minimized in comparison to the situation many decades ago. This situation highlights the concern raised at the beginning of my testimony regarding Mr. Spanos' failure to provide the actual basis for his proposals which limits the ability to address such situations when he presents claims such as shorter service lives due to tighter engineering tolerances in rebuttal testimony.

[88] Mr. Spanos' rebuttal in Cause No. PUD 201500208 at page 75.

Another basis for my recommendation relates to industry comparisons. While Mr. Spanos claims that his 60R2 life-curve combination is already "above the upper end of the industry range, but is supported by statistical analyses and Company plans", his statement is inaccurate.[89] Gannett Fleming and others in the industry recommend ASLs at least as long as the 60-year level proposed by Mr. Spanos in this case. 60 years is not already above the upper end of the industry range and therefore his apparent limitation to increasing the ASL based on the industry is not warranted. Moreover, Mr. Spanos fails to comply with the recognition of the principle that if valid company specific data verifies that a value greater than his interpretation of the industry is warranted, then such value is still acceptable.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in an $803,660 reduction in annual depreciation expense based on plant as of December 31, 2014.[90]

**Account 355 – Transmission Poles and Fixtures (Existing: 55R1, OGE: 55R1, OIEC and OER: 61R1)**

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

A. The Company proposes to retain the existing 55R1 life-curve combination.[91]

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

A. This account corresponds to one that the Company claims has a "good" to "excellent" indication of a survivor pattern based on actuarial results.[92] In addition, Mr. Spanos claims that his proposal continues to be a good fit of the historical data and that the main drivers of retirements have not changed nor are they expected to

[89] See OGE's Response to OIEC 6-22.
[90] Gannett Fleming calculates life in a manner different from that utilized by the rest of the industry. The impact of my adjustment is based on a calculation of remaining life using the industry standard approach.
[91] Direct Exhibit JJS-2 at page VI-9 and Response to OIEC 3-4.
[92] Direct Exhibit JJS-2 at pages III-3 and 4.

change.[93] Mr. Spanos also notes that while the primary type of pole in the account corresponds to large wood transmission poles, the Company has been installing steel poles during the last 10 to 15 years.[94] Mr. Spanos further claims that a 55-year ASL with a low moded R-type curve is indicative of the industry, and while he does not expect the significant level of retirement activity associated with the 2002 ice storm to reoccur in the same manner, he did not emphasize such retirement activity in his life analyses.[95]

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

A. No. I recommend a 61R1 life-curve combination.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

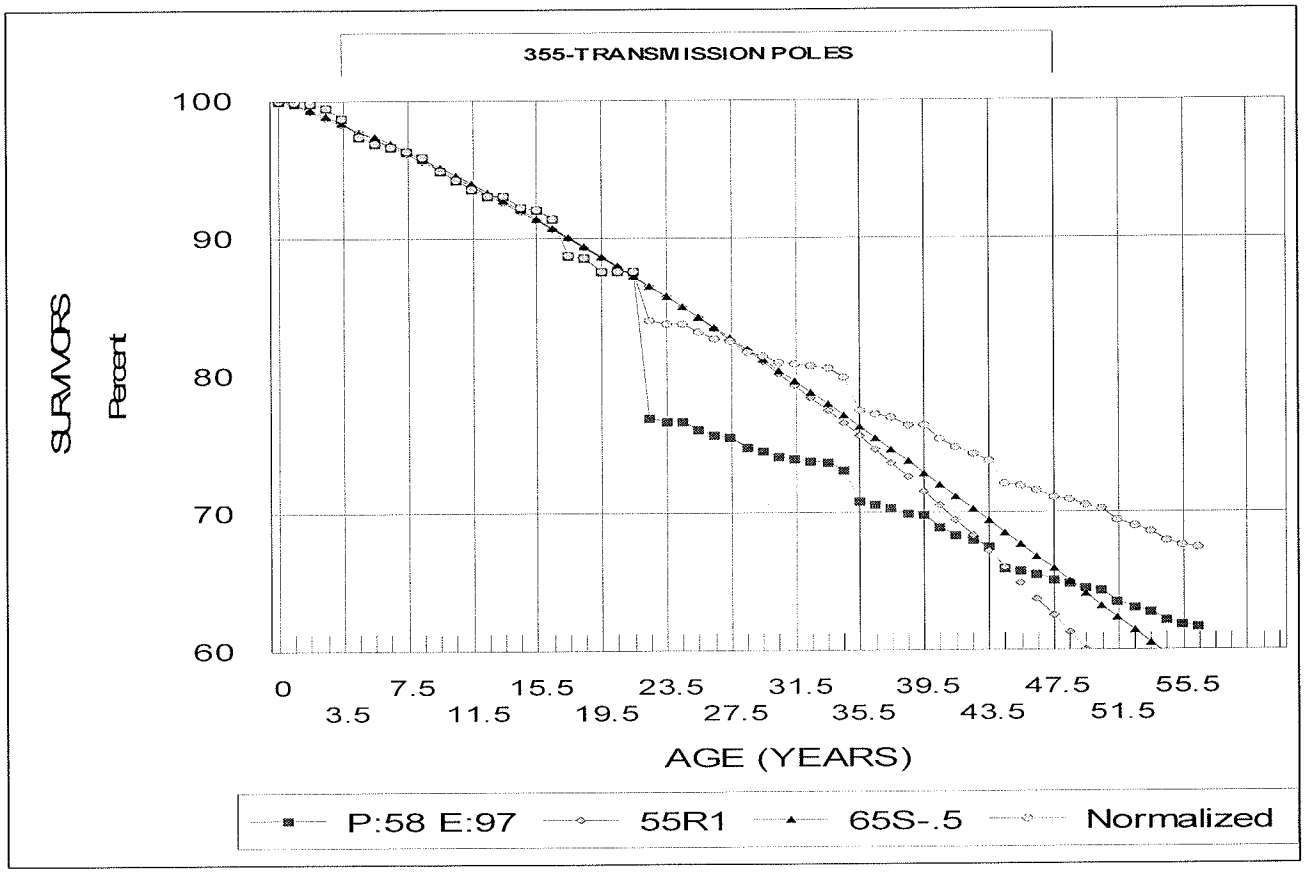
A. My recommendation is based on the interpretation of statistical results as well as recognition of the type of assets in the account.

What is clear from a review of the prior study as well as the current study is that while the OLT has elevated, Mr. Spanos has not changed his proposed life-curve combination.[96] Normally, an elevation in an OLT between studies indicates an increase in life expectancy and would thus warrant an increase in the proposed ASL. However, Mr. Spanos' undefined interpretation process changes between studies. For example, in the 2009 study Mr. Spanos believed that the curve-fitting process was appropriate when his proposed 55R1 life-curve combination passed through the data point on the OLT fifth from its end. However, in the current case by retaining the same life-curve combination, Mr. Spanos now appears to believe it is appropriate to allow his proposal to pass through the data point that is twelfth from the end of the OLT. This change in approach has a significant impact on the selection of an ASL. The inconsistent application of interpretation of data for the same account is only explained by Mr. Spanos' desire to retain the existing ASL

[93] See OGE's Response to OIEC 3-4 and 6-28.
[94] See OGE's Response to OIEC 3-4.
[95] See OGE's Response to OIEC 6-28 and 6-29.
[96] Comparison of Direct Exhibit JJS-2 page VII-57 in the current case with page III-64 in the 2009 depreciation study.

rather than recognizing the longer life expectation exhibited by the Company's assets.

However, the interpretation of the historical data as presented fails to recognize Mr. Spanos' admission that the major retirement at age 21.5 was not expected to be reoccurring and was not emphasized in his selection process.[97] As shown on the graph below, when the historical data is normalized in the manner Mr. Spanos has deemed to be appropriate, his claims are inconsistent with the facts.[98]




As can be seen on the graph above, Mr. Spanos' interpretation of the normalized data for this account clearly reflects a poor comparison which significantly

[97] Response to OIEC 6-28.
[98] Mr. Spanos' rebuttal testimony at page 73 in Cause No. 201500208 a PSO proceeding before the Commission.

understates the realistic ASL for the assets in the account. Moreover, while I have recommended an increase to 65 years, even my recommendation does not fully capture the longer life indications as exhibited by the Company's assets.

Another consideration for a longer life is the fact that the steel poles that Mr. Spanos references, many of which he claims have been added during the last 15 to 20 years, actually represent 88% of the investment in poles. Therefore, when Mr. Spanos states that the assets are primarily wood poles, such statement is misleading, especially as Mr. Spanos is well aware that the quantity of poles are not analyzed for depreciation purposes; only the dollar level of the poles is analyzed. Mr. Spanos' failure to increase the ASL knowing that the historic data corresponds to wood poles which are not expected to have as long a life as concrete or steel poles is precisely the reason why credence cannot be assigned to Mr. Spanos' claim of relying on "judgment".

Mr. Spanos' judgmental process in this instance, which can be tested in this instance, demonstrates that it is flawed and fails to capture the meaningful life expectations for the investment in the account. Indeed, given that the vast majority of the investment in this account, and in particular in steel poles, has occurred since the last study and that the majority of the retirements since the last depreciation study are associated with wood poles, there can be no doubt that the only appropriate interpretation of these facts should have resulted in an increase in ASL from that reflected in the prior study.[99] Therefore, Mr. Spanos is incorrect when he claims that there has been no change in the main drivers for the cause of retirement associated with the investment in this account. Fungus, decay, and the wear and tear on wood poles due to the climate do not correspond in the same manner to steel poles.

[99] See OGE's Responses to OIEC 4-20 and 4-21, as well as 5-19 for the 2009 Study at page III-9 and the current study at page VI-9.

My recommendation is also realistic from an industry confirmational standpoint. Indeed, Gannett Fleming has recommended ASLs longer than 65 years for investment in Account 355. Moreover, while Mr. Spanos may attempt to claim that the 130-year maximum life associated with my recommendation is too long, I would not agree with such premise. Indeed, Gannett Fleming proposes life-curve combinations with maximum lives effectively equal to my recommendation. In addition, steel poles should definitely experience longer life spans than wood poles.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in a $4,145,272 reduction in annual depreciation expense based on plant as of December 31, 2014.[100]

**Account 356 – Transmission Overhead Conductors and Devices (Existing: 60R2.5, OGE: 60R3, OIEC and OER: 65R3)**

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

A. The Company proposes a 60R3 life-curve combination.[101]

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

A. Even after discovery on this matter, the Company's basis is not clear. What is clear is that the Company does not rely on the results of its statistical analyses for the primary basis for its proposal.[102] Mr. Spanos states that there have been limited retirements with the exception of a few large retirements due to ice storms. He further states that the cause of retirements for assets in this account have not changed since the last study. Mr. Spanos further notes that his proposed 60-year ASL is on the long side as compared to others in the industry, but that the

[100] 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.
[101] Direct Exhibit JJS-2 at page VI-9.
[102] *Id.* at III-3 and 4.

maximum life is realistic.[103] In response to follow up discovery, Mr. Spanos also states that the life characteristics are not "expected" to be materially different and he further expects that once the assets reach 50 years of age, they will experience an increase in retirement activity. From these items of information he concludes that his interpretation of the statistical analysis "is a reasonable interpretation" and then states that a 95-year maximum life is "expected" even though he had previously stated that 105-year maximum life was realistic.[104]

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

A. No. I recommend a 65R3.

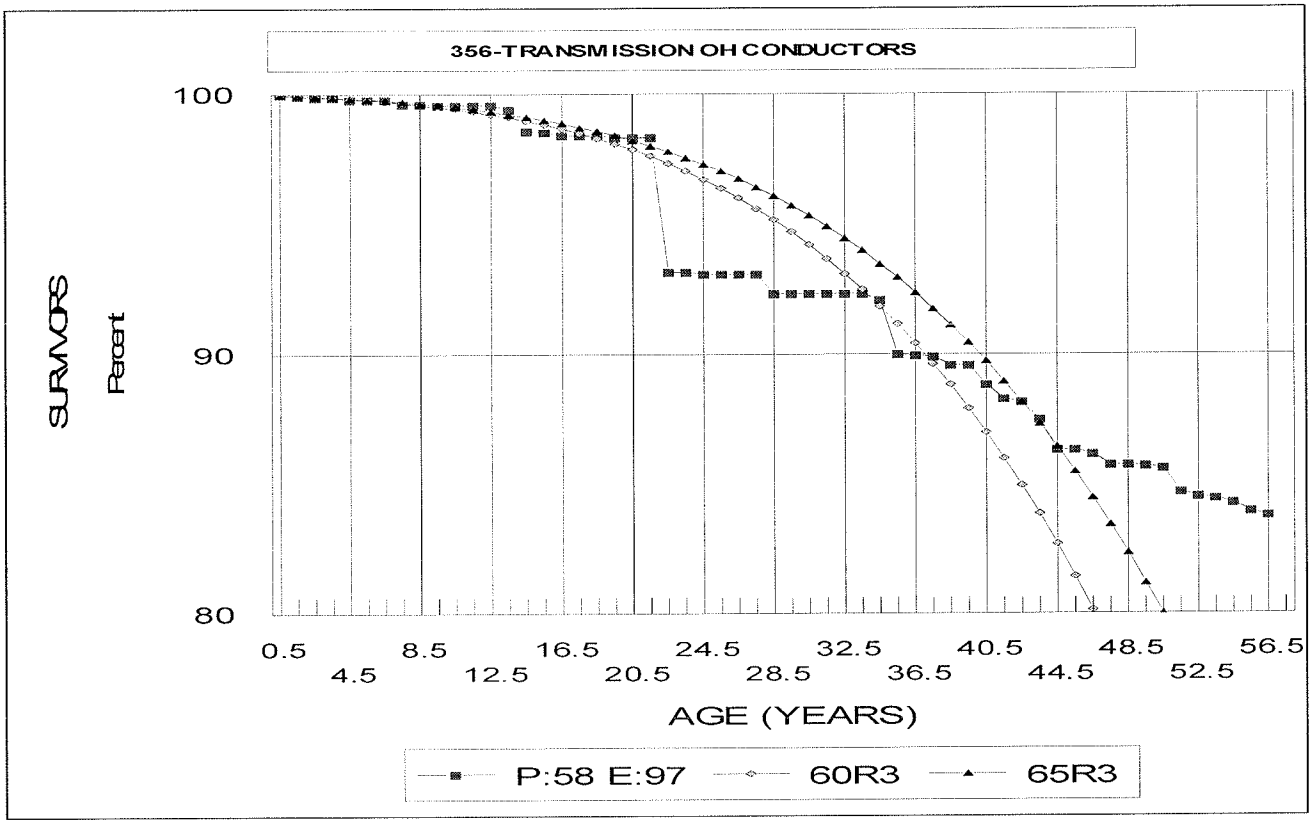
**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

A. My recommendation is based not only on review and interpretation of the historical statistical analyses, consideration of maximum life, expectations, the general relations of ASL between the investment in this account and Account 355 – Transmission poles, along with confirmation from industry comparisons.

First, it must be noted that Mr. Spanos' position to not include this account on the listing of accounts where he placed high reliance on his interpretation of statistical analyses appears to be odd. Indeed, Mr. Spanos has relied on the results of such statistical analyses for other accounts even where there is less of an OLT than exists in this account. For example, in Mr. Spanos' 2009 depreciation study for OGE, he relied on a stub curve that did not decline before approximately 95% surviving.[105] In addition, Mr. Spanos has relied on his interpretation of the results of statistical analyses for other accounts in the current study which are approximately equal in quality of curve fitting as is Account 356.[106]

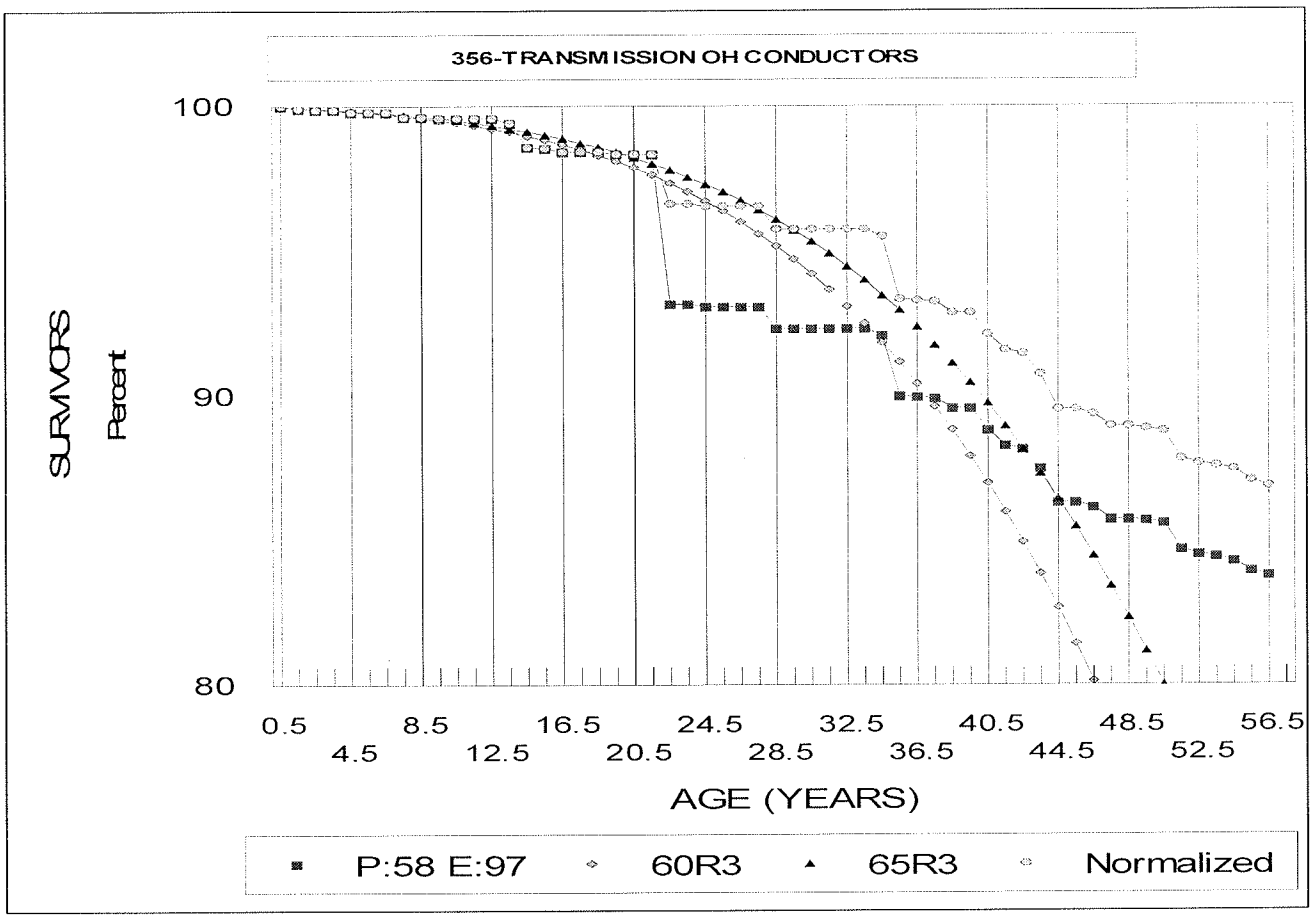
[103] See OGE's Response to OIEC 3-4.
[104] See OGE's Responses to OIEC 6-30 and 3-4.
[105] See OGE's Response to OIEC 6-19 and 2009 Study at pages II-21 and III-61.
[106] Mr. Spanos has not provided any basis for his inconsistent process, but it must be noted that a longer life expectation does result when the interpretation of historical analyses is placed on an equal footing as Mr. Spanos has relied on in the past.

As shown on the graph below, my recommendation is a superior curve fit to the OLT as presented by Mr. Spanos prior to any normalization.




However, as noted by Mr. Spanos, he did not emphasize the significant retirement associated with ice storms that occurred at age 21.5.[107] Therefore, when the historical data is normalized, relying on Mr. Spanos' claimed approach to normalization, it becomes more clear that his proposal understates the ASL for the investment in this account as shown on the graph below.

[107] Response to OIEC 6-31.




It must be noted that my recommendation also understates the realistic service life for the investment in this account based on the normalization of data as Mr. Spanos has deemed appropriate. In other words, my recommendation for a 65R3 life-curve combination is conservative in comparison to the normalized actual data for OGE.

Turning to Mr. Spanos' concern regarding maximum life, it is not clear whether his claimed 95- or 105-year maximum life expectations provide any realistic basis to limit the appropriate ASL for this account. However, it must be noted that my recommendation results in only an approximately 110-year maximum life and thus easily corresponds to a valid life-curve combination. Indeed, Gannett Fleming has recommended life-curve combinations for investment within this account for other utilities which often exceed 120 years and even 125 years. While the maximum

life consideration is not an overriding factor, review and consideration of maximum life in this instance further supports a longer ASL than proposed by Mr. Spanos.

Yet another consideration for a longer service life is the general relationship in ASL between the investment in Transmission Account 355 – Poles and the conductors that reside upon the poles. Review of Gannett Fleming's database reveals that even Gannett Fleming overwhelmingly takes the position that transmission conductors are generally expected to have a longer life than transmission poles.[108] Given that I have recommended a longer ASL for Account 355 than that proposed by Mr. Spanos, it is consistent and appropriate to increase the ASL for Account 356 above that proposed by Mr. Spanos.

Finally, from a confirmational standpoint my recommended ASL is reasonable and acceptable based on comparison to the industry, and indeed especially given the fact the Company's investment for the most part is either at the high end or above the general industry range identified by Mr. Spanos.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in a $1,364,153 reduction in annual depreciation expense based on plant as of December 31, 2014.[109]

## SECTION VIII: MASS PROPERTY NET SALVAGE

### A. General

[108] See OGE's Response to OIEC 3-2 Attachment.

[109] 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.

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

A. I address the Company's request to increase depreciation expense due to more negative net salvage values than currently exist for mass property. In particular, the Company's request is unsupported by any credible evidence.

**Q. HOW DID THE COMPANY ARRIVE AT ITS NET SALVAGE VALUES?**

A. Unfortunately, Mr. Spanos provided very little support for his proposed net salvage values. Mr. Spanos identifies a generalized process for the transmission accounts at issue where he relied "on judgment incorporating estimates of previous studies of this and other electric utilities."[110] While Mr. Spanos did review averages of historical data for those accounts, the results of such analyses did not "contribute significantly toward the net salvage estimate."[111] Alternatively, for the two general plant accounts at issue, Mr. Spanos did rely heavily on the results of his historical averaging process.[112]

**Q. IS MR. SPANOS' RELIANCE ON THE ESTIMATES OF PREVIOUS STUDIES A VALID BASIS FOR HIS PROPOSAL IN THIS CASE?**

A. No. The prior rate case upon which Mr. Spanos relies, Cause No. PUD 201100087, resulted in a settlement. As it relates to depreciation rates proposed by Mr. Spanos in the prior case, the settlement agreement specifically noted that those depreciation rates "shall not represent any precedential value."[113]

**Q. DID MR. SPANOS PROVIDE A DATABASE OF INDUSTRY VALUES HE RELIED UPON AS PART OF HIS BASIS FOR VARIOUS PROPOSALS?**

A. Yes. Mr. Spanos did provide industry values proposed by his firm in other jurisdictions, but the database cannot be tested for its accuracy or validity. The industry database provided fails to identify the jurisdiction, the docket number, the

[110] Direct Exhibit JJS-2 page IV-4.
[111] *Id.*, page IV-2.
[112] *Id.*
[113] Joint Stipulation and Settlement Agreement in Cause No. 201100087 page 2, paragraph 3.

year of any study, and did not match the utility with its data.[114] Therefore, the industry data provided by the Company has limited value for establishing depreciation rates, but it is the only database the Company provided in support of its proposals.

**Q. DID YOU REVIEW AND ANALYZE THE COMPANY'S HISTORICAL DATA AS PART OF YOUR DETERMINATION OF NET SALVAGE VALUES?**

A. Yes.

**Q. DO YOUR REVIEW AND ANALYSES OF NET SALVAGE RELY ON THE COMPANY'S HISTORICAL DATA TO THE SAME EXTENT AS YOUR LIFE ANALYSES DID?**

A. No, and it should not. Life analysis relies on actuarial analyses, a powerful analytical tool using Mr. Spanos' own term, and a more meaningful database than is relied upon for net salvage purposes. In addition, the volatility of net salvage percentages from year to year is much greater than the volatility experienced for life analysis purposes. In other words, due to the type of data, the sample size, the complexity of a particular retirement, the mix of retired assets compared to the current investment mix, and the degree of volatility of net salvage transactions compared to life transactions, a much greater level of subjectivity is required for net salvage analysis than for life analysis.

**Q. CAN YOU PROVIDE AN EXAMPLE OF THE DEGREE OF VOLATILITY YOU ARE REFERRING TO?**

A. Yes. For Account 353, the Company recorded positive net to relatively low negative net salvage values during the 1990s. However, the Company then began reporting dramatically more negative net salvage values with the most recent four years being a -212%, a -494%, a -1008% and a -749% net salvage during the five-

[114] See OGE's Response to OIEC Data Request 3-2.

year period 2011-2014, respectively.[115] What has not been presented or provided by the Company is what caused such dramatic changes in annual levels of net salvage percentages, even when specifically requested to do so.[116] While Mr. Spanos claims that by using rolling three-year averages he has smoothed or compensated for unusual events, such statement is no different than most of the presentation made elsewhere in the 2014 Study. In other words, Mr. Spanos' testimony contains conclusory statements which are without support or justification.

**Q. ARE THERE FACTORS OR CONSIDERATIONS THAT ARE NOT PRESENTED OR REFLECTED IN THE COMPANY'S PRESENTATION?**

A. Yes. For example, most often pole or conductor related retirements are due to retirement forces that occur prior to the proposed useful life for those assets. Such transactions generally do not reflect the concept of economies of scale, a concept also recognized by NARUC. Indeed, in the future when larger portions of the system are retired on a planned and contiguous basis, the per-unit cost of removal will decline and potentially decline appreciably. In other words, the current levels of net salvage being recorded by the Company may reflect abnormal and unusual levels of complexity as well as individual and inefficient retirement of assets compared to what will transpire in the future. The Company's failure to perform adequate or meaningful analysis to demonstrate that the historical indications are reasonable expectations of the future does not default to a situation where the Company's historical averages can be deemed to be a representative source from which arbitrary results or trends can be assumed.

**Q. IS IT MORE COSTLY FOR THE COMPANY TO PERFORM AN IN-DEPTH ANALYSIS FOR NET SALVAGE PURPOSES THAN THE SIMPLISTIC HISTORICAL AVERAGING PERFORMED BY MR. SPANOS?**

[115] Direct Exhibit JJS-2 page VII-28.
[116] See OGE's Response to OIEC 4-4.

A. Obviously, yes. NARUC has referenced the potential cost of such analysis as one reason why it was not a cost effective undertaking in the early 1990s. However, things have changed since that time. Computer software programs that collect, maintain, and retrieve information on a more expedited and cost effective manner have been purchased by utilities. In addition, the revenue requirement impact of net salvage has greatly expanded compared to the impact during the 1990s. Therefore, claims by Mr. Spanos or other depreciation analysts that it is standard for them to rely on simplistic historical averaging analyses is no longer an adequate basis to support arbitrary proposals that create more than a billion dollars of additional capital recovery requirements for the Company. Again, the applicant in a rate case is charged with supporting its request for revenue requirements. A claim that it is too costly to perform anything other than by means of historical averages is no longer valid, especially when the utility has control of what is recorded in various accounts and the depreciation analyst has control as to what data is excluded from or given an unknown level of diminished consideration in the depreciation analysis.

**Q. HAVE YOU IGNORED ANY INFORMATION PROVIDED BY THE COMPANY IN YOUR ANALYSES?**

A. No. However, I may not have given the same level of importance to information as Mr. Spanos may have. Moreover, unlike Mr. Spanos, I assign no meaningful significance to the values he proposed in the prior settled case.

**Q. SHOULD REGULATORS ACCEPT THE LIMITED LEVEL OF SUPPORT FOR DEPRECIATION PROPOSALS AS MR. SPANOS PROVIDES IN THIS CASE?**

A. No. Regulators should take exception to the lack of support and substantiation for proposals that create tens of millions of dollars of revenue requirements. It is the Company's burden to provide specific evidence in support of its request for over $30 million in annual revenue requirements associated with just mass property net salvage related expense. Challenged expenses should be disallowed where the

Company fails to provide such support. Indeed, the trend in the industry is for regulators to demand not only more information, but also a transparent basis for depreciation proposals made by a utility.

**Q. BASED ON YOUR REVIEW OF ALL AVAILABLE INFORMATION, ARE YOU RECOMMENDING ADJUSTMENTS TO THE COMPANY'S PROPOSALS?**

A. Yes. I am recommending adjustments to the proposed net salvage values for four mass property accounts.[117] Those accounts are set forth in the following table, along with the Company's proposed value, my recommended value, and the dollar impact of each recommendation.

**Summary of OIEC's and OER's Recommended Mass Property Net Salvage Adjustments**

| Account | OGE Proposed | OIEC, OER Recommended | OIEC, OER Adjustment | Impact |
|---|---|---|---|---|
| 353 – Trx. Station Equip | (30%) | (10%) | 20 | $2,425,404 |
| 355 – Trx. Poles & Fixtures | (60%) | (50%) | 10 | $1,670,348 |
| 390 – Struct. & Imprvmts | 0% | 15% | 15 | $833,787 |
| 392 – Transprt. Vehicles | 10% | 20%/15%/0%[118] | - | $644,718 |
| Total | | | | $5,574,257 |

The combined impact of the recommendations to these four accounts results in a $5.6 million reduction in annual depreciation expense on a standalone basis based on plant as of December 31, 2014.

**B. Account Specific**

[117] My engagement exclude review of Distribution plant.
[118] For cars and light trucks, heavy trucks, and trailers, respectively.

**Account 353 – Transmission Station Equipment (Existing: -25%, OGE: -30%, OIEC and OER:-10%)**

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

A. The Company proposes a -30% net salvage.[119]

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

A. After recognizing that the "extremely high" levels of cost of removal experienced over the last 10 years was not a valid indication of the future, Mr. Spanos decided that "given the current estimate, recent high cost of removal, industry averages and future expectations, the increase to negative 30% is reasonable."[120]

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

A. No. Mr. Spanos' proposal represents an outlier position. I recommend a -10% net salvage.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

A. I agree with Mr. Spanos' recognition that the historical data is not credible and cannot be relied upon for establishing appropriate net salvage values for this account. Indeed, Mr. Spanos discounted the recorded activities since his last depreciation study by 93%, or in other words has totally ignored the information.[121] In addition, Mr. Spanos has discounted the most recent three-year rolling averages by up to 96%.[122] I disagree with Mr. Spanos' main judgmental consideration, as the existing -25% net salvage value was never demonstrated to be valid. Moreover, it was part of an overall settlement in the last case and is not a valid data point for establishing the proposed net salvage in this proceeding once challenged.

[119] Direct Exhibit JJS-2 at page VI-9.
[120] See OGE's Response to OIEC 4-7.
[121] Direct Exhibit JJS-2 at VIII-29 five-year average of -417% compared to -30%.
[122] *Id.*

When valid utility data does not exist, as both Mr. Spanos and I both agree is the situation for this account, reliance on industry information becomes more significant. Unlike Mr. Spanos, I find no reason to select a value that represents an industry outlier. Indeed, Mr. Spanos' own database identifies only two instances for a utility with a negative net salvage more negative than his proposal.[123] I find the mean, median, and mode values of a -10% as recommended by Gannett Fleming elsewhere to be more realistic.[124] Therefore, absent explanation and substantiation by the Company supporting its outlier recommendation, a more realistic negative net salvage is appropriate.

The Company's inability to present credible information associated with transactions reflected in its own database and the dramatic shift in net salvage for the period 1991 through the early 2000s compared to the early 2000s and onward raises the concern associated with the recording of cost of removal due to either the implementation of the SAP accounting system and/or a change in the allocation and assignment of costs between cost of removal and cost of a new asset when replacement activity transpires. Indeed, the overall net salvage from 1991 through 2002 is a positive net salvage while the net salvage from 2003 through 2014 is dramatically negative. Yet, when the Company was requested to explain what caused the noticeable difference between the recorded net salvage for the two periods on a percentage basis including all support and justification, the Company could not provide a single reason.[125]

The Company reports that normally a 20% assignment of costs incurred in replacement activity is assigned to the cost of removal, yet the Company cannot provide any support and justification for such assignment.[126] Based on my

[123] See OGE's Response to OIEC 3-2 Attachment.
[124] Response to OIEC 3-2 Attachment.
[125] See OGE's Response to OIEC 4-4. It must be noted that the Company's response applies to expenditures and not percentages, as requested in discovery. Expenditures can go up, yet the cost of removal can become positive and therefore the Company's response does not relate to the information requested.
[126] See OGE's Response to OIEC 9-13 in Cause No. 201100087..

experience with other companies, a much lower assignment or allocation of costs to cost of removal would be more appropriate.

Another factor supporting a lower net salvage for this account is the fact that the Company notes that the recent negative net salvage may be skewed due to a majority of the retirements during the period being associated with equipment in control buildings as well as circuit breakers.[127] Given that normally the largest component of investment in this account relates to transformers, the historical recorded data relating to retirement of relays or control equipment would cause more negative net salvage values compared to future retirements. In the future, when a more representative mix of retirement investment includes more transformers, the per-unit cost of removal will be lower than when retiring control equipment.

In summary, when the Company's historical data is not realistic and reliable, it cannot be relied upon for predictive indications associated with future retirements. While both Mr. Spanos and I recognize the lack of predictive value associated with recorded data, Mr. Spanos still chooses to move in a more negative direction in spite of the fact that his experience warrants a less negative net salvage value than the existing value. Moreover, the existing value is based on a settlement agreement and as such provides no basis for an appropriate value in this proceeding. The only general credible item of information presented by the Company in this proceeding is the overwhelming industry indications for a more realistic level of net salvage, especially when the future will reflect a higher dollar level of retirement activity associated with transformers. My recommendation for a -10% net salvage corresponds to the mean, median, and mode values recommended by Gannett Fleming, is indicative of industry averages elsewhere, and should be adopted until the Company can provide meaningful and credible evidence to support any other value. I further recommend the Commission order the Company to demonstrate the validity of the assignment of costs to cost of removal for this and other accounts in

[127] See OGE's Response to OIEC 4-4.

instances where replacement activity occurs. Until the Company demonstrates the validity of its internal allocation of costs, there can be no reliance on the Company's recorded values for establishing net salvage values for depreciation purposes.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in a $2,425,404 reduction in annual depreciation expense based on plant as of December 31, 2014.

**Account 355 – Transmission Poles and Fixtures (Existing: -60%, OGE: -60%, OIEC and OER: -50%)**

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

A. The Company proposes a -60% net salvage.[128]

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

A. Mr. Spanos is not clear as to the basis for his proposal. Mr. Spanos simply states that he relied on judgment, which incorporates several factors. However, Mr. Spanos only identifies the existing net salvage, that his proposal is "within the industry range", and that his proposal is conservative compared to recent retirements.[129] Mr. Spanos' reference to the historical retirements is inconsistent with his 2014 Study which notes he did not rely significantly on the historical recorded data.[130]

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

A. No. I recommend nothing greater than a -50% net salvage.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

[128] Direct Exhibit JJS-2 at page VI-9.
[129] See OGE's Response to OIEC 4-25.
[130] Direct Exhibit JJS-2 page IV-2.

A. I am in agreement with Mr. Spanos that the statistical analysis of historical data is not credible and cannot be relied upon to establish the net salvage for this account. It must be noted that Mr. Spanos discounted the recent historical experience in this account by a minimum of 38% up to 55%. Discounting the historical data by such amounts does not represent gradualism, but represents recognition of the lack of credibility associated with the historic values as a predictor for future activities. When the Company's historical database is not considered a valid predictor of the future, other factors such as industry comparisons become more important.

The Company has recorded dramatically negative net salvage values during the last approximately 10 years. The Company has not provided any explanation as to what caused the dramatic shift in net salvage percentages for, in theory, the same activity.[131] However, as discussed under Account 353, the level of assignment of costs to cost of removal when replacement activity occurs as well as the implementation of the SAP accounting system are potential explanations for such shift. However, neither represents a valid basis for setting depreciation rates for the investment in this account.

Another problem with recognizing too high a negative level of net salvage for the investment in this account is the concept of economies of scale. Normally, the historical retirement of poles does not occur in significant quantities in the same location. However, when storm, fire, or other emergency type events occur, they normally incorporate disproportionate levels of inefficiencies due to over time expense and lack of planning. The retirement of the vast majority of the poles on the system most likely will not transpire due to emergency or unusual circumstances, but will retire on a more concentrated basis allowing for economies of scale.

Another problem with the limited database relied upon by the Company is the fact that not only is there a potential significant difference between the net salvage

[131] See OGE's Response to OIEC 4-23.

associated with steel poles versus wood poles, but the historic cost for removal of steel poles has varied by a factor of 10. For example, the average cost of a retired steel pole has varied by over a factor of 10.[132] Given that the cost relationship is noticeably different for particular years without any support for the representativeness of such differential in cost of removal again calls into question the representativeness of the Company's historic database.

Given the lack of credibility associated with the Company's historical database and Mr. Spanos' reliance on industry values, a -60% net salvage is excessive and inappropriate.[133] Mr. Spanos' actual experience and therefore identifiable judgment can best be measured by the values Mr. Spanos recommends for other utilities. Mr. Spanos' recommendation for net salvage for comparable investment reflects a mean, median, and mode ranging between a -40% and a -50%.[134] Therefore, a less negative value would be more representative. While a -40% appears to be more indicative of both Mr. Spanos' experience and my expectations based on industry values, I conservatively am recommending a -50% net salvage.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in a $1,670,348 reduction in annual depreciation expense based on plant as of December 31, 2014.

**Account 390 – General Plant Structures & Improvements (Existing: 0%, OGE: 0%, OIEC and OER: 15%)**

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

A. The Company proposes a 0% net salvage for the investment in this account.[135]

[132] See OGE's Response to OIEC 4-21 Attachment.
[133] As previously noted, Mr. Spanos' reliance on the existing value provides no measure of support as the value is a product of a settlement agreement.
[134] See OGE's Response to OIEC 3-2 Attachment.
[135] Direct Exhibit JJS-2 page VI-10.

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

A. Mr. Spanos states that this is one of the accounts where the "analyses [averaging of historical data] contributed significantly towards the net salvage estimate."[136] The Company also provided the historical retirement activity associated with the investment in this account from 1991-2014.[137] Finally, in response to discovery, Mr. Spanos noted that his proposal is also based on the current estimate, industry values, a claim that the Company has no specific plans to sell facilities in the near term, and an "expectation" that the recent net salvage levels will continue. [138]

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

A. No. I recommend an initial step of a positive 35% net salvage.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

A. It is important to place the Company's investment in this account in to 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 83% of the investment in this account is associated with its investment in the 10 largest facilities that it owns.[139] Undoubtedly, the Company also owns a sizeable portion of the remaining investment in the account. Therefore, at a minimum, a sizable positive level of net

[136] Direct Exhibit JJS-2 pages IV-2 and 3.
[137] *Id.*, at pages VIII-61 and 62.
[138] See OGE's Response to OIEC 5-1.
[139] See OGE's Response to OIEC 3-23 Attachment 1.

salvage is warranted for the identifiable investment in the Company's 10 largest facilities plus some additional components.

A review of the Company's largest 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 entire service centers yields a 55% net salvage.[140] Therefore, even if as little as one-third of the investment in the account were associated with long lived assets that could be expected to be part of a potential future sale were combined with an assumption that the remaining investment would incur the historical level of negative net salvage related to remodeling or replacement activity, the net result would be approximately a positive 15% net salvage.[141]

While the information employed in the calculation above deals with the Company specific information provided, it understates the more realistic future expectations for such investments. First, it must be noted that the Company admits that its recording of retirement transaction for this account reflects errors.[142] Second, the recorded data reflects major remodeling of facilities such as the multimillion remodeling of the corporate headquarters rather than the more common practice of sale of such facility and relocation to a new facility.[143] In addition, it has been both Mr. Spanos' and my experience that when utilities sell the offices, service centers, etc., the realized net salvage percentage is normally much greater.[144] These additional considerations further support my conservative recommendation.

[140] See OGE's Response to OIEC 5-2 and Direct Exhibit JJS-2 page VIII-61.
[141] Direct Exhibit JJS-2 page VIII-61with removal of 2003 and 2004 values assumed to be associated with the sale of service centers would yield a -4% net salvage. The dollar weight average result equals 15.6% (.55x.333-.04x.667).
[142] See OGE's Response to OIEC 5-3.
[143] See OGE's Response to OIEC 5-2.
[144] For example, the recent NSTAR Gas Company case in Massachusetts, Mr. Spanos identified a 189% and a 705% positive net salvage associated with buildings and service centers.

Finally, while Mr. Spanos often states that the positive value received by a utility in association with the sale of its facilities is land related and therefore should not be considered when establishing a net salvage value, he is either wrong or he is attempting to create an artificial barrier. In prior cases where Mr. Spanos has taken such position, the utility has not shown that the sale value received was for the land rather than for the facility that resided on the land. Indeed, those utilities recorded the transactions in Account 390 – Structures and Improvements and not in Account 389 – General Plant Land. Moreover, in the limited instance where a utility did segregate the sale proceeds the vast majority of the proceeds were assigned to the facility, not land.[145] Notwithstanding the arbitrary claim of land related value, if Mr. Spanos' position on this matter had merit it would still not prohibit the recognition of the gain for the benefit of the customers elsewhere in a rate filing so as to comply with the matching principle and eliminate intergenerational inequity. However, that treatment does not transpire as that is not the goal underlying Mr. Spanos efforts.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation results in an $833,787 reduction in annual depreciation expense based on plant as of December 31, 2014.

**Account 392 – General Plant Transportation Equipment (Existing: 10%, OGE: 10%, OIEC and OER: 20% for 392.1, 15% for 392.5 and 0% for 392.6)**

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

A. The Company segregates its investment in transportation equipment into three categories: Account 392.1 – Cars and Trucks, Account 392.5 – Heavy Trucks, and Account 392.6 – Trailers. Mr. Spanos proposes an overall 10% positive net salvage for all three subaccounts.[146]

[145] The El Paso Electric Company case in Docket No. 44941 before the Public Utility Commission of Texas.
[146] Direct Exhibit JJS-2 at page VI-10.

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

A. This account represents a situation where Mr. Spanos' analysis of historical data "contributed significantly towards the net salvage estimates."[147] The results of the statistical analyses are also set forth in the depreciation study.[148]

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

A. No. The Company's proposal understates reasonable expectations for net salvage for this account and further fails to properly segregate the net salvage between the three subaccounts presented. I recommend a positive 20% net salvage for cars and trucks, positive 15% net salvage for heavy trucks, and a zero level of net salvage for trailers.

**Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

A. First, it must be noted that while the overall historical average for the investment in the combined subaccounts is 9%, Mr. Spanos' normal recognition of net salvage for other accounts often captures trends in the data and relies more heavily on recent three-year moving averages as well as the most recent five-year average. In this particular case, while a trend has emerged for a higher percentage of net salvage corresponding to more current periods, Mr. Spanos appears to have ignored such trend. The most recent three-year moving averages are both positive 17% and the most recent five-year average is a positive 15%.[149] Therefore, a 15% positive net salvage would be more indicative of the investment in this account based solely on the historical analysis presented by Mr. Spanos.

My recommendations are based on further investigation into the net salvage for this account, both on an historic basis and a projected basis. First, the Company has presented additional information in discovery that indicates higher levels of

[147] Direct Exhibit JJS-2 at pages IV-2 and 3.
[148] *Id.* at VIII-63 and 64.
[149] *Id.* at page VIII-4.

gross salvage historically than was reported by Mr. Spanos in his depreciation study.[150]

In addition to the reported data in the net salvage analyses, the Company has identified additional positive net salvage for the years 2006-2013.[151] During this period, the Company has identified $580,000 of additional positive net salvage. Recognition of this correction would increase Mr. Spanos' overall identified net salvage from 10% to a positive 12%. In addition, the most recent three-year rolling averages would increase from 17% to 19% and the five-year average would increase from 15% to 16%. These corrected values further demonstrate the artificially low level of net salvage Mr. Spanos has proposed based on his analysis of historical net salvage.

**Q. IS THERE A FURTHER BASIS FOR YOUR RECOMMENDATION?**

A. Yes. The Company also commissioned a study in 2014 entitled the Vehicle Replacement Summary. The Company retained Utilimarc to perform a vehicle replacement analysis for each vehicle class in the Company's fleet. The analysis "is unique to the behavior and characteristics of the OGE fleet."[152] Based on the estimations of Utilimarc's 2014 study, a 20% net salvage for cars and trucks and a 15% net salvage for heavy trucks are more appropriate for the Company's fleet. While the Utilimarc study does not reference the Company's trailers, given the life proposed by the Company, I have conservatively estimated that a zero level of net salvage would be a realistic value. The combined overall average of these values yields an approximate 16% net salvage for the entire grouping of vehicles.

**Q. DID YOU PERFORM ANY ADDITIONAL TESTS TO CONFIRM YOUR RECOMMENDATIONS?**

A. Yes. I reviewed Gannett Fleming's industry database to confirm that an overall 15% net salvage is very realistic for vehicles. In addition, I have analyzed several

[150] See OGE's Response to OIEC 5-6 compared to Direct Exhibit JJS-2 at page VIII-63.
[151] See OGE's Response to OIEC 5-6 compared to Direct Exhibit JJS-2 at page VIII-63.
[152] See OGE's Response to OIEC 3-5 Attachment 2.

other utilities based on actual market values for various vehicles as reported by national publications such as Kelley Blue Book or the National Automobile Dealers Association publications. The overall 15% net salvage value is reasonable in comparison to what I have found elsewhere, but may actually be on the conservative side.

**Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

A. My recommendation for the three separate subaccounts to Account 392 – Transportation Equipment results in a $644,718 reduction in annual depreciation expense based on plant as of December 31, 2014.[153]

**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. In addition, I reserve the right to address depreciation related issues presented in the testimony filed by other parties. In addition, I have attached my workpapers as Exhibit (JP-4).

2646364.1:620435:02632

[153] 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.

# JACOB POUS, P.E.

**PRESIDENT, DIVERSIFIED UTILITY CONSULTANTS, INC.**

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

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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 | | |
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| 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 |
| Pacific Gas & Electric Company | App. No. 13-12-012 | Depreciation, Life, Net Salvage |
| 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 Edison Company | App 13-11-003 | Production Life Span, Decommissioning, Life, 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 |

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| 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 |
| AltaLink Management, Ltd. | 1611000-1 | Life Analysis, Net Salvage |
| ATCO Gas | 1606822 | Life Analysis, Net Salvage |
| FortisAlberta | 1607159 | Life Analysis, Net Salvage |
| ATCO Electric | 20272 | 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 |
| **COLORADO** | | |
| **CONNECTICUT PUBLIC UTILITIES REGULATORY AUTHORITY** | | |

| JURISDICTION / COMPANY | DOCKET NO. | TESTIMONY TOPIC |
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| Public Service Company of Colorado | 14AL-0660E | Depreciation, Production Plant Decommissioning Costs, Interim Retirements, Life Analysis, Mass Property Net Salvage, Amortization of Reserve Differences |
| **CONNECTICUT** | | |
| **CONNECTICUT PUBLIC UTILITIES REGULATORY AUTHORITY** | | |
| JURISDICTION / COMPANY | DOCKET NO. | TESTIMONY TOPIC |
| Connecticut Natural Gas Co. | 13-06-08 | Depreciation, Life, Net Salvage |
| Connecticut Light & Power | 14-05-06 | Depreciation Life and 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<br>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 |

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| 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 |
| NSTAR | DPU 14-150 | Depreciation |
| Fitchburg Gas & Electric (Electric) | 15-80 | Depreciation |
| Fitchburg Gas & Electric (Gas) | 15-81 | Depreciation |

| MISSISSIPPI | | |
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| **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 |
| Montana-Dakota Utilities | D2015.6.51 | 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) |

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| 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 |
| Public Service Company of Oklahoma | PUD 201300217 | Depreciation, Interim Retirements, Life Analysis, Net Salvage |
| Public Service Company of Oklahoma | PUD 201500208 | Depreciation, Life Analysis, Net Salvage |
| Oklahoma Gas & Electric | PUD 201100087 | Depreciation |
| **SOUTH DAKOTA** | | |
| PUBLIC UTILITIES COMMISSION OF THE STATE OF SOUTH DAKOTA | | |
| JURISDICTION / COMPANY | DOCKET NO. | TESTIMONY TOPIC |
| Montana-Dakota Utilities Co. | NG12-008 | Depreciation |
| **TEXAS** | | |

| PUBLIC UTILITY COMMISSION OF TEXAS | | |
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| 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 |

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| 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 |

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| 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 Electric Power Company | 40443 | Depreciation, Interim Retirements |
| 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 |
| Southwestern Public Service Company | 42004 | Depreciation |
| Southwestern Public Service Company | 43695 | 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 |

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| 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 |

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| 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 |

SCHEDULE I-1

**OKLAHOMA GAS AND ELECTRIC COMPANY**
**DEPRECIATION EXPENSE**
**TEST YEAR ENDING 6/30/15**
**CAUSE NO. PUD 201500273**

| Line No. | Account | Plant | Test Year End Depreciable Plant In Service | Annual Rate | Actual Test Year DD&A Expense | |
|---|---|---|---|---|---|---|
| | | INTANGIBLE PLANT | | | | |
| 1 | 301 | Organization Fees | - | - | - | |
| 2 | 302 | Franchise and Consents | 2,608,727 | 3.90% | 101,301 | |
| 3 | 303 | Miscellaneous Intangible Plant | 64,511,831 | 10.81% | 8,187,919 | |
| 4 | | TOTAL INTANGIBLE PLANT | $ 67,120,558 | | $ 8,289,220 | |
| | | PRODUCTION PLANT | | | | |
| | | STEAM PRODUCTION | | | | |
| 5 | 310 | Land and Land Rights | 968,004 | 1.32% | 13,293 | |
| 6 | 311 | Structures and Improvements | 264,015,312 | 2.62% | 5,736,627 | 2.17% |
| 7 | 312 | Boiler Plant Equipment | 1,066,862,786 | 2.22% | 22,635,705 | |
| 8 | 313 | Engines and Engine-Driven Generators | - | 0.00% | - | |
| 9 | 314 | Turbogenerator Units | 433,460,517 | 1.71% | 7,396,287 | |
| 10 | 315 | Accessory Electric Equipment | 137,001,041 | 1.52% | 2,072,620 | |
| 11 | 316 | Miscellaneous Power Plant Equipment | 30,642,585 | 2.20% | 651,320 | |
| 12 | 317 | ARO Cost - Steam Production | 2,982,107 | 1.42% | - | |
| 13 | | TOTAL STEAM PRODUCTION | $ 1,935,932,352 | | $ 38,505,852 | |
| | | OTHER PRODUCTION | | | | |
| 14 | 340 | Land and Land Rights | - | 0.00% | - | |
| 15 | 341 | Structures and Improvements | 64,031,139 | 3.19% | 2,087,883 | |
| 16 | 342 | Fuel Holders, Producers and Accessories | 14,882,061 | 3.43% | 496,024 | |
| 17 | 343 | Prime movers | 578,724,340 | 4.44% | 20,108,403 | |
| 18 | 344 | Generators | 831,228,149 | 4.33% | 36,435,517 | |
| 19 | 345 | Accessory Electric Equipment | 109,080,702 | 4.29% | 4,376,703 | |
| 20 | 346 | Miscellaneous Power Plant Equipment | 8,541,234 | 3.98% | 306,629 | |
| 21 | 347 | ARO Cost - Other Production | 43,620,335 | 0.92% | - | |
| 22 | 114 | Acqusition Adjustment - Redbud | 148,301,899 | | - | |
| 23 | | TOTAL OTHER PRODUCTION | $ 1,798,409,859 | | $ 63,811,159 | |
| 24 | | TOTAL PRODUCTION PLANT | $ 3,734,342,211 | | $ 102,317,011 | |
| | | TRANSMISSION PLANT | | | | |
| 25 | 350 | Land and Land Rights | 110,426,514 | 1.49% | 1,581,690 | |
| 26 | 351 | Clearing Land and Right of Ways | - | 0.00% | - | |
| 27 | 352 | Structures and Improvements | 6,240,852 | 1.55% | 92,895 | |
| 28 | 353 | Station Equipment | 679,979,747 | 2.38% | 15,143,815 | |
| 29 | 354 | Towers and Fixtures | 160,178,523 | 1.21% | 1,948,130 | |
| 30 | 355 | Poles and Fixtures | 837,755,043 | 3.05% | 24,373,845 | |
| 31 | 356 | Overhead Conductors and Devices | 565,355,240 | 1.96% | 10,815,772 | |
| 32 | 357 | Underground Conduit | - | 0.00% | - | |
| 33 | 358 | Underground Conductors and Devices | 110,494 | 1.27% | 1,404 | |
| 34 | 359 | ARO Cost - Transmission | 585,057 | 1.01% | - | |
| 35 | 114 | Acqusition Adjustments | 3,341,804 | | - | |
| 36 | | TOTAL TRANSMISSION PLANT | $ 2,363,973,274 | | $ 53,957,551 | |
| | | DISTRIBUTION PLANT | | | | |
| 37 | 360 | Land and Land Rights | 4,944,105 | 1.69% | 82,834 | |
| 38 | 361 | Structures and Improvements | 6,909,394 | 1.77% | 121,002 | |
| 39 | 362 | Station Equipment | 593,887,917 | 2.32% | 13,582,817 | |
| 40 | 363 | Storage Battery Equipment | - | 0.00% | - | |
| 41 | 364 | Poles, Towers, and Fixtures | 569,971,852 | 2.37% | 13,257,209 | |
| 42 | 365 | Overhead Conductors and Devices | 444,296,027 | 2.60% | 11,337,713 | |
| 43 | 366 | Underground Conduit | 199,456,583 | 2.34% | 4,459,385 | |
| 44 | 367 | Underground Conductors and Devices | 707,814,068 | 2.43% | 16,771,531 | |
| 45 | 368 | Line Transformers | 423,587,746 | 4.03% | 16,592,799 | |
| 46 | 369 | Services | 238,332,408 | 1.75% | 4,165,819 | |
| 47 | 370 | Meters | 168,174,016 | 6.03% | 10,065,429 | |
| 48 | 371 | Installation on Customers' Premises | 43,468,586 | 20.00% | 7,819,489 | |
| 49 | 372 | Leased Property on Customer's Premises | - | 0.00% | - | |
| 50 | 373 | Street Lighting and Signal Systems | 224,772,528 | 2.65% | 5,807,160 | |
| 51 | | TOTAL DISTRIBUTION PLANT | $ 3,625,615,230 | | $ 104,063,187 | |
| | | GENERAL PLANT | | | | |
| 52 | 389 | Land and Land Rights | 147,826 | 2.58% | 3,814 | |
| 53 | 390 | Structures and Improvements | 162,367,153 | 2.55% | 5,321,402 | |
| 54 | 391 | Office Furniture and Equipment | 16,014,137 | 11.59% | 3,636,132 | |
| 55 | 392 | Transportation Equipment | 78,524,364 | 7.29% | 2,894,541 | |
| 56 | 393 | Stores Equipment | 1,303,165 | 4.01% | 33,981 | |
| 57 | 394 | Tools, Shop and Garage Equipment | 10,036,365 | 4.00% | 406,006 | |
| 58 | 395 | Laboratory Equipment | 12,045,884 | 5.00% | 607,392 | |
| 59 | 396 | Power Operated Equipment | 9,131,763 | 3.78% | 493,123 | |
| 60 | 397 | Communication Equipment | 22,501,008 | 10.00% | 2,636,187 | |
| 61 | 398 | Miscellaneous Equipment | 6,018,554 | 5.00% | 303,820 | |
| 62 | 399 | Other Tangible Property | - | | - | |
| 63 | | TOTAL GENERAL PLANT | $ 318,090,219 | | $ 16,336,398 | |
| 64 | | TOTAL ELECTRIC PLANT IN SERVICE | $ 10,109,141,492 | | $ 284,963,367 | |
| | | | | | Schedule H-2 | |
| 65 | | Amortization of Limited Term Plant | | | | |
| | | Transportation Activity Depreciation | | | - | |
| 66 | | Total Utility Depreciation Expense | | | $ 284,963,367 | |
| 67 | | Holding Company | $ 143,155,002 | | - | |
| 68 | | TOTAL COMPANY DEPRECIABLE PLANT IN SERVICE | $ 10,252,296,494 | | | |
| 69 | | TOTAL DEPRECIATION & AMORTIZATION | | | $ 284,963,367 | |
| | | | | | WP H-2-21 | |

SCHEDULE I - 1-1

**OKLAHOMA GAS AND ELECTRIC COMPANY**
**PROPOSED DEPRECIATION EXPENSE**
**TEST YEAR ENDING 6/30/15**
**CAUSE NO. PUD 201500273**

| Line No. | Account | Plant | Pro Forma Adjusted Depreciable Plant In Service | OGE Existing | OGE Propose | OIEC ET AL Adjusted Annual Rate | OIEC ET AL Adjusted Annual Expense | OGE Proposed DD&A Expense | OIEC ET AL Adjusted DD&A Expense | 6/30/2015 | 12/31/2016 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | INTANGIBLE PLANT | | | | | | | | | | | |
| 1 | 301 | Organization | - | | - | - | - | - | - | | - | | |
| 2 | 302 | Franchise and Consents | 2,608,727 | 3.90% | 4.22% | 4.22% | 110,088 | 110,088 | - | | 2,629,045 | - | 4.22% |
| 3 | 303 | Miscellaneous Intangible Plant | 70,272,662 | 10.81% | 6.24% | 10.00% * | 1,263,938 | 4,385,014 | (3,121,076) | | 70,272,662 | (3,121,076) | 10.00% |
| 4 | | Plant - Completed after june 2015 | - | | 6.24% | 10.00% * | - | 442,513 | 44,251 | | 442,513 | 16,638 | 10.00% |
| 5 | | TOTAL INTANGIBLE PLANT | $ 72,881,389 | | | | $ 1,374,026 | $ 4,937,615 | $ (3,076,824) | | $ 73,344,220 | (3,104,437) | |
| | | | | | | | | 4,495,101.94 | | | | | |
| | | PRODUCTION PLANT | | | | | | | | | | | |
| | | STEAM PRODUCTION | | | | | | | | | | | |
| 6 | 310 | Land and Land Rights | 968,004 | 1.32% | 2.86% | 2.86% | 27,685 | 27,685 | - | | 968,004 | - | 2.86% |
| 7 | 311 | Structures and Improvements | 264,015,312 | 2.62% | 2.77% | 1.81% | 4,778,677 | 7,313,224 | (2,534,547) | | 269,450,775 | (2,586,727) | 1.81% |
| 8 | 312 | Boiler Plant Equipment | 1,067,453,561 | 2.22% | 2.47% | 1.71% | 18,253,456 | 26,366,103 | (8,112,647) | | 1,106,584,555 | (8,410,043) | 1.71% |
| 9 | 314 | Turbogenerator Units | 433,460,517 | 1.71% | 3.47% | 2.00% | 8,669,210 | 15,041,080 | (6,371,870) | | 429,747,622 | (6,317,290) | 2.00% |
| 10 | 315 | Accessory Electric Equipment | 137,001,041 | 1.52% | 2.42% | 1.63% | 2,233,117 | 3,315,425 | (1,082,308) | | 147,146,698 | (1,162,459) | 1.63% |
| 11 | 316 | Miscellaneous Power Plant Equipment | 30,642,585 | 2.20% | 3.88% | 2.35% | 720,101 | 1,188,932 | (468,832) | | 34,580,712 | (529,085) | 2.35% |
| 12 | 317 | ARO Cost - Steam Production | 2,982,107 | 1.42% | 1.42% | 1.42% | 42,346 | 42,346 | - | | 5,476,311 | - | 1.42% |
| 13 | | TOTAL STEAM PRODUCTION | $ 1,936,523,127 | | | | $ 34,724,592 | $ 53,294,795 | $ (18,570,203) | | $ 1,993,954,678 | (19,005,604) | |
| | | OTHER PRODUCTION | | | | | | | | | | | |
| 14 | 340 | Land and Land Rights | - | 0.00% | 2.86% | 0.00% | - | - | - | | - | | 2.86% |
| 15 | 341 | Structures and Improvements | 61,240,054 | 3.19% | 2.80% | 2.52% | 1,543,249 | 1,714,722 | (171,472) | | 65,861,504 | (184,412) | 2.52% |
| 18 | 342 | Fuel Holders, Producers and Accessories | 14,551,538 | 3.43% | 2.27% | 2.19% | 318,679 | 330,320 | (11,641) | | 14,881,602 | (11,905) | 2.19% |
| 21 | 343 | Prime movers | 502,160,609 | 4.44% | 4.20% | 4.09% | 20,538,369 | 21,090,746 | (552,377) | | 569,115,008 | (626,027) | 4.09% |
| 26 | 344 | Generators | 831,228,149 | 4.33% | 4.05% | 3.29% | 27,347,406 | 33,664,740 | (6,317,334) | | 833,477,886 | (6,334,432) | 3.29% |
| 27 | 345 | Accessory Electric Equipment | 103,599,264 | 4.29% | 3.13% | 2.77% | 2,869,700 | 3,242,657 | (372,957) | | 110,981,953 | (399,535) | 2.77% |
| 30 | 346 | Miscellaneous Power Plant Equipment | 7,635,973 | 3.98% | 3.03% | 2.84% | 216,862 | 231,370 | (14,508) | | 8,626,299 | (16,390) | 2.84% |
| 33 | 347 | ARO Cost - Other Production | 43,620,335 | 0.92% | 0.92% | 0.92% | 401,307 | 401,307 | - | | 43,620,335 | - | 0.92% |
| 34 | 114 | Acquisition Adjustment - Redbud | 148,301,899 | 3.70% | | | - | - | - | | 148,301,899 | - | |
| 35 | | TOTAL OTHER PRODUCTION | $ 1,712,337,821 | | | | $ 53,235,571 | $ 60,675,861 | $ (7,440,290) | | $ 1,794,866,487 | (7,572,701) | |
| 36 | | Plant - Completed by December 2015 | 55,431,368 | | 3.96% | 3.47% | 1,923,468 | 2,195,082 | (271,614) | | | 0 | 0.00% |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | | TOTAL PRODUCTION PLANT | $ 3,704,292,316 | | | $ 89,883,632 | $ 116,165,739 | $ (26,282,107) | $ 3,788,821,165 | (26,578,305) | | |
| | | TRANSMISSION PLANT | | | | | | | | | | |
| 38 | 350 | Land and Land Rights | 110,426,514 | 1.49% | 1.35% | 0.97% | 1,071,137 | 1,490,758 | (419,621) | 110,986,098 | (421,747) | 0.97% |
| 39 | 352 | Structures and Improvements | 6,240,852 | 1.55% | 1.67% | 1.67% | 104,222 | 104,222 | - | 7,246,425 | - | 1.67% |
| 40 | 353 | Station Equipment | 677,313,533 | 2.38% | 2.23% | 1.75% | 11,852,987 | 15,104,092 | (3,251,105) | 685,546,748 | (3,290,624) | 1.75% |
| 41 | 354 | Towers and Fixtures | 160,178,523 | 1.21% | 1.40% | 1.40% | 2,242,499 | 2,242,499 | - | 160,178,524 | - | 1.40% |
| 42 | 355 | Poles and Fixtures | 837,755,043 | 3.05% | 2.90% | 2.23% | 18,681,937 | 24,294,896 | (5,612,959) | 845,512,127 | (5,664,931) | 2.23% |
| 43 | 356 | Overhead Conductors and Devices | 566,151,790 | 1.96% | 2.54% | 2.29% | 12,964,876 | 14,380,255 | (1,415,379) | 568,342,215 | (1,420,856) | 2.29% |
| 44 | 358 | Underground Conductors and Devices | 110,494 | 1.27% | 0.27% | 0.27% | 298 | 298 | - | 110,494 | - | 0.27% |
| 45 | 359 | ARO Cost - Transmission | 585,057 | 1.01% | 1.01% | 1.01% | 5,909 | 5,909 | - | 585,057 | - | 1.01% |
| 46 | 114 | Acquisition Adjustment - Edmond Substatior | 3,341,804 | 2.23% | | | - | - | - | 3,341,804 | - | |
| 47 | | Plant - Completed by December 2015 | 15,537,187 | | 2.44% | 2.44% | 379,107 | 379,107 | - | | | 2.44% |
| | | | - | | | | - | - | - | | | |
| | | | - | | | | - | - | - | | | |
| 48 | | TOTAL TRANSMISSION PLANT | $ 2,377,640,797 | | | $ 47,302,974 | $ 58,002,038 | $ (10,699,064) | $ 2,381,849,492 | $ (10,798,158) | | |
| | | DISTRIBUTION PLANT | | | | | | | | | | |
| 49 | 360 | Land and Land Rights | 4,944,106 | 1.69% | 1.53% | 1.53% | 75,645 | 75,645 | - | 5,129,299 | | 1.53% |
| 50 | 361 | Structures and Improvements | 6,909,394 | 1.77% | 1.71% | 1.71% | 118,151 | 118,151 | - | 7,168,702 | | 1.71% |
| 51 | 362 | Station Equipment | 593,887,917 | 2.32% | 2.16% | 2.16% | 12,827,979 | 12,827,979 | - | 598,323,077 | | 2.16% |
| 52 | 364 | Poles, Towers, and Fixtures | 569,971,852 | | 2.89% | 2.89% | 16,472,187 | 16,472,187 | - | 592,206,901 | | 2.89% |
| 53 | 365 | Overhead Conductors and Devices | 444,829,249 | 2.37% | 2.69% | 2.69% | 11,965,907 | 11,965,907 | - | 460,944,161 | | 2.69% |
| 54 | 366 | Underground Conduit | 199,456,583 | 2.60% | 2.20% | 2.20% | 4,388,045 | 4,388,045 | - | 205,322,655 | | 2.20% |
| 55 | 367 | Underground Conductors and Devices | 707,814,068 | 2.34% | 1.95% | 1.95% | 13,802,374 | 13,802,374 | - | 725,544,729 | | 1.95% |
| 56 | 368 | Line Transformers | 423,587,746 | 2.43% | 3.44% | 3.44% | 14,571,418 | 14,571,418 | - | 434,228,664 | | 3.44% |
| 57 | 369 | Services | 238,332,408 | 4.03% | 2.01% | 2.01% | 4,790,481 | 4,790,481 | - | 241,866,312 | | 2.01% |
| 58 | 370 | Meters | 168,174,016 | 1.75% | 6.52% | 6.52% | 10,964,946 | 10,964,946 | - | 171,166,575 | | 6.52% |
| 59 | 371 | Installation on Customers' Premises | 43,468,586 | 6.03% | 21.81% | 21.81% | 9,480,499 | 9,480,499 | - | 48,882,585 | | 21.81% |
| 60 | 372 | Leased Property on Customer's Premises | - | 20.00% | | | - | - | - | - | | |
| 61 | 373 | Street Lighting and Signal Systems | 224,772,528 | 2.65% | 5.18% | 5.18% | 11,643,217 | 11,643,217 | - | 229,085,496 | | 5.18% |
| 62 | | Plant - Completed by December 2015 | 86,703,523 | | 3.03% | 3.03% | 2,627,117 | 2,627,117 | - | | | 3.03% |
| 62 | | TOTAL DISTRIBUTION PLANT | $ 3,712,851,976 | | | $ 113,727,965 | $ 113,727,965 | $ - | $ 3,719,869,156 | 0 | | |
| | | GENERAL PLANT | | | | | | | | | | |
| 62 | 389 | Land and Land Rights | 147,825 | 2.58% | 2.74% | 2.74% | 4,050 | 4,050 | - | 147,826 | - | 2.74% |
| 63 | 390 | Structures and Improvements | 162,367,153 | 2.55% | 2.03% | 1.52% | 2,467,981 | 3,296,053 | (828,072) | 177,947,733 | (907,533) | 1.52% |
| 64 | 391 | Office Furniture and Equipment | 16,014,137 | 11.59% | 8.61% | 8.61% | 1,378,817 | 1,378,817 | - | 19,610,608 | - | 8.61% |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 392 | Transportation Equipment | 78,524,364 | 7.29% | 6.19% | 5.19% | 4,075,414 | 4,860,658 | (785,244) | 80,442,109 | (804,421) | 5.19% |
| 66 | 393 | Stores Equipment | 1,303,165 | 4.01% | 4.00% | 4.00% | 52,127 | 52,127 | - | 1,081,457 | - | 4.00% |
| 67 | 394 | Tools, Shop and Garage Equipment | 10,036,365 | 4.00% | 4.00% | 4.00% | 401,455 | 401,455 | - | 11,250,189 | - | 4.00% |
| 68 | 395 | Laboratory Equipment | 12,045,884 | 5.00% | 5.00% | 5.00% | 602,294 | 602,294 | - | 12,233,921 | - | 5.00% |
| 69 | 396 | Power Operated Equipment | 9,131,763 | 3.78% | 4.86% | 4.86% | 443,804 | 443,804 | - | 8,967,576 | - | 4.86% |
| 70 | 397 | Communication Equipment | 22,501,008 | 10.00% | 10.00% | 10.00% | 2,250,101 | 2,250,101 | - | 22,590,240 | - | 10.00% |
| 71 | 398 | Miscellaneous Equipment | 6,018,554 | 5.00% | 5.00% | 5.00% | 300,928 | 300,928 | - | 6,141,910 | - | 5.00% |
| | | | | | | | | | | - | | |
| 72 | | Plant - Completed by December 2015 | 15,640,307 | | 4.07% | 4.07% | 636,560 | 636,560 | - | | | 4.07% |
| 73 | | | | | | | | | | | | |
| 74 | | TOTAL GENERAL PLANT | $ 333,730,525 | | | | $ 12,613,531 | $ 14,226,847 | $ (1,613,316) | $ 340,413,570 | (1,711,955) | |
| 75 | | TOTAL ELECTRIC PLANT IN SERVICE | $ 10,201,397,003 | | | | $ 264,902,128 | $ 306,617,690 | $ (41,671,311) | $ 10,304,297,602 | $ (42,192,855) | |
| 76 | | Remove Transportation Activity Depreciatio | 4,075,414 | | ##### | 0.4988 | (2,032,817) | (2,424,496) | 391,680 | | 401,245.24 | 0.4988 |
| 77 | | Holding Company | 114,638,526 | | 9.08% | 5.32% | 6,098,770 | 10,409,178 | (4,310,409) | $ 139,020,441 | (5,227,169) | 5.32% |
| 78 | | Estimated Plant | - | | 9.08% | 5.32% | - | - | - | | | 5.32% |
| 79 | | TOTAL HOLDING COMPANY | $ 114,638,526 | | | $ 0 | $ 6,098,770 | $ 10,409,178 | $ (4,310,409) | $ 139,020,441 | (5,227,169) | $ 0 |
| 80 | | TOTAL COMPANY | $ 10,316,035,529 | | | $ 1 | $ 268,968,081 | $ 314,602,372 | $ (45,590,040) | $ 10,443,318,043 | $ (47,018,778) | $ 1 |

Note: Many rates are composite since multiple rates can exist within each FERC account.

| | |
|---|---|
| Pro Forma Plant per Sch. B-3 | 9,617,401,108 |
| Remove fully Depreciated or non-depreciabl | (268,968,081) |
| Total | 9,348,433,027 |
| Should equal Transmission adj. | $ (9,033,830,655) |
| Check figure | $ (9,033,830,656) |

OIEC'S SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE, AND CALCULATED
OKLAHOMA GAS AND ELECTRIC COMPANY
ANNUAL DEPRECIATION RATE AS OF DECEMBER 31, 2014

| | ACCOUNT | SURVIVOR CURVE | NET SALVAGE PERCENT | ORIGINAL COST | NET SALVAGE $ | BOOK RESERVE | FUTURE ACCRUALS | ACCRUAL AMOUNT | ACCRUAL RATE | COMPOSITE REMAINING LIFE |
|---|---|---|---|---|---|---|---|---|---|---|
| | **TRANSMISSION PLANT** | | | | | | | | | |
| 350.10 | LAND | NONDEPRECIABLE | | 3,541,128 | 0 | | | | | |
| 350.20 | LAND RIGHTS | **100-R4** | 0 | 108,362,302 | 0 | 15,594,976 | 92,767,326 | 1,048,218 | 0.97 | **88.50** |
| 352.00 | STRUCTURES AND IMPROVEMENTS | 65-R4 | (5) | 6,242,912 | (312,146) | 1,055,765 | 5,499,293 | 104,490 | 1.67 | 52.63 |
| | STATION EQUIPMENT | | | | | | | | | |
| 353.00 | STATION EQUIPMENT | **63-R2** | **(10)** | 605,259,534 | (60,525,953) | 123,074,387 | 542,711,100 | 10,216,700 | 1.69 | **53.12** |
| 353.10 | STATION EQUIPMENT - STEP UP TRANSFORMERS | 45-R2 | (10) | 53,127,938 | (5,312,794) | 12,988,096 | 45,452,636 | 1,328,636 | 2.50 | 34.21 |
| | TOTAL STATION EQUIPMENT | | | 658,387,472 | (65,838,747) | 136,062,483 | 588,163,736 | 11,545,336 | | |
| 354.00 | TOWERS AND FIXTURES | 75-R4 | (15) | 161,001,202 | (24,150,180) | 44,399,061 | 140,752,321 | 2,259,629 | 1.40 | 62.29 |
| 355.00 | POLES AND FIXTURES | **65-S-.5** | **(50)** | 828,826,933 | (414,413,467) | 135,274,530 | 1,107,965,870 | 18,472,255 | 2.23 | **59.98** |
| 356.00 | OVERHEAD CONDUCTORS AND DEVICES | **65-R3** | (50) | 566,280,790 | (283,140,395) | 129,845,858 | 719,575,327 | 12,995,762 | 2.29 | **55.37** |
| 358.00 | UNDERGROUND CONDUCTORS AND DEVICES | 40-S2.5 | 0 | 110,494 | 0 | 108,170 | 2,324 | 297 | 0.27 | 7.83 |
| | **TOTAL TRANSMISSION PLANT** | | | **2,332,753,234** | **(787,854,935)** | **462,340,843** | **2,654,726,197** | **46,425,987** | | |
| | | | | | | | | (10,390,369) | | |
| | **TOTAL DISTRIBUTION PLANT** | | (33) | **3,557,472,780** | **(1,168,721,239)** | **1,153,777,723** | **3,572,416,296** | **107,884,787** | **3.03** | **33.10** |
| | **GENERAL PLANT** | | | | | | | | | |
| 389.10 | LAND | NONDEPRECIABLE | | 2,866,064 | | | | | | |
| 389.20 | LAND RIGHTS | 45-R4 | 0 | 147,844 | 0 | 82,176 | 65,668 | 4,056 | 2.74 | 16.19 |
| 390.00 | STRUCTURES AND IMPROVEMENTS | 40-R2.5 | **15** | 164,117,131 | 24,617,570 | 65,810,486 | 73,689,076 | 2,495,820 | 1.52 | 29.53 |
| | OFFICE FURNITURE AND EQUIPMENT | | | | | | | | | |
| 391.00 | OFFICE FURNITURE AND EQUIPMENT | 15-SQ | 0 | 12,773,167 | 0 | 3,465,050 | 9,308,117 | 851,612 | 6.67 | 10.93 |
| 391.10 | COMPUTER EQUIPMENT | 5-SQ | 0 | 726,801 | 0 | 403,920 | 322,881 | 145,376 | 20.00 | 2.22 |
| | TOTAL OFFICE FURNITURE & EQUIPMENT | | | 13,499,968 | 0 | 3,868,970 | 9,630,998 | 996,988 | | |
| | TRANSPORTATION EQUIPMENT | | | | | | | | | |
| 392.10 | CARS AND TRUCKS | 9.5-S2.5 | **20** | 18,189,606 | 3,637,921 | 9,027,433 | 5,524,252 | 1,013,996 | 5.57 | 5.45 |
| 392.50 | HEAVY TRUCKS | 13-L2.5 | **15** | 52,763,703 | 7,914,555 | 23,493,088 | 21,356,059 | 2,719,824 | 5.15 | 7.85 |
| 392.60 | TRAILERS | 23-S0.5 | **0** | 4,712,699 | 0 | 1,132,187 | 3,580,512 | 191,063 | 4.05 | 18.74 |
| | TOTAL TRANSPORTATION EQUIPMENT | | | 75,666,007 | 11,552,477 | 33,652,708 | 30,460,823 | 3,924,883 | | |
| 393.00 | STORES EQUIPMENT | 25-SQ | 0 | 740,516 | 0 | 391,985 | 348,531 | 29,587 | 4.00 | 11.78 |
| 394.00 | TOOLS, SHOP AND GARAGE EQUIPMENT | 25-SQ | 0 | 9,861,717 | 0 | 4,234,400 | 5,627,317 | 394,346 | 4.00 | 14.27 |
| 395.00 | LABORATORY EQUIPMENT | 20-SQ | 0 | 11,618,008 | 0 | 5,020,220 | 6,597,788 | 581,405 | 5.00 | 11.35 |
| 396.00 | POWER OPERATED EQUIPMENT | 18-L2 | 15 | 9,218,433 | 1,382,765 | 3,002,848 | 4,832,820 | 447,898 | 4.86 | 10.79 |
| 397.00 | COMMUNICATION EQUIPMENT | 10-SQ | 0 | 22,056,606 | 0 | 6,565,140 | 15,491,466 | 2,206,762 | 10.00 | 7.02 |
| 398.00 | MISCELLANEOUS EQUIPMENT | 20-SQ | 0 | 5,833,193 | 0 | 2,285,735 | 3,547,458 | 291,732 | 5.00 | 12.16 |
| | **TOTAL GENERAL PLANT** | | | **315,625,488** | **37,552,811** | **124,914,668** | **150,291,944** | **11,373,476** | | |
| | | | | | | | | (1,478,505) | | |
| | **TOTAL DEPRECIABLE PLANT** | | | **9,625,540,137** | **(2,018,017,628)** | **3,264,948,701** | **8,361,040,831** | **252,810,931** | | |
| | | | | | | | | (11,868,874) | | |
| | **UNRECOVERED RESERVE FOR AMORTIZATION** | | | | | (5,892,399) | | 1,178,479 | | |

**OIEC ETAL'S RECOMMENDED DEPRECIATION RATES**
**OKLAHOMA GAS AND ELECTRIC COMPANY'S**
**FOR PRODUCTION PLANT ONLY OF OKLAHOMA GAS AND ELECTRIC**
**FOR PLANT AS OF DECEMBER 31, 2014**

| Acct. No. | Description | Balance 12/31/2014 (a) | Total Net Salvage (b) | Reserve 12/31/2014 (c) | Net Depreciable (d) | Remaining Life (e) | Annual $ (f) | Annual % (g) | OGE Propose $ (h) | Adjustment (i) |
|---|---|---|---|---|---|---|---|---|---|---|
| **STEAM PRODUCTION PLANT** | | | | | | | | | | |
| 310.1 | Land | $10,344,294 | $0 | $0 | $0 | na | $0 | 0.00% | $0 | 0 |
| 310.2 | Rights of Way | $968,005 | $0 | $177,564 | $790,441 | 28.53 | $27,707 | 2.86% | $27,715 | (8) |
| 311 | Structures & Improvements | $262,872,771 | ($7,737,070) | $174,723,561 | $95,886,280 | 20.20 | $4,747,624 | 1.81% | $7,280,942 | (2,533,318) |
| 312 | Boiler Plant Equipment | $1,053,435,555 | ($33,345,991) | $631,046,470 | $455,735,076 | 25.24 | $18,053,808 | 1.71% | $26,048,696 | (7,994,888) |
| 314 | Turbogenerator Units | $426,282,605 | ($11,972,515) | $265,448,471 | $172,806,649 | 20.29 | $8,518,544 | 2.00% | $14,791,712 | (6,273,168) |
| 315 | Accessory Electric Equip. | $134,884,266 | ($4,304,508) | $90,606,209 | $48,582,566 | 22.09 | $2,199,254 | 1.63% | $3,258,508 | (1,059,254) |
| 316 | Misc Power Plant Equip. | $29,851,577 | ($806,109) | $18,961,219 | $11,696,467 | 16.70 | $700,514 | 2.35% | $1,157,946 | (457,432) |
| | Total Steam | $1,918,639,073 | (58,166,194) | $1,180,963,494 | $785,497,478 | | $34,247,450 | | $52,565,519 | (18,318,069) |
| **OTHER PRODUCTION PLANT** | | | | | | | | | | |
| 340 | Land | 816,746 | 0 | 0 | 0 | 0.00 | $0 | 0.00% | $0 | 0 |
| 341 | Structures & Improvements | 61,041,664 | (1,324,350) | 18,049,502 | 44,316,512 | 28.82 | $1,537,847 | 2.52% | $1,708,067 | (170,220) |
| 342 | Fuel Holders, Producers & Accsrs. | 14,551,539 | (431,532) | 5,209,022 | 9,774,048 | 30.64 | $319,045 | 2.19% | $330,632 | (11,587) |
| 343 | Prime Movers | 452,751,438 | (13,356,883) | 104,520,747 | 361,587,573 | 24.91 | $14,513,738 | 3.21% | $15,073,093 | (559,355) |
| 343.1 | LTSA 5-Year | 24,506,645 | 0 | 8,268,903 | 16,237,742 | 3.29 | $4,942,959 | 20.17% | $4,958,626 | (15,667) |
| 343.2 | LTSA 20-Year | 5,962,711 | 0 | 3,240,317 | 2,722,394 | 9.50 | $286,568 | 4.81% | $286,568 | (0) |
| 344 | Generators | 830,845,707 | (3,964,250) | 172,156,154 | 662,653,803 | 24.25 | $27,329,116 | 3.29% | $33,666,399 | (6,337,283) |
| 345 | Accessory Electric Equipment | 102,952,046 | (1,979,845) | 29,054,536 | 75,877,355 | 26.62 | $2,850,776 | 2.77% | $3,221,813 | (371,037) |
| 346 | Misc. Power Plant Equipment | 7,621,067 | (193,362) | 2,452,792 | 5,361,637 | 24.73 | $216,813 | 2.84% | $230,776 | (13,963) |
| | Total Other | $1,501,049,562 | (21,250,221) | $342,951,973 | $1,178,531,065 | | $51,996,861 | | $59,475,974 | (7,479,113) |
| | Total Production | $3,419,688,635 | (79,416,415) | $1,523,915,467 | $1,964,028,544 | | $86,244,311 | | $112,041,493 | (25,797,182) |

OIEC'S SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE, AND CALCULATED
OKLAHOMA GAS AND ELECTRIC COMPANY
ANNUAL DEPRECIATION RATE AS OF DECEMBER 31, 2014

| | ACCOUNT | SURVIVOR CURVE | NET SALVAGE PERCENT | ORIGINAL COST | NET SALVAGE $ | BOOK RESERVE | FUTURE ACCRUALS | ACCRUAL AMOUNT | ACCRUAL RATE | COMPOSITE REMAINING LIFE |
|---|---|---|---|---|---|---|---|---|---|---|
| | **TRANSMISSION PLANT** | | | | | | | | | |
| 350.10 | LAND | NONDEPRECIABLE | | 3,541,128 | 0 | | | | | |
| 350.20 | LAND RIGHTS | **100-R4** | 0 | 108,362,302 | 0 | 15,594,976 | 92,767,326 | 1,048,218 | 0.97 | **88.50** |
| 352.00 | STRUCTURES AND IMPROVEMENTS | 65-R4 | (5) | 6,242,912 | (312,146) | 1,055,765 | 5,499,293 | 104,490 | 1.67 | 52.63 |
| | STATION EQUIPMENT | | | | | | | | | |
| 353.00 | STATION EQUIPMENT | **63-R2** | **(10)** | 605,259,534 | (60,525,953) | 123,074,387 | 542,711,100 | 10,216,700 | 1.69 | **53.12** |
| 353.10 | STATION EQUIPMENT - STEP UP TRANSFORMERS | 45-R2 | (10) | 53,127,938 | (5,312,794) | 12,988,096 | 45,452,636 | 1,328,636 | 2.50 | 34.21 |
| | TOTAL STATION EQUIPMENT | | | 658,387,472 | (65,838,747) | 136,062,483 | 588,163,736 | 11,545,336 | | |
| 354.00 | TOWERS AND FIXTURES | 75-R4 | (15) | 161,001,202 | (24,150,180) | 44,399,061 | 140,752,321 | 2,259,629 | 1.40 | 62.29 |
| 355.00 | POLES AND FIXTURES | **65-S-.5** | **(50)** | 828,826,933 | (414,413,467) | 135,274,530 | 1,107,965,870 | 18,472,255 | 2.23 | **59.98** |
| 356.00 | OVERHEAD CONDUCTORS AND DEVICES | **65-R3** | (50) | 566,280,790 | (283,140,395) | 129,845,858 | 719,575,327 | 12,995,762 | 2.29 | **55.37** |
| 358.00 | UNDERGROUND CONDUCTORS AND DEVICES | 40-S2.5 | 0 | 110,494 | 0 | 108,170 | 2,324 | 297 | 0.27 | 7.83 |
| | **TOTAL TRANSMISSION PLANT** | | | **2,332,753,234** | **(787,854,935)** | **462,340,843** | **2,654,726,197** | **46,425,987** | | |



OIEC'S SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE, AND CALCULATED
OKLAHOMA GAS AND ELECTRIC COMPANY
ANNUAL DEPRECIATION RATE AS OF DECEMBER 31, 2014

| | ACCOUNT | SURVIVOR CURVE | NET SALVAGE PERCENT | ORIGINAL COST | NET SALVAGE $ | BOOK RESERVE | FUTURE ACCRUALS | ACCRUAL AMOUNT | ACCRUAL RATE | COMPOSITE REMAINING LIFE |
|---|---|---|---|---|---|---|---|---|---|---|
| | **TOTAL DISTRIBUTION PLANT** | | (33) | **3,557,472,780** | **(1,168,721,239)** | **1,153,777,723** | **3,572,416,296** | **107,884,787** | **3.03** | **33.10** |
| | **GENERAL PLANT** | | | | | | | | | |
| 389.10 | LAND | NONDEPRECIABLE | | 2,866,064 | | | | | | |
| 389.20 | LAND RIGHTS | 45-R4 | 0 | 147,844 | 0 | 82,176 | 65,668 | 4,056 | 2.74 | 16.19 |
| 390.00 | STRUCTURES AND IMPROVEMENTS | 40-R2.5 | **15** | 164,117,131 | 24,617,570 | 65,810,486 | 73,689,076 | 2,495,820 | 1.52 | 29.53 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | OFFICE FURNITURE AND EQUIPMENT | | | | | | | | | |
| 391.00 | OFFICE FURNITURE AND EQUIPMENT | 15-SQ | 0 | 12,773,167 | 0 | 3,465,050 | 9,308,117 | 851,612 | 6.67 | 10.93 |
| 391.10 | COMPUTER EQUIPMENT | 5-SQ | 0 | 726,801 | 0 | 403,920 | 322,881 | 145,376 | 20.00 | 2.22 |
| | TOTAL OFFICE FURNITURE & EQUIPMENT | | | 13,499,968 | 0 | 3,868,970 | 9,630,998 | 996,988 | | |
| | TRANSPORTATION EQUIPMENT | | | | | | | | | |
| 392.10 | CARS AND TRUCKS | 9.5-S2.5 | **20** | 18,189,606 | 3,637,921 | 9,027,433 | 5,524,252 | 1,013,996 | 5.57 | 5.45 |
| 392.50 | HEAVY TRUCKS | 13-L2.5 | **15** | 52,763,703 | 7,914,555 | 23,493,088 | 21,356,059 | 2,719,824 | 5.15 | 7.85 |
| 392.60 | TRAILERS | 23-S0.5 | **0** | 4,712,699 | 0 | 1,132,187 | 3,580,512 | 191,063 | 4.05 | 18.74 |
| | TOTAL TRANSPORTATION EQUIPMENT | | | 75,666,007 | 11,552,477 | 33,652,708 | 30,460,823 | 3,924,883 | | |



OIEC'S SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE, AND CALCULATED
OKLAHOMA GAS AND ELECTRIC COMPANTY
ANNUAL DEPRECIATION RATE AS OF DECEMBER 31, 2014

| ACCOUNT | SURVIVOR CURVE | NET SALVAGE PERCENT | ORIGINAL COST | NET SALVAGE $ | BOOK RESERVE | FUTURE ACCRUALS | ACCRUAL AMOUNT | ACCRUAL RATE | COMPOSITE REMAINING LIFE |
|---|---|---|---|---|---|---|---|---|---|
| 393.00 STORES EQUIPMENT | 25-SQ | 0 | 740,516 | 0 | 391,985 | 348,531 | 29,587 | 4.00 | 11.78 |
| 394.00 TOOLS, SHOP AND GARAGE EQUIPMENT | 25-SQ | 0 | 9,861,717 | 0 | 4,234,400 | 5,627,317 | 394,346 | 4.00 | 14.27 |
| 395.00 LABORATORY EQUIPMENT | 20-SQ | 0 | 11,618,008 | 0 | 5,020,220 | 6,597,788 | 581,405 | 5.00 | 11.35 |
| 396.00 POWER OPERATED EQUIPMENT | 18-L2 | 15 | 9,218,433 | 1,382,765 | 3,002,848 | 4,832,820 | 447,898 | 4.86 | 10.79 |
| 397.00 COMMUNICATION EQUIPMENT | 10-SQ | 0 | 22,056,606 | 0 | 6,565,140 | 15,491,466 | 2,206,762 | 10.00 | 7.02 |
| 398.00 MISCELLANEOUS EQUIPMENT | 20-SQ | 0 | 5,833,193 | 0 | 2,285,735 | 3,547,458 | 291,732 | 5.00 | 12.16 |
| **TOTAL GENERAL PLANT** | | | **315,625,488** | **37,552,811** | **124,914,668** | **150,291,944** | **11,373,476** | | |
| **TOTAL DEPRECIABLE PLANT** | | | **9,625,540,137** | **(2,018,017,628)** | **3,264,948,701** | **8,361,040,831** | **252,810,931** | | |

**OIEC'S ADJUSTMENT TO AMORTIZATION EXPENSE**
**REQUESTED BY OG&E FOR ACCOUNT 303**
**INTANGIBLE PLANT - SOFTWARE**
**HOLDING COMPANY PLANT**

| Line No. | Acct. No. | Description | Proposed Survivor Curve (a) | Original Cost (b) | Reserve (c) | Net Depreciable (d) | Remaining Life (e) | Annual Expense (f) | Rate (g) |
|---|---|---|---|---|---|---|---|---|---|
| **Existing Composite Rate** | | | | | | | | | |
| 1 | 303.2 | Software | 5SQ | $27,379,075 | $11,057,980 | $16,321,095 | 2.65 | $6,160,503 | 22.50% |
| 2 | Other | All Other Accounts | | $79,714,258 | $64,719,058 | $14,995,200 | 4.21 | $3,560,939 | 4.47% |
| 3 | | Total | | $107,093,333 | $75,777,038 | $31,316,295 | | $9,721,442 | 9.08% |
| **Revised Composite Rate** | | | | | | | | | |
| 4 | 303.2 | Software | 10SQ | $27,379,075 | $11,057,980 | $16,321,095 | 7.65 | $2,133,668 | 7.79% |
| 5 | Other | All Other Accounts | | $79,714,258 | $64,719,058 | $14,995,200 | 4.21 | $3,560,939 | 4.47% |
| 6 | | Total | | $107,093,333 | $75,777,038 | $31,316,295 | | $5,694,607 | 5.32% |
| 7 | | Company Request | | $114,638,526 | | | | $10,409,178 | 9.08% |
| 8 | | OIEC Adjusted | | $114,638,526 | | | | $6,098,770 | 5.32% |
| 9 | | OIEC Adjustment | | | | | | **$ (4,310,409)** | |

**SOURCES AND REFERENCS**

| | |
|---|---|
| Lines 1-3 and 5 | : Exhibit (JP-2) pages 2 and 3 of 3. |
| Line 4 Column (a) | : See Direct Testimony of Mr. Pous. |
| Line 4 Column (e) | : 5-year increase for change from 5SQ to a 10SQ amortization period. |
| Line 7 | : Schedule I-1-1 line 77. |
| Line 8 | : Line 6 Column (g) rate times Line 8 Column (b). |
| Line 9 | : Column (e) Line 8 less Line 7. |

**OIEC'S ADJUSTMENT TO AMORTIZATION EXPENSE**
**REQUESTED BY OG&E FOR ACCOUNT 303**
**ELECTRIC INTANGIBLE PLANT - SOFTWARE**

| | | Amortization Accrual | | | | As of Mid 2016 | | |
|---|---|---|---|---|---|---|---|---|
| Year | Original Cost | Mid 2013 | Mid 2014 | Mid 2015 | Mid 2016 | Rem Balance | Rem. Life | Accrual |
| | (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) |
| 2012 | $28,836,531 | $9,612,177 | $9,612,177 | $9,612,177 | | $0 | 0.0 | $0 |
| 2013 | $2,234,459 | | $744,820 | $744,820 | $744,820 | $0 | 0.0 | $0 |
| 2014 | $21,374,630 | | | $7,124,877 | $7,124,877 | $7,124,877 | 8.0 | $890,610 |
| 2015 | $5,759,911 | | | $479,993 | $1,919,970 | $3,359,948 | 9.0 | $373,328 |
| | | | | | | Total As of Mid 2016 | | $1,263,937 |
| | | | | | | Company Request | | $4,385,014 |
| | | | | | | **OIEC Adjustment** | | **$ (3,121,077)** |

**SOURCES AND REFERENCS**

| | |
|---|---|
| Column (a): | Direct Exhibit JJS-2 page IX-3 and OGE Schedule I-1-1 line 4. |
| Columns (b-e) (2012-2014): | Column (a) divided by 3 corresponding to the existing 3SQ life-curve (amortization). |
| Columns (d) (2015): | Half of mid year value. |
| Columns (e) (2015): | Half year accrual to mid 2016 plus half of remaining 2015 value. |
| Column (f): | Column (a) less summation of Columns (b-e). |
| Column (g): | Remaining life as of mid 2016 when rates are estimated to go in effect based on a 10SQ life-curve combination or a 10-year amortization period. |
| Column (h): | Column (f) divided by Column (g). |
| Company Request: | Company Schedule I-1-1 lines 3 and 4. |

OKLAHOMA GAS AND ELECTRIC COMPANY - HOLDING COMPANY ASSETS
SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED
ANNUAL DEPRECIATION RATES AS OF DECEMBER 31, 2009

| | ACCOUNT (1) | SURVIVOR CURVE (2) | NET SALVAGE PERCENT (3) | ORIGINAL COST (4) | BOOK RESERVE (5) | FUTURE ACCRUALS (6) | CALCULATED ANNUAL ACCRUAL AMOUNT (7) | CALCULATED ANNUAL ACCRUAL RATE (8)=(7)/(4) | COMPOSITE REMAINING LIFE (9)=(6)/(8) |
|---|---|---|---|---|---|---|---|---|---|
| 303.20 | MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE | | | | | | | | |
| | Accrued | 5-SQ | 0 | 46,512,789.45 | 46,512,789 | 0 | 0 | - | - |
| | Amortized | | | 27,379,075.32 | 11,057,980 | 16,321,095 | 6,160,504 | 22.50 | 2.6 |
| | TOTAL SOFTWARE | | | 73,891,864.77 | 57,570,769 | 16,321,095 | 6,160,504 | | |
| | OFFICE FURNTURE AND EQUIPMENT | | | | | | | | |
| 391.10 | COMPUTERS AND PRINTERS | | | | | | | | |
| | Accrued | 5-SQ | 0 | 1,948,218.76 | 1,948,219 | 0 | 0 | - | - |
| | Amortized | 5-SQ | 0 | 17,390,679.15 | 8,731,139 | 8,659,541 | 2,721,170 | 15.65 | 3.2 |
| | TOTAL COMPUTERS AND PRINTERS | | | 19,338,897.91 | 10,679,358 | 8,659,541 | 2,721,170 | | |
| 391.12 | SECURITY | | | | | | | | |
| | Amortized | 3-SQ | 0 | 19,800.20 | 2,477 | 17,323 | 5,774 | 29.16 | 3.0 |
| 391.40 | FAX MACHINES | | | | | | | | |
| | Amortized | 5-SQ | 0 | 4,842.00 | 2,085 | 2,757 | 788 | 16.27 | 3.5 |
| 391.50 | COPIERS | | | | | | | | |
| | Accrued | 3-SQ | 0 | 131,952.45 | 131,952 | 0 | 0 | - | - |
| | Amortized | 3-SQ | 0 | 76,922.35 | 52,352 | 24,570 | 24,570 | 31.94 | 1.0 |
| | TOTAL COPIERS | | | 208,874.80 | 184,304 | 24,570 | 24,570 | | |
| 391.60 | TABLES, CUBICLES AND STANDS | | | | | | | | |
| | Accrued | 15-SQ | 0 | 463,872.70 | 462,335 | 1,538 | 181 | 0.04 | 8.5 |
| | Amortized | 15-SQ | 0 | 67,174.38 | 20,750 | 46,424 | 4,479 | 6.67 | 10.4 |
| | TOTAL TABLES, CUBICLES AND STANDS | | | 531,047.08 | 483,085 | 47,962 | 4,660 | | |
| 391.90 | MISCELLANEOUS | | | | | | | | |
| | Accrued | 15-SQ | 0 | 345,963.40 | 345,963 | 0 | 0 | - | - |
| | Amortized | 15-SQ | 0 | 239,092.45 | 120,570 | 118,523 | 11,339 | 4.74 | 10.5 |
| | TOTAL MISCELLANEOUS | | | 585,056.85 | 466,533 | 118,523 | 11,339 | | |
| | TOTAL OFFICE AND FURNITURE EQUIPMENT | | | 20,688,517.84 | 11,817,842 | 8,870,676 | 2,768,301 | | |
| | TRANSPORTATION EQUIPMENT | | | | | | | | |
| 392.01 | STANDARD CARS | 7.5-R0.5 | 0 | 359,338.15 | 75,600 | 283,738 | 41,217 | 11.47 | 6.9 |
| 392.03 | PICKUP TRUCKS | 10-R2 | 0 | 1,712,207.63 | 827,494 | 884,714 | 129,754 | 7.58 | 6.8 |
| 392.04 | LIGHT TRUCKS | 11-R3 | 0 | 588,364.56 | 286,033 | 302,331 | 36,770 | 6.25 | 8.2 |
| 392.05 | HEAVY TRUCKS | 10-R4 | 0 | 2,051,252.23 | 334,496 | 1,716,756 | 227,643 | 11.10 | 7.5 |
| 392.06 | TRAILERS | 16-R2.5 | 0 | 649,566.75 | 126,021 | 523,546 | 38,316 | 5.90 | 13.7 |
| 392.11 | ELECTRIC VEHICLES | 10-S1.5 | 0 | 31,717.26 | 31,717 | 0 | 0 | - | - |
| 392.69 | MOTOR HOME | 18-R4 | 0 | 112,598.80 | 94,421 | 18,178 | 7,543 | 6.70 | 2.4 |
| | TOTAL TRANSPORTATION EQUIPMENT | | | 5,505,045.38 | 1,775,782 | 3,729,263 | 481,243 | | |

OKLAHOMA GAS AND ELECTRIC COMPANY - HOLDING COMPANY ASSETS
SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED
ANNUAL DEPRECIATION RATES AS OF DECEMBER 31, 2009

| | ACCOUNT (1) | SURVIVOR CURVE (2) | NET SALVAGE PERCENT (3) | ORIGINAL COST (4) | BOOK RESERVE (5) | FUTURE ACCRUALS (6) | CALCULATED ANNUAL ACCRUAL AMOUNT (7) | CALCULATED ANNUAL ACCRUAL RATE (8)=(7)/(4) | COMPOSITE REMAINING LIFE (9)=(6)/(8) |
|---|---|---|---|---|---|---|---|---|---|
| 393.00 | STORES EQUIPMENT | | | | | | | | |
| | Accrued | 25-SQ | 0 | 29,206.24 | 7,635 | 21,571 | 1,136 | 3.89 | 19.0 |
| 395.00 | LABORATORY EQUIPMENT | | | | | | | | |
| | Accrued | 20-SQ | 0 | 15,698.00 | 7,315 | 8,383 | 728 | 4.64 | 11.5 |
| 396.00 | POWER OPERATED EQUIPMENT | 20-R2 | 0 | 1,377,341.46 | 426,750 | 950,591 | 56,724 | 4.12 | 16.8 |
| | COMMUNICATION EQUIPMENT | | | | | | | | |
| 397.10 | TELEPHONE | | | | | | | | |
| | Accrued | 10-SQ | 0 | 883,439.21 | 728,893 | 154,546 | 103,031 | 11.66 | 1.5 |
| 397.20 | RADIO SYSTEMS | | | | | | | | |
| | Accrued | 10-SQ | 0 | 2,742,455.48 | 2,725,416 | 17,039 | 10,222 | 0.37 | 1.7 |
| 397.40 | WIRELESS NETWORKS | | | | | | | | |
| | Amortized | 10-SQ | 0 | 797,159.68 | 97,369 | 699,791 | 82,328 | 10.33 | 8.5 |
| 397.50 | MISCELLANEOUS | | | | | | | | |
| | Accrued | 10-SQ | 0 | 414,712.94 | 414,713 | 0 | 0 | - | - |
| | Amortized | 10-SQ | 0 | 673,239.80 | 150,084 | 523,156 | 56,056 | 8.33 | 9.3 |
| | TOTAL MISCELLANEOUS EQUIPMENT | | | 1,087,952.74 | 564,797 | 523,156 | 56,056 | | |
| | TOTAL COMMUNICATION EQUIPMENT | | | 5,511,007.11 | 4,116,475 | 1,394,532 | 251,637 | | |
| 398.00 | MISCELLANEOUS EQUIPMENT | | | | | | | | |
| | Accrued | 20-SQ | 0 | 13,398.28 | 13,398 | 0 | 0 | - | - |
| | Amortized | 20-SQ | 0 | 61,254.09 | 41,072 | 20,182 | 1,168 | 1.91 | 17.3 |
| | TOTAL MISCELLANEOUS EQUIPMENT | | | 74,652.37 | 54,470 | 20,182 | 1,168 | | |
| | TOTAL PLANT | | | 107,093,333.17 | 75,777,038 | 31,316,293 | 9,721,442 | | |

# OIEC'S ADJUSTMENT TO AMORTIZATION EXPENSE
# REQUESTED BY OG&E FOR ACCOUNT 303
# ELECTRIC INTANGIBLE PLANT - SOFTWARE

| | | Amortization Accrual | | | | As of Mid 2016 | | |
|---|---|---|---|---|---|---|---|---|
| Year | Original Cost | Mid 2013 | Mid 2014 | Mid 2015 | Mid 2016 | Rem Balance | Rem. Life | Accrual |
| | (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) |
| 2012 | $28,836,531 | $9,612,177 | $9,612,177 | $9,612,177 | | $0 | 0.0 | $0 |
| 2013 | $2,234,459 | | $744,820 | $744,820 | $744,820 | $0 | 0.0 | $0 |
| 2014 | $21,374,630 | | | $7,124,877 | $7,124,877 | $7,124,877 | 8.0 | $890,610 |
| 2015 | $5,759,911 | | | $479,993 | $1,919,970 | $3,359,948 | 9.0 | $373,328 |
| | | | | | | Total As of Mid 2016 | | $1,263,937 |
| | | | | | | Company Request | | $4,385,014 |
| | | | | | | **OIEC Adjustment** | | **$ (3,121,077)** |

## SOURCES AND REFERENCS

| | |
|---|---|
| Column (a): | Direct Exhibit JJS-2 page IX-3 and OGE Schedule I-1-1 line 4. |
| Columns (b-e) (2012-2014): | Column (a) divided by 3 corresponding to the existing 3SQ life-curve (amortization). |
| Columns (d) (2015): | Half of mid year value. |
| Columns (e) (2015): | Half year accrual to mid 2016 plus half of remaining 2015 value. |
| Column (f): | Column (a) less summation of Columns (b-e). |
| Column (g): | Remaining life as of mid 2016 when rates are estimated to go in effect based on a 10SQ life-curve combination or a 10-year amortization period. |
| Column (h): | Column (f) divided by Column (g). |
| Company Request: | Company Schedule I-1-1 lines 3 and 4. |