ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF OKLAHOMA GAS AND ELECTRIC COMPANY FOR APPROVAL OF A GENERAL CHANGE IN RATES, CHARGES AND TARIFFS	DOCKET NO. 16-052-U

DIRECT TESTIMONY OF

DAVID J. GARRETT

PART II – DEPRECIATION

ON BEHALF OF

ARKANSAS RIVER VALLEY ENERGY CONSUMERS, WAL-MART STORES ARKANSAS, LLC, AND SAM'S WEST, INC.

JANUARY 31, 2017

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I. INTRODUCTION

Q. State your name and occupation.

A. My name is David J. Garrett. I am a consultant specializing in public utility regulation. I am the managing member of Resolve Utility Consulting, PLLC. I focus my practice on the primary capital recovery mechanisms for public utility companies: cost of capital and depreciation.

Q. Summarize your educational background and professional experience.

A. I received a B.B.A. degree with a major in Finance, an M.B.A. degree, and a Juris Doctor degree from the University of Oklahoma. I worked in private legal practice for several years before accepting a position as assistant general counsel at the Oklahoma Corporation Commission in 2011. At the Oklahoma Commission, I worked in the Office of General Counsel in regulatory proceedings. In 2012, I began working for the Public Utility Division as a regulatory analyst providing testimony in regulatory proceedings. After leaving the Oklahoma Commission, I formed Resolve Utility Consulting, PLLC, where I have represented various consumer groups and state agencies in utility regulatory proceedings, primarily in the areas of cost of capital and depreciation. I am a Certified Depreciation Professional through the Society of Depreciation Professionals. I am also a Certified Rate of Return Analyst through the Society of Utility and Regulatory Financial Analysts. A more complete description of my qualifications and regulatory experience is included in my curriculum vitae.[1]

[1] Direct Exhibit DJG 2-1.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the Arkansas River Valley Energy Consumers as well as Wal-Mart Stores Arkansas, LLC and Sam's West, Inc. Throughout this testimony I will refer to these entities collectively as "ARVEC."

Q. Describe the purpose and scope of your testimony in this proceeding.

A. In this case I am testifying on the two primary capital recovery mechanisms in the rate base rate of return model – cost of capital and depreciation – in response to the application of Oklahoma Gas & Electric Company ("OG&E" or the "Company"). Together these issues are voluminous, so I have filed two separate direct testimony documents. Part I of my direct testimony includes cost of capital and related issues. Part II of my direct testimony (this document) includes depreciation expense and related issues. In this testimony, I am responding to OG&E's depreciation study sponsored by Mr. John Spanos.

II. EXECUTIVE SUMMARY

Q. Summarize the key points of your testimony.

A. In the context of utility ratemaking, "depreciation" refers to a cost allocation system designed to measure the rate by which a utility may recover its capital investments in a systematic and rational manner. I employed a well-established depreciation system and used actuarial analysis to statistically analyze the Company's depreciable assets in order to develop reasonable depreciation rates in this case. The table below compares ARVEC's and OG&E's proposed depreciation expense by plant function.

Figure 1:
Depreciation Expense Comparison by Plant Function

Plant Function	Plant Balance 6/30/2016	OG&E Proposed Expense	ARVEC Proposed Expense	**ARVEC Adjustment**
Intangible Plant	$ 103,393,699	$ 6,390,595	$ 4,056,348	$ (2,334,248)
Steam Production	2,095,289,783	55,792,097	38,236,516	(17,555,581)
Other Production	1,580,814,814	62,759,078	57,344,053	(5,415,025)
Transmission	2,497,323,014	60,885,737	55,024,758	(5,860,979)
Distribution	3,977,004,768	124,195,478	105,586,525	(18,608,953)
General	355,624,717	15,357,381	15,184,124	(173,257)
Total	$ 10,609,450,795	$ 325,380,366	$ 275,432,323	**$ (49,948,043)**

ARVEC's total adjustment reduces the Company's proposed annual depreciation expense by $49.9 million, and reduces the Arkansas jurisdictional proposed expense by approximately $4.5 million. The Company's total requested increase to electric plant depreciation expense is $29.7 million.[2] Approximately $2.7 million of this increase is attributable to the Arkansas jurisdiction.

Q. Summarize the primary factors driving ARVEC's adjustment.

A. There are three primary factors driving ARVEC's adjustment in this case. These factors, along with their estimated dollar impact on the final adjustment are as follows: (1) removing proposed terminal net salvage due to lack of support by the Company ($18.3 million); (2) extending the proposed lives of OG&E's wind units ($4.6 million); and (3) proposing different Iowa curve shapes and average lives for several transmission and distribution accounts ($27 million).

[2] Company Schedule F-1.3.

Q. Describe why it is important not to overestimate depreciation rates.

A. The issue of depreciation is essentially one of timing. Under the rate base rate of return model, the utility is allowed to recover the original cost of its prudent investments required to provide service. Depreciation systems are designed to allocate those costs in a systematic and rational manner – specifically, over the service life of the utility's assets. If depreciation rates are overestimated (i.e., service lives are underestimated), it encourages economic inefficiency. Unlike competitive firms, regulated utility companies are not always incentivized by natural market forces to make the most economically efficient decisions.[3] If a utility is allowed to recover the cost of an asset before the end of its useful life, this could incentivize the utility to unnecessarily replace the asset in order to increase rate base, which results in economic waste. Thus, from a public policy perspective, it is preferable for regulators to ensure that assets are not depreciated before the end of their true useful lives. While underestimating the useful lives of depreciable assets could financially harm current ratepayers and encourage economic waste, unintentionally overestimating depreciable lives (i.e., underestimating depreciation rates) does not harm the Company. This is because if an asset's life is overestimated, there are a variety of measures that regulators can use to ensure the utility is not financially harmed. One such measure would be the use of a regulatory asset account. In that case, the Company's original cost investment in these assets would remain in the Company's rate base until they are recovered. Moreover, since the Company's awarded and earned returns on equity are

[3] An obvious example of this fact can be seen in the very low debt ratios of regulated utilities, as discussed in Part I of my testimony – Cost of Capital.

far above its true cost of equity, the Company's shareholders further benefit from the excess wealth transfer from ratepayers while these costs are in rate base. Thus, the process of depreciation strives for a perfect match between actual and estimated useful life. When these estimates are not exact, however, it is better that useful lives are overestimated rather than underestimated.

III. LEGAL STANDARDS

Q. Discuss the standard by which regulated utilities are allowed to recover depreciation expense.

A. In *Lindheimer v. Illinois Bell Telephone Co.*, the U.S. Supreme Court stated that "depreciation is the loss, not restored by current maintenance, which is due to all the factors causing the ultimate retirement of the property. These factors embrace wear and tear, decay, inadequacy, and obsolescence."[4] The *Lindheimer* Court also recognized that the original cost of plant assets, rather than present value or some other measure, is the proper basis for calculating depreciation expense.[5] Moreover, the *Lindheimer* Court found:

> [T]he company has the burden of making a convincing showing that the amounts it has charged to operating expenses for depreciation have not been excessive. That burden is not sustained by proof that its general accounting system has been correct. The calculations are mathematical, but the predictions underlying them are essentially matters of opinion.[6]

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[4] *Lindheimer v. Illinois Bell Tel. Co.*, 292 U.S. 151, 167 (1934).

[5] *Id*. (Referring to the straight-line method, the *Lindheimer* Court stated that "[a]ccording to the principle of this accounting practice, the loss is computed upon the actual cost of the property as entered upon the books, less the expected salvage, and the amount charged each year is one year's pro rata share of the total amount."). The original cost standard was reaffirmed by the Court in *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 606 (1944). The *Hope* Court stated: "Moreover, this Court recognized in [*Lindheimer*], supra, the propriety of basing annual depreciation on cost. By such a procedure the utility is made whole and the integrity of its investment maintained. No more is required."

[6] *Id*. at 169.

Thus, the Commission must ultimately determine if the Company has met its burden of proof by making a convincing showing that its proposed depreciation rates are not excessive.

Q. Should depreciation represent an allocated cost of capital to operation, rather than a mechanism to determine loss of value?

A. Yes. While the *Lindheimer* case and other early literature recognized depreciation as a necessary expense, the language indicated that depreciation was primarily a mechanism to determine loss of value.[7] Adoption of this "value concept" would require annual appraisals of extensive utility plant, and is thus not practical in this context. Rather, the "cost allocation concept" recognizes that depreciation is a cost of providing service, and that in addition to receiving a "return on" invested capital through the allowed rate of return, a utility should also receive a "return of" its invested capital in the form of recovered depreciation expense. The cost allocation concept also satisfies several fundamental accounting principles, including verifiability, neutrality, and the matching principle.[8] The definition of "depreciation accounting" published by the American Institute of Certified Public Accountants ("AICPA") properly reflects the cost allocation concept:

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[7] *See* Frank K. Wolf & W. Chester Fitch, *Depreciation Systems* 71 (Iowa State University Press 1994).

[8] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices* 12 (NARUC 1996).

> Depreciation accounting is a system of accounting that aims to distribute 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.[9]

Thus, the concept of depreciation as "the allocation of cost has proven to be the most useful and most widely used concept."[10]

Q. Does Arkansas law require OG&E to give customers the most favorable rate reasonably possible?

A. Yes. According to the Arkansas Supreme Court, it is a "fundamental rule" that the Company "operate in such a manner as to give to the consumers the most favorable rate reasonably possible."[11] Depreciation expense represents a substantial portion of the rate charged to OG&E's customers. Thus, the Commission should ensure that the overall depreciation expense approved in this case promotes the most favorable reasonable rate for consumers. The depreciation rates I have proposed in this cause are not the lowest possible rates, but in my opinion, they represent the lowest *reasonable* rates when compared to the Company's proposed rates.

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[9] American Institute of Accountants, *Accounting Terminology Bulletins Number 1: Review and Résumé* 25 (American Institute of Accountants 1953).

[10] Wolf *supra* n. 7, at 73.

[11] *El Dorado v. Arkansas Public Service Com.*, 235 Ark. 812, 816, 362 S.W.2d 680, 683-684 (1962).

IV. ANALYTIC METHODS

Q. Discuss the definition and purpose of a depreciation system, as well as the depreciation system you employed for this project.

A. The legal standards set forth above do not mandate a specific procedure for conducting depreciation analysis. These standards, however, direct that analysts use a system for estimating depreciation rates that will result in the "systematic and rational" allocation of capital recovery for the utility. Over the years, analysts have developed "depreciation systems" designed to analyze grouped property in accordance with this standard. A depreciation system may be defined by several primary parameters: 1) a method of allocation; 2) a procedure for applying the method of allocation; 3) a technique of applying the depreciation rate; and 4) a model for analyzing the characteristics of vintage property groups.[12] In this case, I used the straight line method, the average life procedure, the remaining life technique, and the broad group model; this system would be denoted as an "SL-AL-RL-BG" system. This depreciation system conforms to the legal standards set forth above, and is commonly used by depreciation analysts in regulatory proceedings. I provide a more detailed discussion of depreciation system parameters, theories, and equations in Appendix A.

Q. Generally describe the actuarial process you used to analyze the Company's depreciable property.

A. The study of retirement patterns of industrial property is derived from the actuarial process used to study human mortality. Just as actuaries study historical human mortality data in

[12] *See* Wolf *supra* n. 7, at 70, 140.

order to predict how long a group of people will live, depreciation analysts study historical plant data in order to estimate the average lives of property groups. The most common actuarial method used by depreciation analysts is called the "retirement rate method." In the retirement rate method, original property data, including additions, retirements, transfers, and other transactions, are organized by vintage and transaction year.[13] The retirement rate method is ultimately used to develop an "observed life table," ("OLT") which shows the percentage of property surviving at each age interval. This pattern of property retirement is described as a "survivor curve." The survivor curve derived from the observed life table, however, must be fitted and smoothed with a complete curve in order to determine the ultimate average life of the group.[14] The most widely used survivor curves for this curve-fitting process were developed at Iowa State University in the early 1900s and are commonly known as the "Iowa curves."[15] A more detailed explanation of how the Iowa curves are used in the actuarial analysis of depreciable property is set forth in Appendix C.

Q. Describe the Company's depreciable assets in this case.

A. The Company's depreciable assets can be divided into two main groups: life span property (i.e., production plant) and mass property (i.e., transmission and distribution plant). The analytical process is slightly different for each type of property, as discussed further below.

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[13] The "vintage" year refers to the year that a group of property was placed in service (aka "placement" year). The "transaction" year refers to the accounting year in which a property transaction occurred, such as an addition, retirement, or transfer (aka "experience" year).

[14] See Appendix C for a more detailed discussion of the actuarial analysis used to determine the average lives of grouped industrial property.

[15] *See* Appendix B for a more detailed discussion of the Iowa curves.

V. LIFE SPAN PROPERTY ANALYSIS

Q. Describe the approach to analyzing life span property.

A. For life span property, there are essentially three steps to the analytical process. First, I reviewed the Company's proposed life spans for each of its production units and compared them to life span estimates of other similar production units in other jurisdictions. Second, I examined the Company's proposed interim retirement curves for each account in order to assess the remaining lives and depreciation rates for each production unit. Finally, I analyzed the weighted net salvage for each account, which involved reviewing the Company's weighting of interim and terminal retirements for each production account, as well as analyzing the Company's proposed interim and terminal net salvage rates.

Q. Describe life span property.

A. "Life span" property accounts usually consist of property within a production plant. The assets within a production plant will be retired concurrently at the time the plant is retired, regardless of their individual ages or remaining economic lives. For example, a production plant will contain property from several accounts, such as structures, fuel holders, and generators. When the plant is ultimately retired, all of the property associated with the plant will be retired together, regardless of the age of each individual unit. Analysts often use the analogy of a car to explain the treatment of life span property. Throughout the life of a car, the owner will retire and replace various components, such as tires, belts, and brakes. When the car reaches the end of its useful life and is finally retired, all of the car's individual components are retired together. Some of the components may still have some useful life remaining, but they are nonetheless retired along with the car. Thus, the various

accounts of life span property are scheduled to retire concurrently as of the production unit's probable retirement date.

A. Interim Retirement Analysis

Q. Discuss the concept of interim retirements.

A. The individual components within a generating unit are retired and replaced throughout the life of the unit. This retirement rate is measured by "interim" survivor curves. Thus, a production plant's remaining life and depreciation rate are not only affected by the terminal retirement date of the entire plant, but also by the retirement rate of the plant's individual components, which are retired during the "interim" of the plant's useful life.

Q. Did you make any adjustments to the Company's proposed interim retirements?

A. No. I accepted the Company's proposed interim retirement curves as well as the Company's proposed weighting of interim and terminal retirements. While some of the Company's interim retirement curves were arguably too short, I did not make adjustments to these proposed curves or average lives in the interest of reasonableness. I provide an example of one such curve and further discussion in the section below titled "Detailed Analysis of Select Accounts."

B. Terminal Net Salvage Analysis

Q. Describe terminal net salvage.

A. When a production plant reaches the end of its useful life, a utility may decide to decommission the plant. In that case, the utility may sell some of the remaining assets. The proceeds from this transaction are called "gross salvage." The corresponding expense associated with decommissioning the plant is called "cost of removal." The term "net

salvage" equates to gross salvage less the cost of removal. When net salvage refers to production plants, it is often called "terminal net salvage," because the transaction will occur at the end of the plant's life.

Q. Describe how utilities estimate and justify the proposal of terminal net salvage recovery.

A. Typically, when a utility is requesting the recovery of a substantial amount of terminal net salvage costs, it supports those costs with site-specific decommissioning studies. Terminal net salvage costs are unlike other costs requested in a rate case. Specifically, while other proposed costs might be based on a recent test year involving actual expenses incurred by the utility, decommissioning costs are often estimated to occur many years or decades in the future. Moreover, the utility may never even incur the decommissioning costs they are proposing. For example, a utility may seek to recover $10 million in a current rate case for the complete demolition of a production plant to occur 10 years in the future. Thus, the utility would be requesting an additional $1 million per year in rates in addition to the other depreciation costs associated with the plant. If instead, the utility decides to repower the plant at a much lesser cost than a complete demolition, the utility would have recovered millions of dollars from rate payers for costs that never occurred. Thus, decommissioning costs are not as "known and measurable" as other costs proposed in a rate case. Furthermore, decommissioning studies are often overestimated, as they usually do not contemplate less expensive alternatives to complete demolition and often include substantial contingency factors that arbitrarily increase the cost estimate. Nonetheless, decommissioning studies provide a good starting point and some measurable basis upon which to estimate the utility's terminal net salvage. More importantly, decommissioning

studies, at the very least, might be helpful to the utility in meeting its burden of proof with regard to terminal net salvage recovery.

Q. Did OG&E provide any decommissioning studies in this case to support its proposed terminal net salvage costs?

A. No. This same issue was raised by numerous parties in OG&E's Oklahoma rate case.[16] In that case, the commission staff testified that the Company had not met its burden of proof regarding the recovery of decommissioning costs.[17] The Oklahoma staff also proposed that the Company recover half of its proposed decommissioning costs and advised the Company to file a complete decommissioning study in its next rate case. OG&E, however, has not developed decommissioning plans for specific plants and failed to present any such studies in this case.[18]

Q. Has the Company met its burden of proof regarding the recovery of terminal net salvage in this case.?

A. No. As in its Oklahoma rate case, OG&E has not provided adequate support for the proposed recovery of $772 million in decommissioning costs. While decommissioning studies conducted by engineering firms include detailed estimates of material and labor by specific task, the Company merely provided a one-page conclusory schedule of estimated decommissioning costs with no support or justification for such estimates.[19] Instead, the Company merely stated that the estimates were "[b]ased on the studies of comparable

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[16] *See generally* Cause No. PUD 201500273 before the Oklahoma Corporation Commission.

[17] *See* testimony of David J. Garrett, filed March 21, 2016 in Cause No. PUD 201500273.

[18] *See* Company's response to Data Request APSC 62.01.

[19] *See* response to Data Request ARVEC 3.06.

facilities."[20] When asked in discovery about these other studies, the Company stated that the studies they relied on were "confidential to the specific entity" and "not available."[21] Decommissioning studies provided to regulatory commissions are often hundreds of pages long, and they provide detailed estimates for the material and labor required to dismantle the specific generating units being studied. In stark contrast, OG&E merely provided a one-page schedule with proposed decommissioning costs that were purportedly based on studies of the production facilities of other companies.[22] The Company used the same justification in its Oklahoma rate case.[23] Although producing the cited studies of generating units of other utilities would not necessarily be sufficient for OG&E to meet its burden of proof regarding its proposed decommissioning costs, the Company nonetheless failed to produce the studies it says it relied upon. Thus, the Company is asking the Commission to approve $772 million of future costs (some of which may never be incurred) purportedly based on the studies of other facilities that the Commission is not allowed to see. Even if the Company had made these studies available, they would still have been of little value because they would be studies of other companies' generating facilities, not of OG&E's facilities. Therefore, the Company has not met its burden of proof regarding the proposed recovery of $772 million of decommissioning cost at this time.

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[20] Direct Testimony of John J. Spanos 8:25.

[21] OG&E's response to Data Request OIEC 5-8 (a-b), (g) in Cause No. PUD 201500273 before the Oklahoma Corporation Commission.

[22] *See* response to Data Request ARVEC 3.06 (Attachment 1); *see also* Direct Testimony of John J. Spanos, p. 8:23-28.

[23] See Direct Testimony of John J. Spanos, p. 8:19-28, filed December 18, 2015 in OG&E's Oklahoma rate case, Cause No. PUD 201500273.

Q. Has OG&E's witness agreed that a site specific decommissioning study would be appropriate?

A. Yes. In OG&E's Oklahoma rate case, Mr. Spanos testified that he agreed with the other parties in the case that the Company should perform a site specific decommissioning study for its next rate case, and that such a study "typically provides the best estimate of terminal net salvage costs for a power plant."[24]

Q. Describe your adjustment to OG&E's proposed decommissioning costs and terminal net salvage.

A. Because OG&E has not met its burden of proof regarding the recovery of decommissioning costs, all of the Company's proposed depreciation rates on production accounts are overstated and unsupported. In calculating my proposed depreciation rates for the Company's production accounts, I removed the terminal salvage component.[25] Removing the terminal net salvage component results in an estimated $18.3 million adjustment to total company depreciation expense, and an estimated $1.7 million adjustment to Arkansas jurisdictional depreciation expense.

Q. If the Commission adopts your recommendation, does it mean that the Company will never be able to recover its decommissioning costs?

A. No. As I stated in the Oklahoma rate case, the Company should prepare a complete decommissioning study to support the recovery of any proposed terminal net salvage and submit such study to the Commission for review and consideration in a Company-filed rate

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[24] *See* Rebuttal Testimony of John J. Spanos, p. 15:23-28, filed April 11, 2016 in Cause No. PUD 201500273 before the Oklahoma Corporation Commission.

[25] *See* Direct Exhibit DG 2-6 (column [2]).

proceeding. At that time, the Commission can evaluate the Company's decommissioning study and determine whether to allow recovery of those costs.

C. Probable Life for Wind Generating Units

Q. Describe the Company's position regarding the probable life of its wind units.

A. The Company has proposed 25-year service life estimates for its wind units – OU Spirit, Crossroads, and Centennial, with probable retirement dates of 2034, 2031, and 2037 respectively.[26]

Q. Do you agree with the Company's position regarding the proposed life of its wind units?

A. No. For the reasons discussed below, I believe that a 30-year probable life for the Company's wind facilities would represent a more accurate estimate.

Q. Do the Company's proposed average lives for the interim retirements of its production accounts imply an overall probable life of greater than 25 years for its wind facilities?

A. Yes. This issue does not center around the average life of any one individual component of a wind generating unit. Although as further discussed below, there is evidence that certain components of wind generating units can last much longer than 30 years, the primary issue at hand is the probable life of each of OG&E's wind facilities in their entirety. Recall the discussion of interim retirements of life span property discussed above. OG&E's wind facilities are also life span property. This means that the retirements of individual components of the wind facility will be accounted for in the interim retirement

[26] OG&E Depreciation Study, p. III-7

curves used to describe each asset account of the wind facilities. The following table shows the assets accounts containing the Company's wind generating assets along with the average lives for these assets proposed by the Company.[27]

Figure 2:
OG&E's Proposed Interim Retirements for Wind Assets

Account	Description	Company Proposed Average Life
341.00	Structures and Improvements	45 Years
344.00	Generators	40 Years
345.00	Accessory Electric Equipment	35 Years
346.00	Misc. Power Plant Equipment	35 Years

As shown in this table, for each group of assets comprised within OG&E's wind facilities, the Company is proposing average lives much longer than 25 years. These facts alone suggest that the Company's wind facilities should last much longer than 25 years.

Q. Discuss other evidence suggesting that the Company's wind facilities will last longer than 25 years.

A. In 2007, Burns & McDonald provided a wind farm life expectancy evaluation on the Meridian Way Wind Farm in Kansas. According to the evaluation, Burns & McDonald estimated that the wind farm project would have a service life of 30 years or more.[28] In other words, 30 years was the *minimum* life expectancy.

[27] *See* OG&E Depreciation Study, Direct Exhibit JJS-2, pp. VI-7 thru VI-9.

[28] Burns & McDonald Wind Farm Life Expectancy Evaluation, 2007.

Although the issue of life spans for generating units involves the life expectancy of the entire unit, much of the focus of wind farm life expectancy centers around the wind turbine. A study conducted by CBCL Limited found that "the design life of a wind turbine is typically 20 – 30 years and capital improvement and replacement programs can extend safe and efficient operations well beyond 40 years.[29] Similarly, other analysts have concluded that wind turbines can stay in operation up to 40 years.[30] Recall, however, that the life of one component of a wind facility does not dictate the life expectancy of the entire facility. In other words, it would not likely be prudent for a utility to shut down an entire wind farm when the first turbine is retired. As suggested by the Company's interim retirement estimates presented in the figure above, we should expect many components of OG&E's wind facilities to last much longer than 25 years. Likewise, others have found that the components of a wind turbine, such as the transformers and copper ground cables can last 50 years or more.[31] In consideration of all these factors, it is not surprising that Burns & McDonald proposed a *minimum* life expectancy of 30 years for the wind farm it studied.

Q. Has the Company's witness proposed 30-year life spans for wind facilities?

A. Yes. Mr. Spanos has proposed 30-year life spans for wind generating units in the past.[32]

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[29] CBCL Limited, Pugwash Wind Farm: Environmental Assessment, Focus Group Consultation, p. 2 (June 2007).

[30] Renewables International Magazine, *Wind Turbines for 40 Years?* (2015)

[31] Wind Power Monthly, "*Extending Turbine Lifetime Brings Down CoE* [cost of energy],"

[32] *See* Attachment to OG&E's response to Data Request OIEC 12-9 in Cause No. PUD 201500273 before the Oklahoma Corporation Commission.

Q. Has there been a tendency to underestimate the lives of generating plants with relatively new technology?

A. Yes. For example, most of the coal plants in the U.S. were built before 1980.[33] Early life span estimates for these plants were as short as 25 years. Currently however, about 75% of all coal-fired plants are at least 30 years old.[34] Moreover, the average retirement age of coal plants in 2015 was 58 years.[35] This is not surprising. According to Gannett Fleming, "typical life spans for base load, steam power plants are 50 to 65 years."[36] This means that many of the original life span estimates for coal plants were grossly underestimated. Likewise, early estimates for nuclear power plants were around 40 years.[37] Now, out of the 100 U.S. nuclear reactors in the U.S., "81 have completed their first license renewal, which adds 20 years to their initial 40-year operating license to take them out to 60 years."[38] In fact, Exelon Corp. and Dominion Resources Inc. currently plan additional license renewals to keep their nuclear plants operating up to 80 years.[39] It would not be surprising to see a similar trend with wind generation.

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[33] Todd Woody, "Hitting the Gas: Most Coal-fired Power Plants in the U.S. are Nearing Retirement Age," http://qz.com/61423/coal-fired-power-plants-near-retirement/ (last accessed 9-21-16).

[34] *Id*.

[35] Jack Fitzpatrick, "Coal Plants Are Shutting Down, With or Without Clean Power Plan," https://morningconsult.com/2016/05/03/coal-plants-shutting-without-clean-power-plan/, *Morning Consult*, May 3, 2016 (last accessed 9-21-16).

[36] Application of El Paso Electric Company to Change Rates, SOAH Docket No. 473-15-5257; PUC Docket No. 44941, Depreciation Study for El Paso Electric Company, p. III-6, sponsored by John Spanos of Gannett Fleming.

[37] Paul Voosen, "How Long Can a Nuclear Reactor Last?: Industry Experts Argue Old Reactors Could Last Another 50 Years, or More," http://www.scientificamerican.com/article/nuclear-power-plant-aging-reactor-replacement-/ *Scientific American*, November 20, 2009 (last accessed 9-21-16).

[38] Rebecca Kern, "Maintenance is Key to Nuclear Plants Lasting 80 Years," http://www.bna.com/maintenance-key-nuclear-n57982074391/, *Bloomberg*, June 20, 2016 (last accessed 9-21-16).

[39] *Id*.

Q. What is your proposal regarding the probable lives of the Company's wind facilities?

A. I am proposing that the probable lives of the Company's wind facilities be increased by five years, for a total probable life of 30 years. Although the Company's own interim retirement proposals regarding its wind unit accounts suggest that the probable lives of these units may be longer, I believe using a probable life span of 30 years is reasonable and conservative. Extending the probable lives for OG&E's wind units results in an estimated $4.6 million adjustment to total company depreciation expense, and an estimated $400,000 adjustment to Arkansas jurisdictional depreciation expense.

VI. MASS PROPERTY ANALYSIS

Q. Describe mass property.

A. Unlike life span property accounts, "mass" property accounts usually contain a large number of small units that will not be retired concurrently. For example, poles, conductors, transformers, and other transmission and distribution plant are usually classified as mass property. Estimating the service life of any single unit contained in a mass account would not require any actuarial analysis or curve-fitting techniques. Since we must develop a single rate for an entire group of assets, however, actuarial analysis is required to calculate the average remaining life of the group.

Q. How did you determine the depreciation rates for the mass property accounts?

A. To develop depreciation rates for the Company's mass property accounts, I obtained the Company's historical plant data to develop observed life tables for each account. I used Iowa curves to smooth and complete the observed data to calculate the average remaining life of each account. Finally, I analyzed the Company's proposed net salvage rates for each

mass account by reviewing the historical salvage data. After estimating the remaining life and salvage rates for each account, I calculated the corresponding depreciation rates. Further details about the actuarial analysis and curve-fitting techniques involved in this process are presented in the attached appendices.

A. Service Life Estimates

Q. Generally describe your approach in estimating the service lives of mass property.

A. I used all of the Company's property data and created an observed life table ("OLT") for each account. The data points on the OLT can be plotted to form a curve (the "OLT curve"). The OLT curve is not a theoretical curve, rather, it is actual observed data from the Company's records that indicate the rate of retirement for each property group. An OLT curve by itself, however, is rarely a smooth curve, and is often not a "complete" curve (i.e., it does not end at zero percent surviving). In order to calculate average life (the area under a curve), a complete survivor curve is needed. The Iowa curves are empirically-derived curves based on the extensive studies of the actual mortality patterns of many different types of industrial property. The curve-fitting process involves selecting the best Iowa curve to fit the OLT curve. This can be accomplished through a combination of visual and mathematical curve-fitting techniques, as well as professional judgment. The first step of my approach to curve-fitting involves visually inspecting the OLT curve for any irregularities. For example, if the "tail" end of the curve is erratic and shows a sharp decline over a short period of time, it may indicate that this portion of the data is less reliable, as further discussed below. After inspecting the OLT curve, I use a mathematical curve-fitting technique which essentially involves measuring the distance between the OLT curve

and the selected Iowa curve in order to get an objective, mathematical assessment of how well the curve fits. After selecting an Iowa curve, I observe the OLT curve along with the Iowa curve on the same graph to determine how well the curve fits. I may repeat this process several times for any given account to ensure that the most reasonable Iowa curve is selected.

Q. Do you always select the mathematically best-fitting curve?

A. Not necessarily. Mathematical fitting is an important part of the curve-fitting process because it promotes objective, unbiased results. While mathematical curve fitting is important, however, it may not always yield the optimum result; therefore, it should not necessarily be adopted without further analysis. In fact, for some of the accounts in this case I selected Iowa curves that were not the mathematical best fit, and in almost every such instance, this decision resulted in a shorter curves (higher depreciation rates) being chosen, as further illustrated below.

Q. Should every portion of the OLT curve be given equal weight?

A. Not necessarily. Many analysts have observed that the points comprising the "tail end" of the OLT curve may often have less analytical value than other portions of the curve. "Points at the end of the curve are often based on fewer exposures and may be given less weight than points based on larger samples. The weight placed on those points will depend on the size of the exposures."[40] In accordance with this standard, an analyst may decide to truncate the tail end of the OLT curve at a certain percent of initial exposures, such as one

[40] Wolf *supra* n. 7, at 46.

percent. Using this approach puts a greater emphasis on the most valuable portions of the curve. For my analysis in this case, I not only considered the entirety of the OLT curve, but also conducted further analyses that involved fitting Iowa curves to the most significant part of the OLT curve for certain accounts. In other words, to verify the accuracy of my curve selection, I narrowed the focus of my additional calculation to consider the top 99% of the "exposures" (i.e., dollars exposed to retirement) and to eliminate the tail end of the curve representing the bottom 1% of exposures.

B. Detailed Analysis of Select Accounts

Q. Discuss your analysis of material accounts.

A. My analysis in this case included a review of all the Company's depreciable accounts. I approached my analysis of all mass property accounts the same way using the methods described in this testimony. For several accounts, however, I conducted additional analysis. The selected accounts discussed in this section are those involving either a significant amount of depreciation expense, or those that provide particularly good illustrations of the differences in my curve selection process and the Company's process. For some of these accounts, I conducted additional analyses that included both visual and mathematical curve fitting techniques not only for the entirety of the OLT curve, but also for the most significant portion of the curve which includes the top 99% of the dollars exposed to retirement, when applicable. By conducting additional analysis on the most significant portions of the OLT, I ensured that the Iowa curves I selected provide a good fit to the Company's data.

Q. Discuss the general differences between your service life estimates and the Company's service life estimates for these accounts

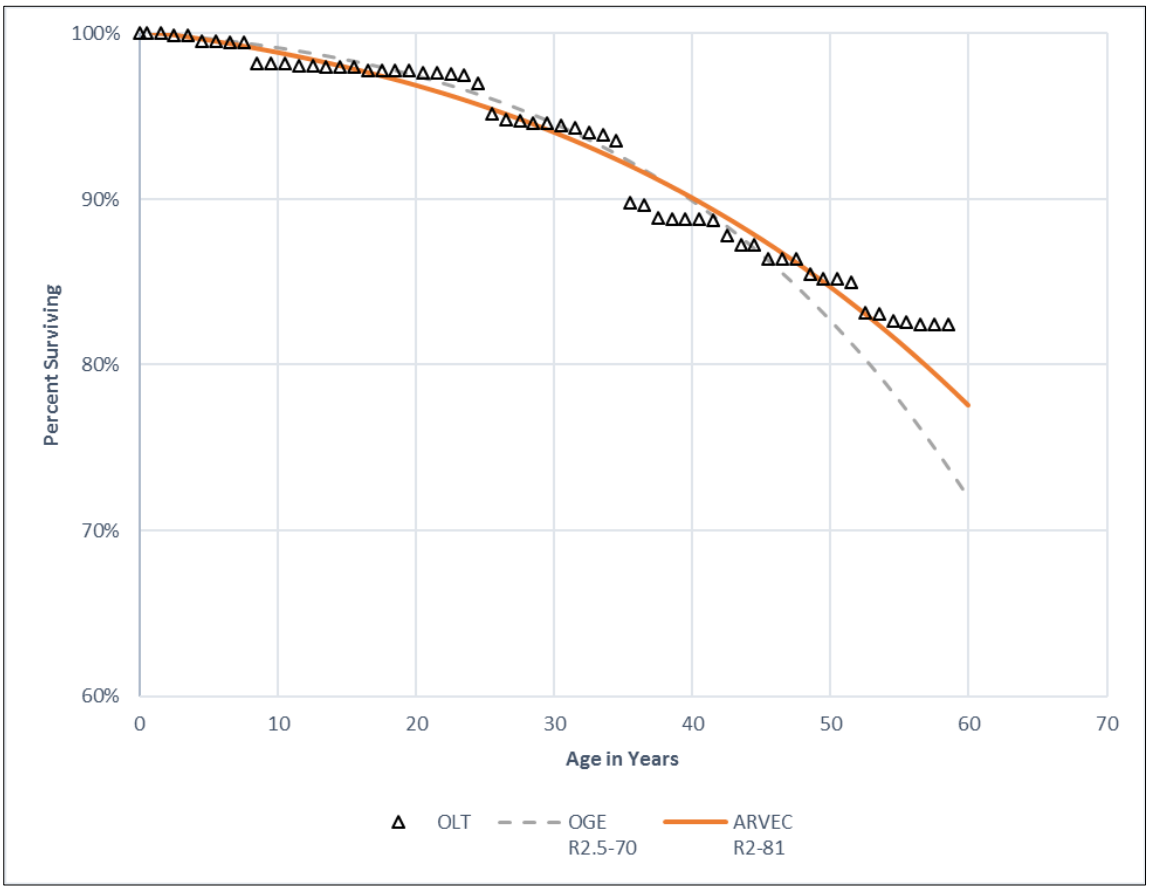
A. While the Company and I used similar curve-fitting approaches in this case, the curves I selected for these accounts provide a better mathematical fit to the observed data, and provide a more reasonable and accurate representation of the mortality characteristics for each account. In each of the following accounts, the Company has selected a curve that underestimates the average remaining life of the assets in the account, which results in unreasonably high depreciation rates. The analysis of each selected account is discussed below.

1. <u>Account 315 – Accessory Electric Equipment</u>

Q. Describe your service life estimate for this account, and compare it with the Company's estimate.

A. Technically, Account 315 is not a "mass," property account; it is a "life span account." This means that the Iowa curve for this account is an interim retirement curve. I included the account in this section to illustrate the Company's tendency to select Iowa curves that understate average service life and overstate depreciation rates. The observed survivor curve for Account 315 is ideal for Iowa-curve fitting techniques because OLT for this account follows a relatively smooth pattern. The observed survivor curve is derived from the OLT calculated from the Company's aged plant data. Thus, as set forth above, the OLT curve is not an estimate or a theoretical curve, rather, it represents actual data. The Company chose the Iowa R2.5-70 curve to represent the mortality characteristics of this account. The graph below shows the OLT curve (black triangles) along with Company's selected curve. The graph also shows the Iowa R2-81 curve.

Figure 3:
Account 315 – Accessory Electric Equipment



Q. Does the Iowa R2-81 curve provide a better mathematical fit to the observed data than the Company's curve?

A. Yes. While it is not necessarily clear from a visual standpoint that the curve I chose provides a better fit to the data, mathematical curve-fitting techniques reveal this is indeed the case. Mathematical curve fitting essentially involves measuring the distance between the OLT curve and the selected Iowa curve. The best mathematically-fitted curve is the one that minimizes the distance between the OLT curve and the Iowa curve, thus providing the closest fit. The "distance" between the curves is calculated using the "sum-of-squared differences" ("SSD") technique. Specifically, the SSD for the Company's curve is 0.0490,

while the SSD for the better-fitting R2-81 curve is only 0.0116. Thus, the R2-81 curve is a better fit to the OLT.[41]

Q. Did you make an adjustment to this account to reflect the better-fitting Iowa curve?

A. No. I am not recommending an adjustment to this account to reflect the R2-81 curve because the adjustment would not materially impact the depreciation rates that I propose in this case. However, I have included the discussion for this account because it illustrates the general theme that I present in this case regarding the Company's approach to depreciation – namely, that the Company should have selected longer and more reasonable survivor curves for several accounts, but instead chose Iowa curves that generally escalate depreciation expense beyond what is reasonable.

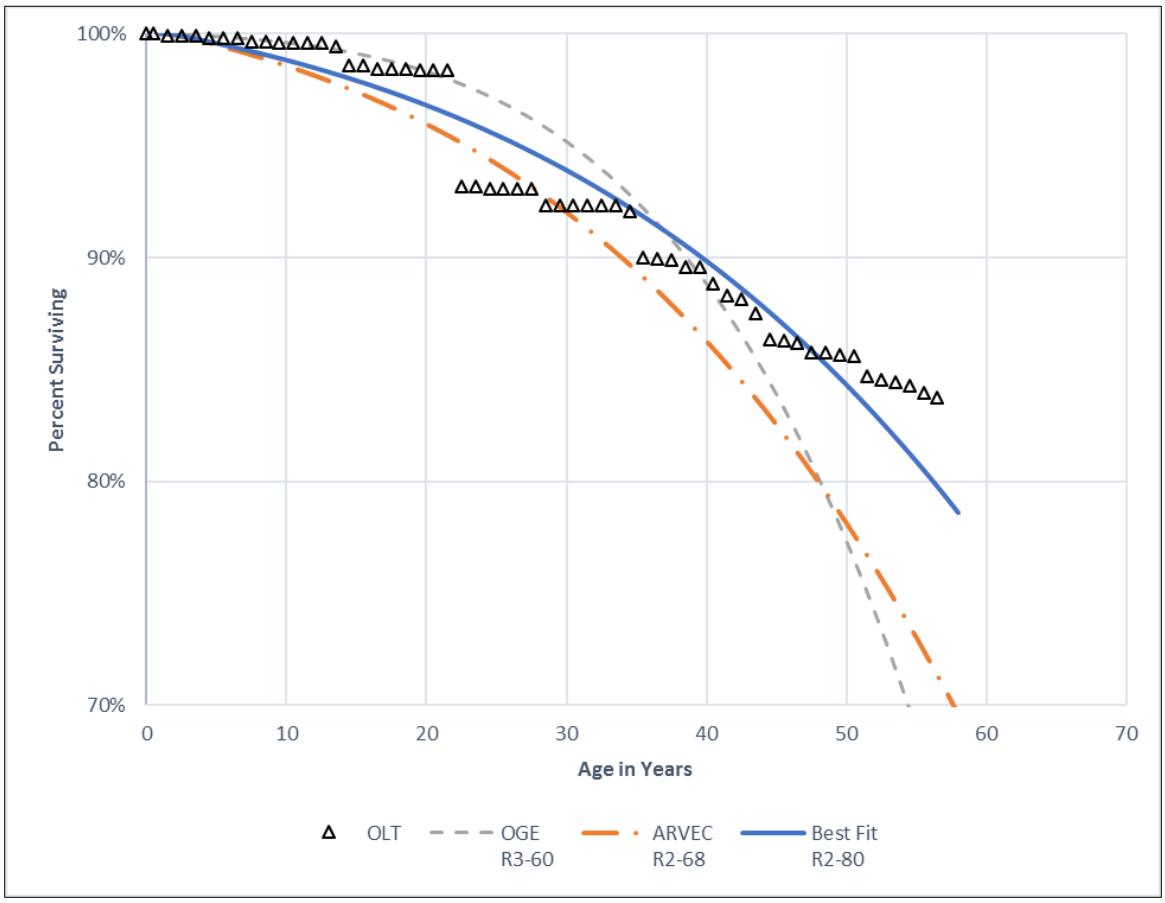
2. <u>Account 356 – Overhead Conductors and Devices</u>

Q. Describe your service life estimate for this account, and compare it with the Company's estimate.

A. Account 356 provides another example of the reasonableness of ARVEC's position regarding depreciation rates. The curve I selected for this account is the R2-68 curve, and the curve the Company selected is the R3-60 curve. The graph below shows these two curves juxtaposed with the OLT curve.

[41] Direct Exhibit DG 2-7.

Figure 4:
Account 356 – Overhead Conductors and Devices



As shown in the graph, the Company's curve shape is too steep and begins to decline sharply at about 40 years. As discussed above, the "tail" end of the OLT curve can sometimes be unreliable for curve-fitting, however, that is not the case here, as the tail end of the curve is represented by a sufficient dollar amount of exposures to be statistically relevant and reliable. The Company's selected curve does not give enough weight to these reliable data points, and ultimately overestimates the proposed depreciation expense for this account.

Q. Does your selected curve provide a better fit to the observed data?

A. Yes, however, the curve I selected is not the mathematically best fitting curve. Notice there is a third Iowa curve in the chart above – the R2-80 curve. This curve actually represents the best mathematical fit of the three curves. If I had chosen this curve for this account, it would have resulted in an even lower proposed depreciation expense. In the interest of reasonableness, however, I chose the R2-68 curve. As discussed above, I did not always select the mathematically-best fitting curve for each account. Furthermore, in order to be conservative, when I selected a curve other than the best mathematical fit out of professional judgment, I always chose a shorter curve, which results in higher depreciation expense. Account 356 provides a good illustration of that fact.

Q. Describe the dollar impact on your adjustment as a result of selecting the R2-68 curve for this account.

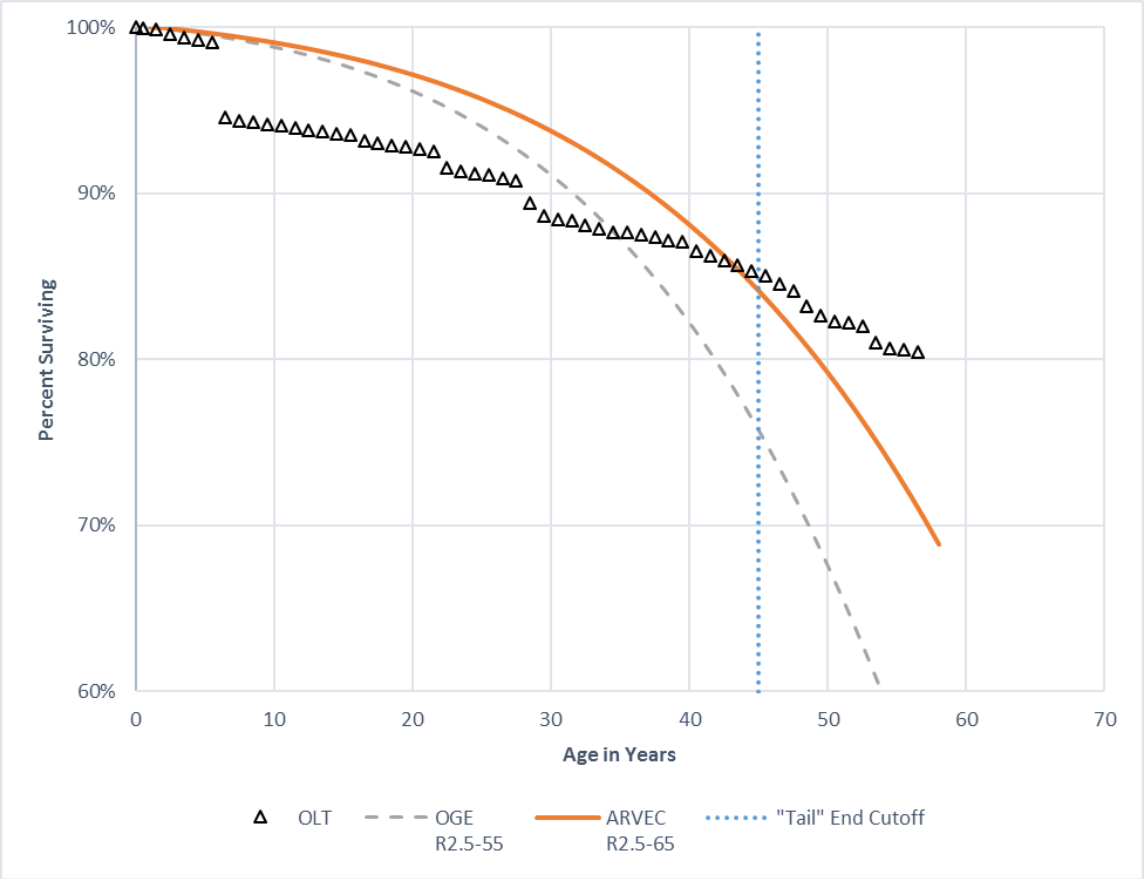
A. My adjustment for this account reduces proposed depreciation expense by $2.2 million (or about $200,400 for the Arkansas jurisdiction).

3. <u>Account 366 – Underground Conduit</u>

Q. Describe your service life estimate for this account, and compare it with the Company's estimate.

A. For this account, I selected the R2.5-65 curve and the Company selected the R.25-55 curve. So while the Company and I chose the same curve shape (R2), our selected average lives are separated by 10 years. The graph below shows these two curves along with the OLT curve.

Figure 5:
Account 366 – Underground Conduit



Q. Does your selected curve provide a better mathematical fit to the observed data than the Company's curve?

A. Yes. Once again, the Company's curve is too short, which understates the average service life for this group of assets and overstates depreciation expense. This is true not only when conducting curve-fitting techniques on the entire OLT curve for this account, but also when considering the most statistically meaningful portion of the curve. As discussed above, the "tail" end of certain OLT curves can have less statistical value because they represent an insignificant amount of dollar exposures, as is the case here. All of the data points to the right of the vertical dotted line in the graph above represent dollar exposures that are less

than one percent of beginning exposures in this account. Regardless, the R2.5-65 curve I selected provides a better fit to the data under either scenario than the curve proposed by the Company.[42]

Q. Describe the dollar impact of selecting the R2.5-65 Iowa curve for this account.

A. My adjustment for this account reduces proposed depreciation expense by about $875,000 (or about $80,000 for the Arkansas jurisdiction).

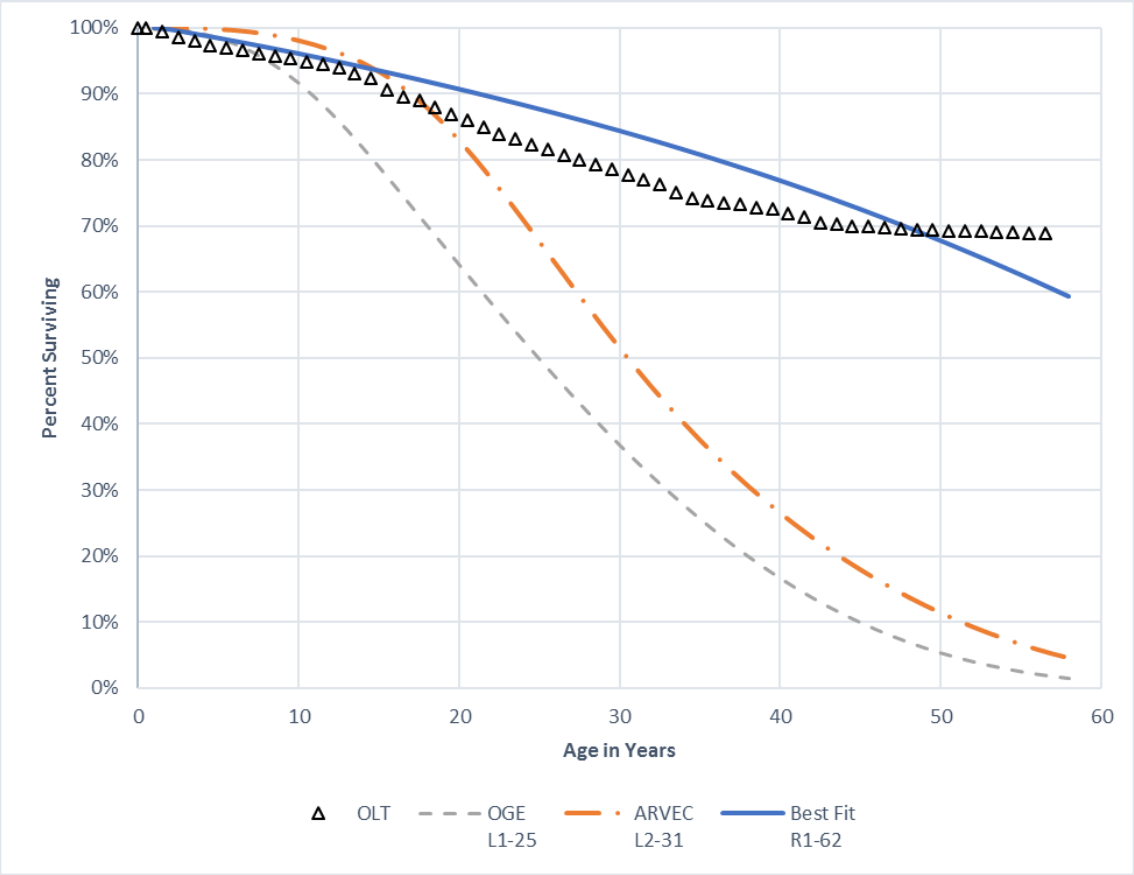
4. <u>Account 373 – Street Lighting and Signal Systems</u>

Q. Describe your service life estimate for this account, and compare it with the Company's estimate.

A. The Company's selected curve for this account does not provide a good fit to the observed data. As shown in the graph below, the black triangles represent the Company's actual retirement data based on the experience in this account. The Company's L1-25 curve is shown by the dotted line. It is clear that the Company's selected curve does not even closely track the actual data. The graph below shows the OLT curve along with the Company's L1-25 curve and the L2-31 curve I selected. It also shows the R1-62, which provides a better mathematical fit to the observed data for this account than the other two curves. Account 373 provides another example where I did not select the mathematically best fitting curve in the interest of reasonableness

[42] Direct Exhibit DG 2-9.

Figure 6:
Account 373 – Street Lighting and Signal Systems



Q. Does your selected curve provide a better mathematical fit to the observed data than the Company's curve?

A. Yes. While I did not choose the mathematically best fitting curve in the interest of reasonableness, the curve I selected provides a much better fit to the data than the Company's curve. Specifically, the curve I selected has an SSD of 7.7062, while the curve the Company selected has a much higher SSD of 11.2473.[43]

[43] Direct Exhibit DG 2-10.

Q. Describe the dollar impact on your adjustment as a result of selecting the R2.5-65 Iowa curve for this account.

A. My adjustment for this account reduces proposed depreciation expense by $2.3 million (or about $217,000 for the Arkansas jurisdiction).

5. <u>Account 303.20 – Software</u>

Q. Describe the Company's position regarding Account 303.20 – Software.

A. The balance in the Company's software account, Account 303.2, was $63.2 million as of the study date. The Company is proposing an SQ-10 curve to represent the service life of these assets, which results in a composite remaining life of 8.5 years and a depreciation rate of 6.24%.[44]

Q. Do you agree with the Company's proposal regarding this account?

A. No. By choosing an SQ-10 curve for software, the Company estimates that the average service life of its software programs are only 10 years on average. While a 10-year average life may be an appropriate estimate for basic consumer software systems, it is likely insufficient to accurately describe the service life of major software systems. Unlike basic consumer software systems, large enterprise software systems can be customized to the specific needs of the company. These modular systems require substantial upfront engineering costs along with periodic maintenance and support fees to ensure that the system performs reliably over a long period of time. For example, many utility companies

[44] Depreciation study, p. VI-4.

rely on Enterprise Resource Planning ("ERP") systems comprising a suite of modular applications that collect and integrate data from different facets of the firm.

Q. Are you aware of service life estimates of Enterprise Resource Planning systems of 20 years or more?

A. Yes. ERP systems are designed to provide long term solutions to companies. SAP is one of several providers of ERP systems.[45] According to a report by CGI Consulting Services, SAP systems can last 25 – 30 years.[46] Given the extremely high installation costs for these complex systems as well as the annual maintenance fees, it is not surprising that companies using ERP systems would demand that the systems last longer than 10 years.

Q. Have utility companies recognized that their ERP systems can last at least 20 years?

A. Yes. Florida Power & Light ("FP&L") is one of many utilities that utilize ERP systems. In 2011, FP&L implemented SAP's ERP system to replace its previous accounting system.[47] FP&L had previously amortized its software over a five-year period. FP&L, however, requested that the amortization period be extended to 20 years in order to reflect the much longer lifespan of the new ERP system.[48] Kim Ousdahl, FP&L's Vice President, Controller and Chief Accounting Officer, gave the following testimony regarding FP&L's software account:

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[45] SAP ERP is enterprise resource planning software developed by the German company SAP SE.

[46] *Taking the Long View to SAP Value*, CGI, "Enlightened Managed Services Series," CGI Group Inc. 2011 p. 2.

[47] Petition for Rate Increase by Florida Power & Light Company, Docket No. 120015-EI, Testimony & Exhibits of Kim Ousdahl. p. 14.

[48] *Id*.

> In 2011, the Company implemented a new general ledger accounting system (SAP) to replace its legacy system. . . . FPL's policy for accounting for new software requires . . . amortization on a straight-line basis over a period of five years, which is the current amortization period approved for this account. The Company is requesting to extend the amortization period of this system from five to twenty years in order to more appropriately recognize the longer benefit period expected from this major business system.[49]

While a 10-year average life may have been appropriate for older, more basic software systems, it does not reflect the much longer service life of newer, more complex systems.

Q. Does OG&E still utilize software nearly 20 years old?

A. Yes. According to the Company, it still uses software that was installed in 1998.[50]

Q. Are you recommending that the Company extend the service life of its software account to 20 years?

A. No. Although it would be reasonable to consider a 20-year lifespan for the Company's software account, I am recommending a more conservative 15-year lifespan for this account. I have calculated the remaining lives and depreciation rates for Account 303.2 under an SQ-15 curve, which results in a composite remaining life of 13.6 years and a depreciation rate of 3.9%.[51] The impact of this adjustment reduces the proposed total Company depreciation expense by $2.3 million (and approximately $200,000 for the Arkansas jurisdiction).

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[49] *Id.*

[50] *See* response to DR ARVEC 3.12.

[51] Direct Exhibit DG 2-11.

VII. CONCLUSION AND RECOMMENDATION

Q. Summarize the key points of your testimony.

A. I employed a well-established depreciation system and used actuarial analysis to statistically analyze the Company's depreciable assets in order to develop reasonable depreciation rates in this case. I recommended removing OG&E's proposed terminal net salvage of $772 million because the Company did not meet its burden of proof with regard to that issue. I also proposed extending the probable life of OG&E's wind units by five years. Finally, I proposed better-fitting Iowa curve shapes and average service lives to the Company's mass property accounts.

Q. What is ARVEC's recommendation to the Commission with regard to depreciation rates and expense?

A. ARVEC recommends that the Commission adopt the proposed depreciation rates presented in Direct Exhibit DG 2-3. Applying these rates to the Company's pro forma plant balances results in an adjustment reducing the total Company-proposed annual depreciation expense for electric plant by $49.9 million, and reduces the Arkansas jurisdictional proposed expense by approximately $4.5 million.

Q. Does this conclude your testimony?

A. Yes, including any exhibits, appendices, and other items attached hereto. I reserve the right to supplement this testimony as needed with any additional information that has been requested from the Company but not yet provided.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I, Thomas P. Schroedter, do hereby certify that a copy of the foregoing has been served upon all parties of record by forwarding the same by electronic mail this 31st day of January 2017.

Thomas P. Schroedter

APPENDIX A:

THE DEPRECIATION SYSTEM

A depreciation accounting system may be thought of as a dynamic system in which estimates of life and salvage are inputs to the system, and the accumulated depreciation account is a measure of the state of the system at any given time.[52] The primary objective of the depreciation system is the timely recovery of capital. The process for calculating the annual accruals is determined by the factors required to define the system. A depreciation system should be defined by four primary factors: 1) a method of allocation; 2) a procedure for applying the method of allocation to a group of property; 3) a technique for applying the depreciation rate; and 4) a model for analyzing the characteristics of vintage groups comprising a continuous property group.[53] The figure below illustrates the basic concept of a depreciation system and includes some of the available parameters.[54]

There are hundreds of potential combinations of methods, procedures, techniques, and models, but in practice, analysts use only a few combinations. Ultimately, the system selected must result in the systematic and rational allocation of capital recovery for the utility. Each of the four primary factors defining the parameters of a depreciation system is discussed further below.

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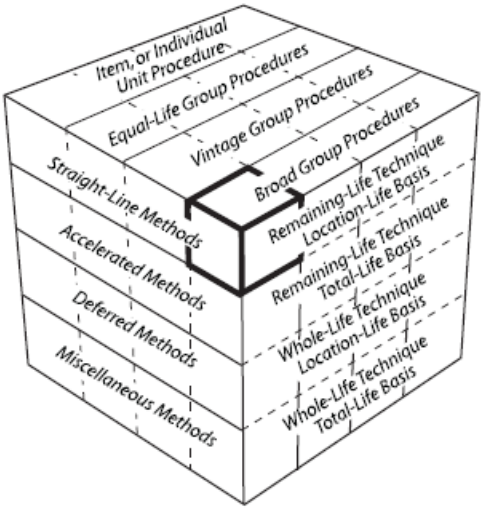
[52] Wolf *supra* n. 7, at 69-70.

[53] *Id.* at 70, 139-40.

[54] Edison Electric Institute, *Introduction to Depreciation* (inside cover) (EEI April 2013). Some definitions of the terms shown in this diagram are not consistent among depreciation practitioners and literature due to the fact that depreciation analysis is a relatively small and fragmented field. This diagram simply illustrates the some of the available parameters of a depreciation system.

Figure 7:
The Depreciation System Cube



1. <u>Allocation Methods</u>

The "method" refers to the pattern of depreciation in relation to the accounting periods. The method most commonly used in the regulatory context is the "straight-line method" – a type of age-life method in which the depreciable cost of plant is charged in equal amounts to each accounting period over the service life of plant.[55] Because group depreciation rates and plant balances often change, the amount of the annual accrual rarely remains the same, even when the straight-line method is employed.[56] The basic formula for the straight-line method is as follows:[57]

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[55] NARUC *supra* n. 8, at 56.

[56] *Id*.

[57] *Id*.

Equation 1:
Straight-Line Accrual

$$Annual\ Accrual = \frac{Gross\ Plant - Net\ Salavage}{Service\ Life}$$

Gross plant is a known amount from the utility's records, while both net salvage and service life must be estimated in order to calculate the annual accrual. The straight-line method differs from accelerated methods of recovery, such as the "sum-of-the-years-digits" method and the "declining balance" method. Accelerated methods are primarily used for tax purposes and are rarely used in the regulatory context for determining annual accruals.[58] In practice, the annual accrual is expressed as a rate which is applied to the original cost of plant in order to determine the annual accrual in dollars. The formula for determining the straight-line rate is as follows:[59]

Equation 2:
Straight-Line Rate

$$Depreciation\ Rate\ \% = \frac{100 - Net\ Salvage\ \%}{Service\ Life}$$

2. Grouping Procedures

The "procedure" refers to the way the allocation method is applied through subdividing the total property into groups.[60] While single units may be analyzed for depreciation, a group plan of depreciation is particularly adaptable to utility property. Employing a grouping procedure allows for a composite application of depreciation rates to groups of similar property, rather than

[58] *Id*. at 57.

[59] *Id*. at 56.

[60] Wolf *supra* n. 7, at 74-75.

excessively conducting calculations for each unit. Whereas an individual unit of property has a single life, a group of property displays a dispersion of lives and the life characteristics of the group must be described statistically.[61] When analyzing mass property categories, it is important that each group contains homogenous units of plant that are used in the same general manner throughout the plant and operated under the same general conditions.[62]

The "average life" and "equal life" grouping procedures are the two most common. In the average life procedure, a constant annual accrual rate based on the average life of all property in the group is applied to the surviving property. While property having shorter lives than the group average will not be fully depreciation, and likewise, property having longer lives than the group average will be over-depreciated, the ultimate result is that the group will be fully depreciated by the time of the final retirement.[63] Thus, the average life procedure treats each unit as though its life is equal to the average life of the group. In contrast, the equal life procedure treats each unit in the group as though its life was known.[64] Under the equal life procedure the property is divided into subgroups that each has a common life.[65]

3. Application Techniques

The third factor of a depreciation system is the "technique" for applying the depreciation rate. There are two commonly used techniques: "whole life" and "remaining life." The whole life

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[61] *Id*. at 74.

[62] NARUC *supra* n. 8, at 61-62.

[63] *See* Wolf *supr*a n. 7, at 74-75.

[64] *Id*. at 75.

[65] *Id*.

technique applies the depreciation rate on the estimated average service life of group, while the remaining life technique seeks to recover undepreciated costs over the remaining life of the plant.[66]

In choosing the application technique, consideration should be given to the proper level of the accumulated depreciation account. Depreciation accrual rates are calculated using estimates of service life and salvage. Periodically these estimates must be revised due to changing conditions, which cause the accumulated depreciation account to be higher or lower than necessary. Unless some corrective action is taken, the annual accruals will not equal the original cost of the plant at the time of final retirement.[67] Analysts can calculate the level of imbalance in the accumulated depreciation account by determining the "calculated accumulated depreciation," (a.k.a. "theoretical reserve" and referred to in these appendices as "CAD"). The CAD is the calculated balance that would be in the accumulated depreciation account at a point in time using current depreciation parameters.[68] An imbalance exists when the actual accumulated depreciation account does not equal the CAD. The choice of application technique will affect how the imbalance is dealt with.

Use of the whole life technique requires that an adjustment be made to accumulated depreciation after calculation of the CAD. The adjustment can be made in a lump sum or over a period of time. With use of the remaining life technique, however, adjustments to accumulated depreciation are amortized over the remaining life of the property and are automatically included

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[66] NARUC *supra* n. 8, at 63-64.

[67] Wolf *supra* n. 7, at 83.

[68] NARUC *supra* n. 8, at 325.

in the annual accrual.[69] This is one reason that the remaining life technique is popular among practitioners and regulators. The basic formula for the remaining life technique is as follows:[70]

Equation 3:
Remaining Life Accrual

$$Annual\ Accrual = \frac{Gross\ Plant - Accumulated\ Depreciation - Net\ Salvage}{Average\ Remaining\ Life}$$

The remaining life accrual formula is similar to the basic straight-line accrual formula above with two notable exceptions. First, the numerator has an additional factor in the remaining life formula: the accumulated depreciation. Second, the denominator is "average remaining life" instead of "average life." Essentially, the future accrual of plant (gross plant less accumulated depreciation) is allocated over the remaining life of plant. Thus, the adjustment to accumulated depreciation is "automatic" in the sense that it is built into the remaining life calculation.[71]

4. Analysis Model

The fourth parameter of a depreciation system, the "model," relates to the way of viewing the life and salvage characteristics of the vintage groups that have been combined to form a continuous property group for depreciation purposes.[72] A continuous property group is created when vintage groups are combined to form a common group. Over time, the characteristics of the property may change, but the continuous property group will continue. The two analysis models

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[69] NARUC *supra* n. 8, at 65 ("The desirability of using the remaining life technique is that any necessary adjustments of [accumulated depreciation] . . . are accrued automatically over the remaining life of the property. Once commenced, adjustments to the depreciation reserve, outside of those inherent in the remaining life rate would require regulatory approval.").

[70] *Id*. at 64.

[71] Wolf *supra* n. 7, at 178.

[72] *See* Wolf *supra* n. 7, at 139 (I added the term "model" to distinguish this fourth depreciation system parameter from the other three parameters).

used among practitioners, the "broad group" and the "vintage group," are two ways of viewing the life and salvage characteristics of the vintage groups that have been combined to from a continuous property group.

The broad group model views the continuous property group as a collection of vintage groups that each has the same life and salvage characteristics. Thus, a single survivor curve and a single salvage schedule are chosen to describe all the vintages in the continuous property group. In contrast, the vintage group model views the continuous property group as a collection of vintage groups that may have different life and salvage characteristics. Typically, there is not a significant difference between vintage group and broad group results unless vintages within the applicable property group experienced dramatically different retirement levels than anticipated in the overall estimated life for the group. For this reason, many analysts utilize the broad group procedure because it is more efficient.

APPENDIX B:

IOWA CURVES

Early work in the analysis of the service life of industrial property was based on models that described the life characteristics of human populations.[73] This explains why the word "mortality" is often used in the context of depreciation analysis. In fact, a group of property installed during the same accounting period is analogous to a group of humans born during the same calendar year. Each period the group will incur a certain fraction of deaths / retirements until there are no survivors. Describing this pattern of mortality is part of actuarial analysis, and is regularly used by insurance companies to determine life insurance premiums. The pattern of mortality may be described by several mathematical functions, particularly the survivor curve and frequency curve. Each curve may be derived from the other so that if one curve is known, the other may be obtained. A survivor curve is a graph of the percent of units remaining in service expressed as a function of age.[74] A frequency curve is a graph of the frequency of retirements as a function of age. Several types of survivor and frequency curves are illustrated in the figures below.

1. Development

The survivor curves used by analysts today were developed over several decades from extensive analysis of utility and industrial property. In 1931 Edwin Kurtz and Robley Winfrey used extensive data from a range of 65 industrial property groups to create survivor curves representing the life characteristics of each group of property.[75] They generalized the 65 curves

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[73] Wolf *supra* n. 7, at 276.

[74] *Id*. at 23.

[75] *Id*. at 34.

into 13 survivor curve types and published their results in *Bulletin 103: Life Characteristics of Physical Property*. The 13 type curves were designed to be used as valuable aids in forecasting probable future service lives of industrial property. Over the next few years, Winfrey continued gathering additional data, particularly from public utility property, and expanded the examined property groups from 65 to 176.[76] This resulted in 5 additional survivor curve types for a total of 18 curves. In 1935, Winfrey published *Bulletin 125: Statistical Analysis of Industrial Property Retirements*. According to Winfrey, "[t]he 18 type curves are expected to represent quite well all survivor curves commonly encountered in utility and industrial practices."[77] These curves are known as the "Iowa curves" and are used extensively in depreciation analysis in order to obtain the average service lives of property groups. (Use of Iowa curves in actuarial analysis is further discussed in Appendix C.)

In 1942, Winfrey published *Bulletin 155: Depreciation of Group Properties*. In Bulletin 155, Winfrey made some slight revisions to a few of the 18 curve types, and published the equations, tables of the percent surviving, and probable life of each curve at five-percent intervals.[78] Rather than using the original formulas, analysts typically rely on the published tables containing the percentages surviving. This is because absent knowledge of the integration technique applied to each age interval, it is not possible to recreate the exact original published table values. In the 1970s, John Russo collected data from over 2,000 property accounts reflecting

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[76] *Id*.

[77] Robley Winfrey, *Bulletin 125: Statistical Analyses of Industrial Property Retirements* 85, Vol. XXXIV, No. 23 (Iowa State College of Agriculture and Mechanic Arts 1935).

[78] Robley Winfrey, Bulletin 155: *Depreciation of Group Properties* 121-28, Vol XLI, No. 1 (The Iowa State College Bulletin 1942); *see also* Wolf supra n. 7, at 305-38 (publishing the percent surviving for each Iowa curve, including "O" type curve, at one percent intervals).

observations during the period 1965 – 1975 as part of his Ph.D. dissertation at Iowa State. Russo essentially repeated Winfrey's data collection, testing, and analysis methods used to develop the original Iowa curves, except that Russo studied industrial property in service several decades after Winfrey published the original Iowa curves. Russo drew three major conclusions from his research:[79]

1. No evidence was found to conclude that the Iowa curve set, as it stands, is not a valid system of standard curves;
2. No evidence was found to conclude that new curve shapes could be produced at this time that would add to the validity of the Iowa curve set; and
3. No evidence was found to suggest that the number of curves within the Iowa curve set should be reduced.

Prior to Russo's study, some had criticized the Iowa curves as being potentially obsolete because their development was rooted in the study of industrial property in existence during the early 1900s. Russo's research, however, negated this criticism by confirming that the Iowa curves represent a sufficiently wide range of life patterns, and that though technology will change over time, the underlying patterns of retirements remain constant and can be adequately described by the Iowa curves.[80]

Over the years, several more curve types have been added to Winfrey's 18 Iowa curves. In 1967, Harold Cowles added four origin-modal curves. In addition, a square curve is sometimes used to depict retirements which are all planned to occur at a given age. Finally, analysts

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[79] *See* Wolf *supra* n. 7, at 37.

[80] *Id*.

commonly rely on several "half curves" derived from the original Iowa curves. Thus, the term "Iowa curves" could be said to describe up to 31 standardized survivor curves.

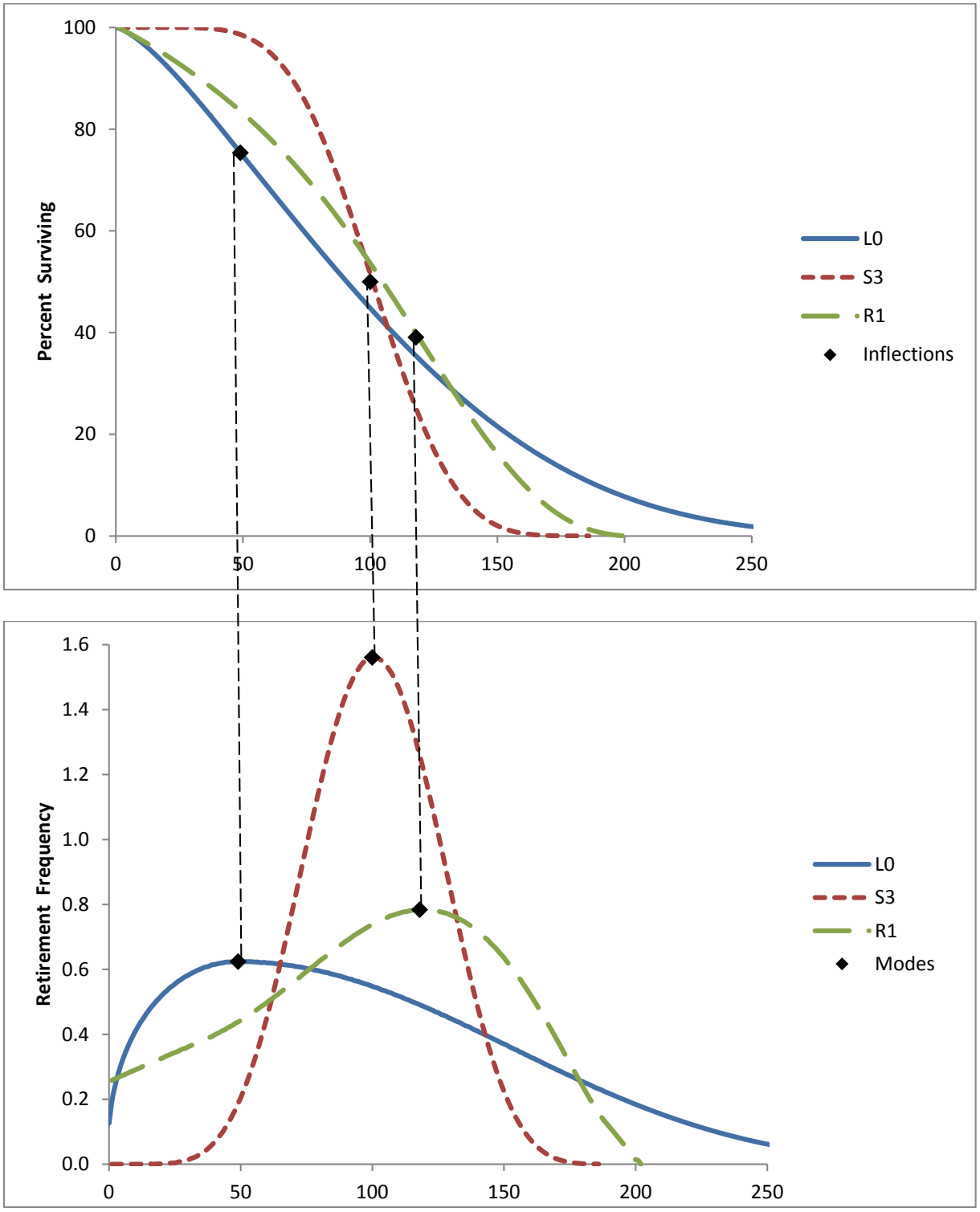
2. Classification

The Iowa curves are classified by three variables: modal location, average life, and variation of life. First, the mode is the percent life that results in the highest point of the frequency curve and the "inflection point" on the survivor curve. The modal age is the age at which the greatest rate of retirement occurs. As illustrated in the figure below, the modes appear at the steepest point of each survivor curve in the top graph, as well as the highest point of each corresponding frequency curve in the bottom graph.

The classification of the survivor curves was made according to whether the mode of the retirement frequency curves was to the left, to the right, or coincident with average service life. There are three modal "families" of curves: six left modal curves (L0, L1, L2, L3, L4, L5); five right modal curves (R1, R2, R3, R4, R5); and seven symmetrical curves (S0, S1, S2, S3, S4, S5, S6).[81] In the figure below, one curve from each family is shown: L0, S3 and R1, with average life at 100 on the x-axis. It is clear from the graphs that the modes for the L0 and R1 curves appear to the left and right of average life respectively, while the S3 mode is coincident with average life.

[81] In 1967, Harold A. Cowles added four origin-modal curves known as "O type" curves. There are also several "half" curves and a square curve, so the total amount of survivor curves commonly called "Iowa" curves is about 31 (see NARUC supra n. 8, at 68).

Figure 8:
Modal Age Illustration



The second Iowa curve classification variable is average life. The Iowa curves were designed using a single parameter of age expressed as a percent of average life instead of actual age. This was necessary in order for the curves to be of practical value. As Winfrey notes:

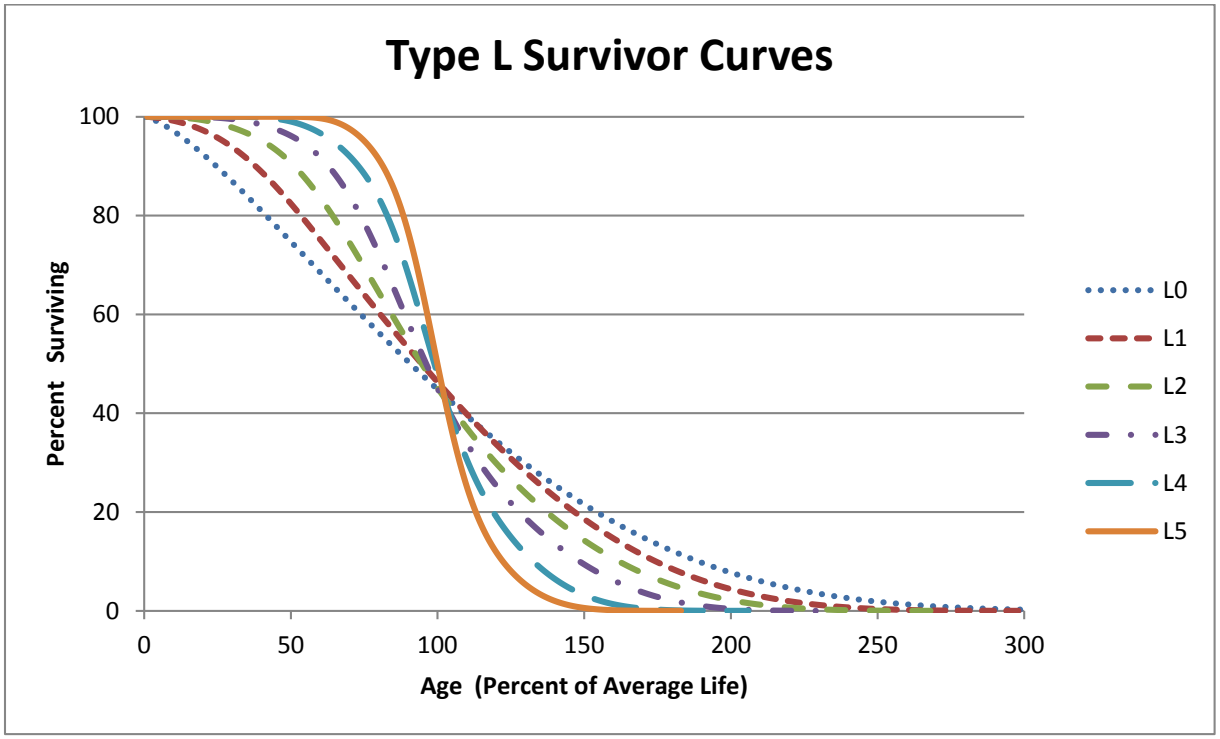
> Since the location of a particular survivor on a graph is affected by both its span in years and the shape of the curve, it is difficult to classify a group of curves unless one of these variables can be controlled. This is easily done by expressing the age in percent of average life."[82]

Because age is expressed in terms of percent of average life, any particular Iowa curve type can be modified to forecast property groups with various average lives.

The third variable, variation of life, is represented by the numbers next to each letter. A lower number (e.g., L1) indicates a relatively low mode, large variation, and large maximum life; a higher number (e.g., L5) indicates a relatively high mode, small variation, and small maximum life. All three classification variables – modal location, average life, and variation of life – are used to describe each Iowa curve. For example, a 13-L1 Iowa curve describes a group of property with a 13-year average life, with the greatest number of retirements occurring before (or to the left of) the average life, and a relatively low mode. The graphs below show these 18 survivor curves, organized by modal family.

[82] Winfrey, *Bulletin 125: Statistical Analyses of Industrial Property Retirements* 60, Vol. XXXIV, No. 23 (Iowa State College of Agriculture and Mechanic Arts 1935).

Figure 9:
Type L Survivor and Frequency Curves



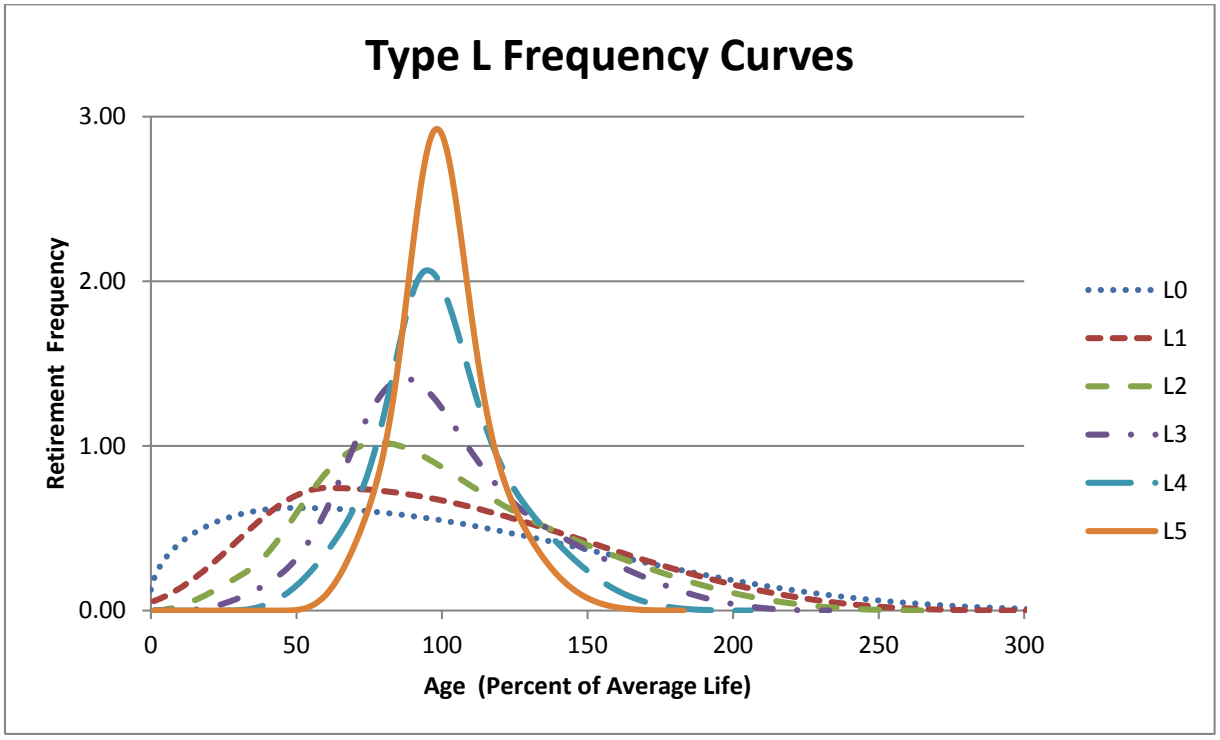
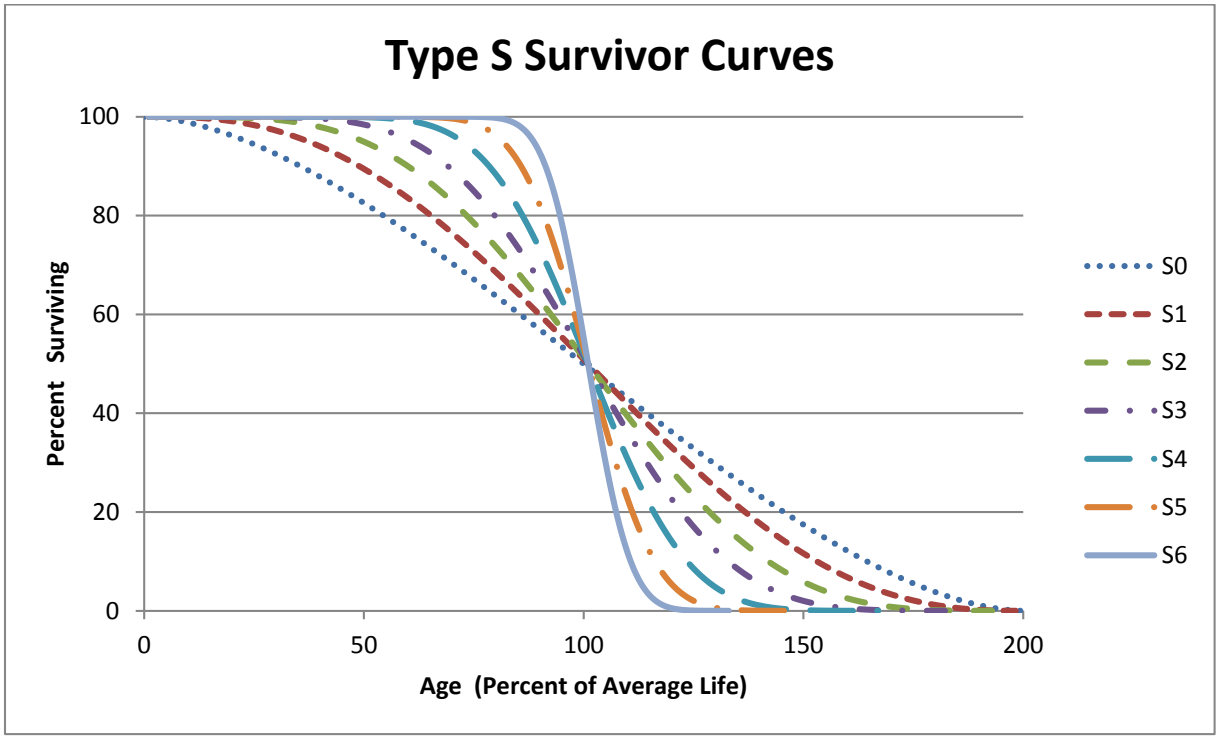


Figure 10:
Type S Survivor and Frequency Curves



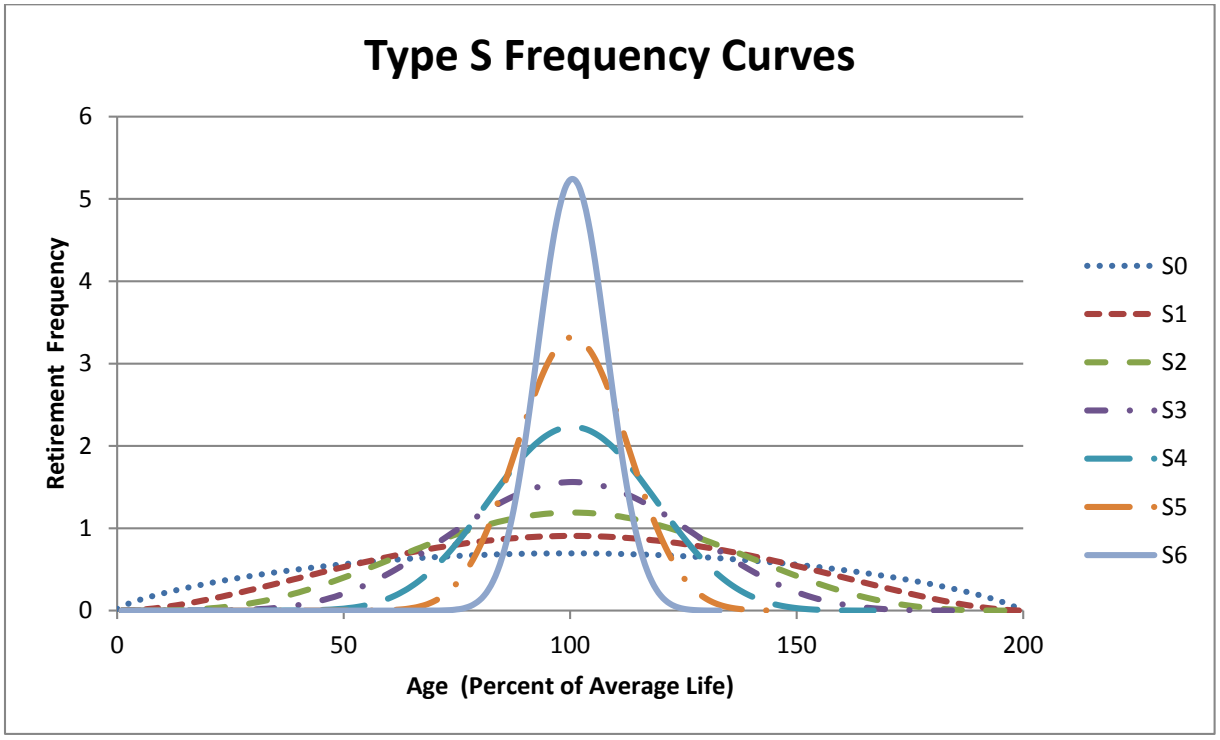
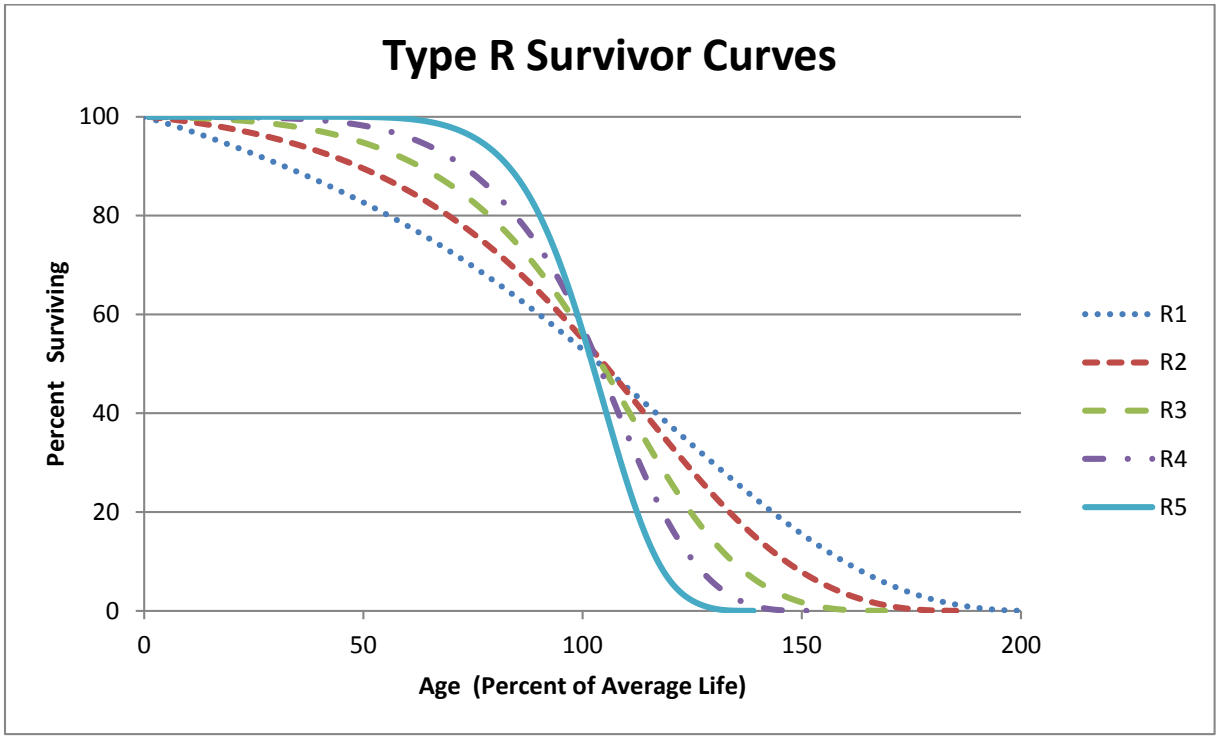
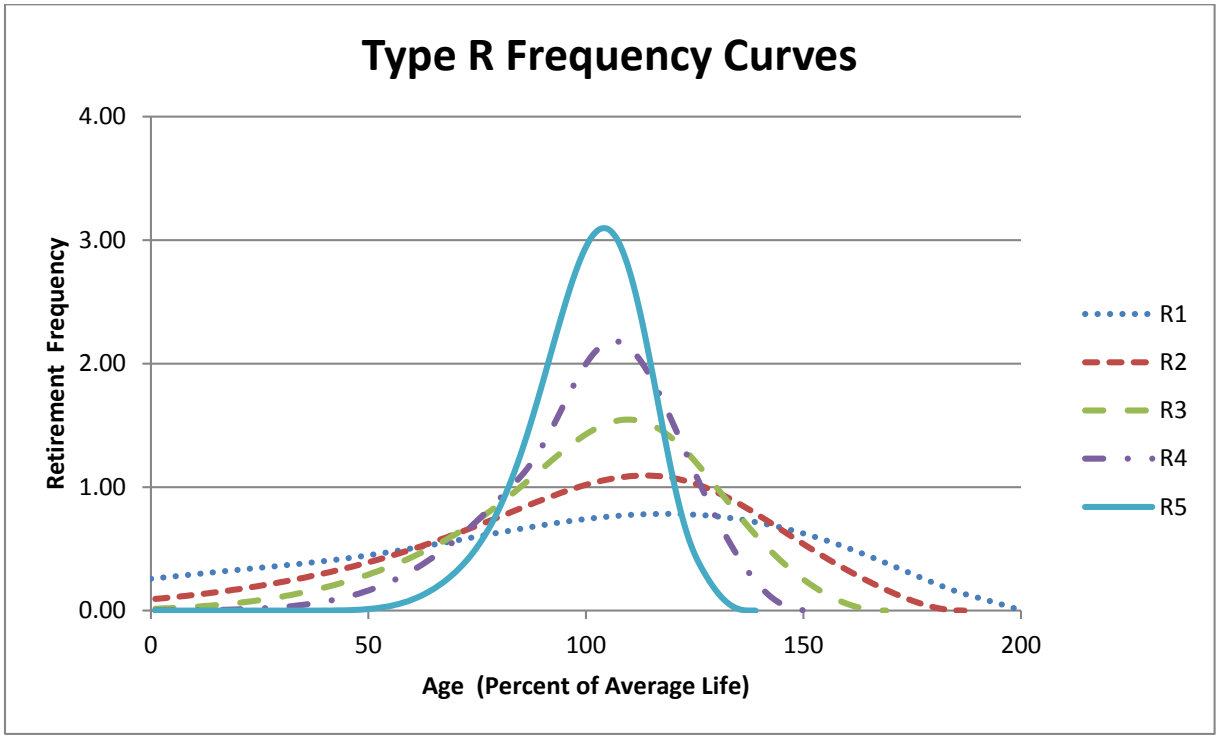


Figure 11:
Type R Survivor and Frequency Curves





As shown in the graphs above, the modes for the L family frequency curves occur to the left of average life (100% on the x-axis), while the S family modes occur at the average, and the R family modes occur after the average.

3. Types of Lives

Several other important statistical analyses and types of lives may be derived from an Iowa curve. These include: 1) average life; 2) realized life; 3) remaining life; and 4) probable life. The figure below illustrates these concepts. It shows the frequency curve, survivor curve, and probable life curve. Age M_x on the x-axis represents the modal age, while age AL_x represents the average age. Thus, this figure illustrates an "L type" Iowa curve since the mode occurs before the average.[83]

First, average life is the area under the survivor curve from age zero to maximum life. Because the survivor curve is measured in percent, the area under the curve must be divided by 100% to convert it from percent-years to years. The formula for average life is as follows:[84]

Equation 4:
Average Life

$$Average\ Life\ = \frac{Area\ Under\ Survivor\ Curve\ from\ Age\ 0\ to\ Max\ Life}{100\%}$$

Thus, average life may not be determined without a complete survivor curve. Many property groups being analyzed will not have experienced full retirement. This results in a "stub" survivor

[83] From age zero to age M_x on the survivor curve, it could be said that the percent surviving from this property group is decreasing at an increasing rate. Conversely, from point M_x to maximum on the survivor curve, the percent surviving is decreasing at a decreasing rate.

[84] *See* NARUC *supra* n. 8, at 71.

curve. Iowa curves are used to extend stub curves to maximum life in order for the average life calculation to be made (see Appendix C).

Realized life is similar to average life, except that realized life is the average years of service experienced to date from the vintage's original installations.[85] As shown in the figure below, realized life is the area under the survivor curve from zero to age RL_X. Likewise, unrealized life is the area under the survivor curve from age RL_X to maximum life. Thus, it could be said that average life equals realized life plus unrealized life.

Average remaining life represents the future years of service expected from the surviving property.[86] Remaining life is sometimes referred to as "average remaining life" and "life expectancy." To calculate average remaining life at age x, the area under the estimated future potion of the survivor curve is divided by the percent surviving at age x (denoted S_X). Thus, the average remaining life formula is:

Equation 5:
Average Remaining Life

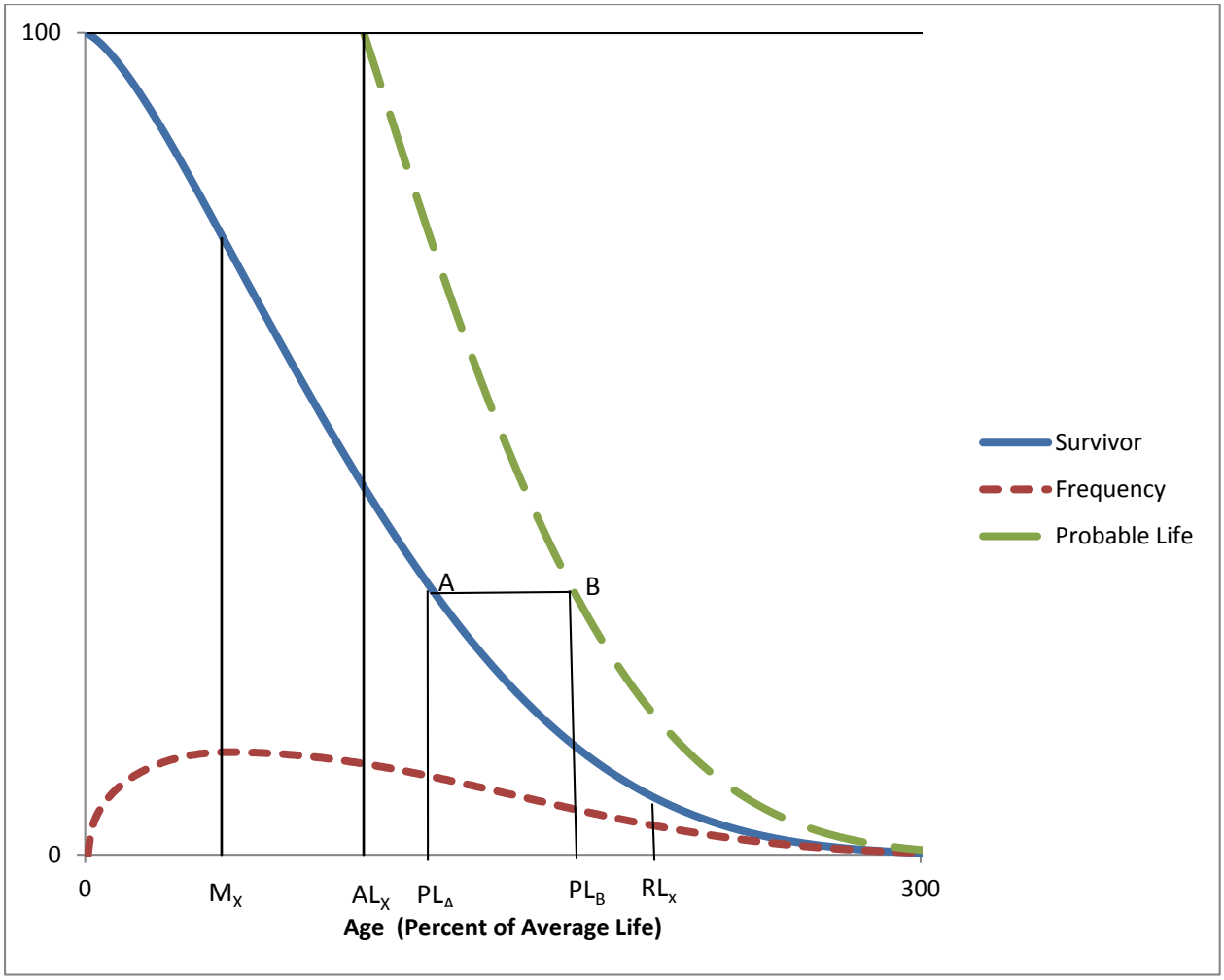
$$Average\ Remaining\ Life\ = \frac{Area\ Under\ Survivor\ Curve\ from\ Age\ x\ to\ Max\ Life}{S_X}$$

It is necessary to determine average remaining life in order to calculate the annual accrual under the remaining life technique.

[85] *Id*. at 73.

[86] *Id*. at 74.

Figure 12:
Iowa Curve Derivations



Finally, the probable life may also be determined from the Iowa curve. The probable life of a property group is the total life expectancy of the property surviving at any age and is equal to the remaining life plus the current age.[87] The probable life is also illustrated in this figure. The probable life at age PL_A is the age at point PL_B. Thus, to read the probable life at age PL_A, see the

[87] Wolf *supra* n. 7, at 28.

corresponding point on the survivor curve above at point "A," then horizontally to point "B" on the probable life curve, and back down to the age corresponding to point "B." It is no coincidence that the vertical line from AL_X connects at the top of the probable life curve. This is because at age zero, probable life equals average life.

APPENDIX C:
ACTUARIAL ANALYSIS

Actuarial science is a discipline that applies various statistical methods to assess risk probabilities and other related functions. Actuaries often study human mortality. The results from historical mortality data are used to predict how long similar groups of people who are alive will live today. Insurance companies rely of actuarial analysis in determining premiums for life insurance policies.

The study of human mortality is analogous to estimating service lives of industrial property groups. While some humans die solely from chance, most deaths are related to age; that is, death rates generally increase as age increases. Similarly, physical plant is also subject to forces of retirement. These forces include physical, functional, and contingent factors, as shown in the table below.[88]

Figure 13:
Forces of Retirement

Physical Factors	Functional Factors	Contingent Factors
Wear and tear Decay or deterioration Action of the elements	Inadequacy Obsolescence Changes in technology Regulations Managerial discretion	Casualties or disasters Extraordinary obsolescence

While actuaries study historical mortality data in order to predict how long a group of people will live, depreciation analysts must look at a utility's historical data in order to estimate the average lives of property groups. A utility's historical data is often contained in the Continuing

[88] NARUC *supra* n. 8, at 14-15.

Property Records ("CPR"). Generally, a CPR should contain 1) an inventory of property record units; 2) the association of costs with such units; and 3) the dates of installation and removal of plant. Since actuarial analysis includes the examination of historical data to forecast future retirements, the historical data used in the analysis should not contain events that are anomalous or unlikely to recur.[89] Historical data is used in the retirement rate actuarial method, which is discussed further below.

The Retirement Rate Method

There are several systematic actuarial methods that use historical data in order to calculating observed survivor curves for property groups. Of these methods, the retirement rate method is superior, and is widely employed by depreciation analysts.[90] The retirement rate method is ultimately used to develop an observed survivor curve, which can be fitted with an Iowa curve discussed in Appendix B in order to forecast average life. The observed survivor curve is calculated by using an observed life table ("OLT"). The figures below illustrate how the OLT is developed. First, historical property data are organized in a matrix format, with placement years on the left forming rows, and experience years on the top forming columns. The placement year (a.k.a. "vintage year" or "installation year") is the year of placement of a group of property. The experience year (a.k.a. "activity year") refers to the accounting data for a particular calendar year. The two matrices below use aged data – that is, data for which the dates of placements, retirements, transfers, and other transactions are known. Without aged data, the retirement rate actuarial method may not be employed. The first matrix is the exposure matrix, which shows the exposures

[89] *Id*. at 112-13.

[90] Anson Marston, Robley Winfrey & Jean C. Hempstead, *Engineering Valuation and Depreciation* 154 (2nd ed., McGraw-Hill Book Company, Inc. 1953).

at the beginning of each year.[91] An exposure is simply the depreciable property subject to retirement during a period. The second matrix is the retirement matrix, which shows the annual retirements during each year. Each matrix covers placement years 2003–2015, and experience years 2008-2015. In the exposure matrix, the number in the 2009 experience column and the 2003 placement row is $192,000. This means at the beginning of 2012, there was $192,000 still exposed to retirement from the vintage group placed in 2003. Likewise, in the retirement matrix, $19,000 of the dollars invested in 2003 was retired during 2012.

Figure 14:
Exposure Matrix

	Experience Years									
	Exposures at January 1 of Each Year (Dollars in 000's)									
Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
2003	261	245	228	211	**192**	173	152	131	131	11.5 - 12.5
2004	267	252	236	220	202	**184**	165	145	297	10.5 - 11.5
2005	304	291	277	263	248	232	**216**	198	536	9.5 - 10.5
2006	345	334	322	310	298	284	270	**255**	**847**	8.5 - 9.5
2007	367	357	347	335	324	312	299	286	1,201	7.5 - 8.5
2008	375	366	357	347	336	325	314	302	1,581	6.5 - 7.5
2009		377	366	356	346	336	327	319	1,986	5.5 - 6.5
2010			381	369	358	347	336	327	2,404	4.5 - 5.5
2011				386	372	359	346	334	2,559	3.5 - 4.5
2012					395	380	366	352	2,722	2.5 - 3.5
2013						401	385	370	2,866	1.5 - 2.5
2014							410	393	2,998	0.5 - 1.5
2015								416	3,141	0.0 - 0.5
Total	1919	2222	2514	2796	3070	3333	3586	3827	23,268	

[91] Technically, the last numbers in each column are "gross additions" rather than exposures. Gross additions do not include adjustments and transfers applicable to plant placed in a previous year. Once retirements, adjustments, and transfers are factored in, the balance at the beginning of the next account period is called an "exposure" rather than an addition.

Figure 15:
Retirement Matrix

	Experience Years									
	Retirments During the Year (Dollars in 000's)									
Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total During Age Interval	Age Interval
2003	16	17	18	19	**19**	20	21	23	23	11.5 - 12.5
2004	15	16	17	17	18	**19**	20	21	43	10.5 - 11.5
2005	13	14	14	15	16	17	**17**	18	59	9.5 - 10.5
2006	11	12	12	13	13	14	15	**15**	**71**	8.5 - 9.5
2007	10	11	11	12	12	13	13	14	82	7.5 - 8.5
2008	9	9	10	10	11	11	12	13	91	6.5 - 7.5
2009		11	10	10	9	9	9	8	95	5.5 - 6.5
2010			12	11	11	10	10	9	100	4.5 - 5.5
2011				14	13	13	12	11	93	3.5 - 4.5
2012					15	14	14	13	91	2.5 - 3.5
2013						16	15	14	93	1.5 - 2.5
2014							17	16	100	0.5 - 1.5
2015								18	112	0.0 - 0.5
Total	74	89	104	121	139	157	175	194	1,052	

These matrices help visualize how exposure and retirement data are calculated for each age interval. An age interval is typically one year. A common convention is to assume that any unit installed during the year is installed in the middle of the calendar year (i.e., July 1st). This convention is called the "half-year convention" and effectively assumes that all units are installed uniformly during the year.[92] Adoption of the half-year convention leads to age intervals of 0-0.5 years, 0.5-1.5 years, etc., as shown in the matrices.

The purpose of the matrices is to calculate the totals for each age interval, which are shown in the second column from the right in each matrix. This column is calculated by adding each number from the corresponding age interval in the matrix. For example, in the exposure matrix, the total amount of exposures at the beginning of the 8.5-9.5 age interval is $847,000. This number was calculated by adding the numbers shown on the "stairs" to the left (192+184+216+255=847).

[92] Wolf *supra* n. 7, at 22.

The same calculation is applied to each number in the column. The amounts retired during the year in the retirements matrix affect the exposures at the beginning of each year in the exposures matrix. For example, the amount exposed to retirement in 2008 from the 2003 vintage is $261,000. The amount retired during 2008 from the 2003 vintage is $16,000. Thus, the amount exposed to retirement in 2009 from the 2003 vintage is $245,000 ($261,000 - $16,000). The company's property records may contain other transactions which affect the property, including sales, transfers, and adjusting entries. Although these transactions are not shown in the matrices above, they would nonetheless affect the amount exposed to retirement at the beginning of each year.

The totaled amounts for each age interval in both matrices are used to form the exposure and retirement columns in the OLT, as shown in the chart below. This chart also shows the retirement ratio and the survivor ratio for each age interval. The retirement ratio for an age interval is the ratio of retirements during the interval to the property exposed to retirement at the beginning of the interval. The retirement ratio represents the probability that the property surviving at the beginning of an age interval will be retired during the interval. The survivor ratio is simply the complement to the retirement ratio (1 – retirement ratio). The survivor ratio represents the probability that the property surviving at the beginning of an age interval will survive to the next age interval.

Figure 16:
Observed Life Table

Age at Start of Interval	Exposures at Start of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	Percent Surviving at Start of Age Interval
A	B	C	D = C / B	E = 1 - D	F
0.0	3,141	112	0.036	0.964	**100.00**
0.5	2,998	100	0.033	0.967	**96.43**
1.5	2,866	93	0.032	0.968	**93.21**
2.5	2,722	91	0.033	0.967	**90.19**
3.5	2,559	93	0.037	0.963	**87.19**
4.5	2,404	100	0.042	0.958	**84.01**
5.5	1,986	95	0.048	0.952	**80.50**
6.5	1,581	91	0.058	0.942	**76.67**
7.5	1,201	82	0.068	0.932	**72.26**
8.5	847	71	0.084	0.916	**67.31**
9.5	536	59	0.110	0.890	**61.63**
10.5	297	43	0.143	0.857	**54.87**
11.5	131	23	0.172	0.828	**47.01**
					38.91
Total	23,268	1,052			

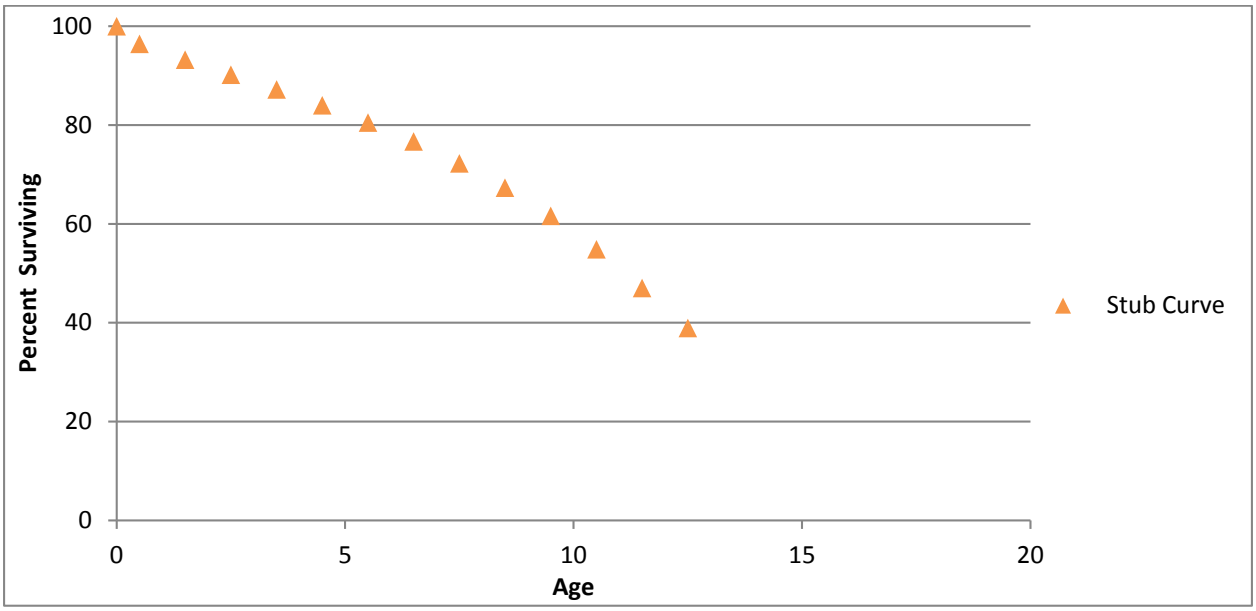
Column F on the right shows the percentages surviving at the beginning of each age interval. This column starts at 100% surviving. Each consecutive number below is calculated by multiplying the percent surviving from the previous age interval by the corresponding survivor ratio for that age interval. For example, the percent surviving at the start of age interval 1.5 is 93.21%, which was calculated by multiplying the percent surviving for age interval 0.5 (96.43%) by the survivor ratio for age interval 0.5 (0.967)[93].

The percentages surviving in Column F are the numbers that are used to form the original survivor curve. This particular curve starts at 100% surviving and ends at 38.91% surviving. An

[93] Multiplying 96.43 by 0.967 does not equal 93.21 exactly due to rounding.

observed survivor curve such as this that does not reach zero percent surviving is called a "stub" curve. The figure below illustrates the stub survivor curve derived from the OLT table above.

Figure 17:
Original "Stub" Survivor Curve



The matrices used to develop the basic OLT and stub survivor curve provide a basic illustration of the retirement rate method in that only a few placement and experience years were used. In reality, analysts may have several decades of aged property data to analyze. In that case, it may be useful to use a technique called "banding" in order to identify trends in the data.

Banding

The forces of retirement and characteristics of industrial property are constantly changing. A depreciation analyst may examine the magnitude of these changes. Analysts often use a technique called "banding" to assist with this process. Banding refers to the merging of several years of data into a single data set for further analysis, and it is a common technique associated

with the retirement rate method.[94] There are three primary benefits of using bands in depreciation analysis:

1. Increasing the sample size. In statistical analyses, the larger the sample size in relation to the body of total data, the greater the reliability of the result;

2. Smooth the observed data. Generally, the data obtained from a single activity or vintage year will not produce an observed life table that can be easily fit; and

3. Identify trends. By looking at successive bands, the analyst may identify broad trends in the data that may be useful in projecting the future life characteristics of the property.[95]

Two common types of banding methods are the "placement band" method and the "experience band" method." A placement band, as the name implies, isolates selected placement years for analysis. The figure below illustrates the same exposure matrix shown above, except that only the placement years 2005-2008 are considered in calculating the total exposures at the beginning of each age interval.

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[94] NARUC *supra* n. 8, at 113.

[95] *Id*.

Figure 18:
Placement Bands

	Experience Years									
	Exposures at January 1 of Each Year (Dollars in 000's)									
Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
2003	261	245	228	211	192	173	152	131		11.5 - 12.5
2004	267	252	236	220	202	184	165	145		10.5 - 11.5
2005	304	291	277	263	248	232	216	198	198	9.5 - 10.5
2006	345	334	322	310	298	284	270	255	471	8.5 - 9.5
2007	367	357	347	335	324	312	299	286	788	7.5 - 8.5
2008	375	366	357	347	336	325	314	302	1,133	6.5 - 7.5
2009		377	366	356	346	336	327	319	1,186	5.5 - 6.5
2010			381	369	358	347	336	327	1,237	4.5 - 5.5
2011				386	372	359	346	334	1,285	3.5 - 4.5
2012					395	380	366	352	1,331	2.5 - 3.5
2013						401	385	370	1,059	1.5 - 2.5
2014							410	393	733	0.5 - 1.5
2015								416	375	0.0 - 0.5
Total	1919	2222	2514	2796	3070	3333	3586	3827	9,796	

The shaded cells within the placement band equal the total exposures at the beginning of age interval 4.5–5.5 ($1,237). The same placement band would be used for the retirement matrix covering the same placement years of 2005 – 2008. This of course would result in a different OLT and original stub survivor curve than those that were calculated above without the restriction of a placement band.

Analysts often use placement bands for comparing the survivor characteristics of properties with different physical characteristics.[96] Placement bands allow analysts to isolate the effects of changes in technology and materials that occur in successive generations of plant. For example, if in 2005 an electric utility began placing transmission poles with a special chemical treatment that extended the service lives of the poles, an analyst could use placement bands to isolate and analyze the effect of that change in the property group's physical characteristics. While placement

[96] Wolf *supra* n. 7, at 182.

bands are very useful in depreciation analysis, they also possess an intrinsic dilemma. A fundamental characteristic of placement bands is that they yield fairly complete survivor curves for older vintages. However, with newer vintages, which are arguably more valuable for forecasting, placement bands yield shorter survivor curves. Longer "stub" curves are considered more valuable for forecasting average life. Thus, an analyst must select a band width broad enough to provide confidence in the reliability of the resulting curve fit, yet narrow enough so that an emerging trend may be observed.[97]

Analysts also use "experience bands." Experience bands show the composite retirement history for all vintages during a select set of activity years. The figure below shows the same data presented in the previous exposure matrices, except that the experience band from 2011 – 2013 is isolated, resulting in different interval totals.

[97] NARUC *supra* n. 8, at 114.

Figure 19:
Experience Bands

	Experience Years									
	Exposures at January 1 of Each Year (Dollars in 000's)									
Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
2003	261	245	228	211	192	173	152	131		11.5 - 12.5
2004	267	252	236	220	202	184	165	145		10.5 - 11.5
2005	304	291	277	263	248	232	216	198	173	9.5 - 10.5
2006	345	334	322	310	298	284	270	255	376	8.5 - 9.5
2007	367	357	347	335	324	312	299	286	645	7.5 - 8.5
2008	375	366	357	347	336	325	314	302	752	6.5 - 7.5
2009		377	366	356	346	336	327	319	872	5.5 - 6.5
2010			381	369	358	347	336	327	959	4.5 - 5.5
2011				386	372	359	346	334	1,008	3.5 - 4.5
2012					395	380	366	352	1,039	2.5 - 3.5
2013						401	385	370	1,072	1.5 - 2.5
2014							410	393	1,121	0.5 - 1.5
2015								416	1,182	0.0 - 0.5
Total	1919	2222	2514	2796	3070	3333	3586	3827	9,199	

The shaded cells within the experience band equal the total exposures at the beginning of age interval 4.5–5.5 ($1,237). The same experience band would be used for the retirement matrix covering the same experience years of 2011 – 2013. This of course would result in a different OLT and original stub survivor than if the band had not been used. Analysts often use experience bands to isolate and analyze the effects of an operating environment over time.[98] Likewise, the use of experience bands allows analysis of the effects of an unusual environmental event. For example, if an unusually severe ice storm occurred in 2013, destruction from that storm would affect an electric utility's line transformers of all ages. That is, each of the line transformers from each placement year would be affected, including those recently installed in 2012, as well as those installed in 2003. Using experience bands, an analyst could isolate or even eliminate the 2013 experience year from the analysis. In contrast, a placement band would not effectively isolate the

[98] *Id.*

ice storm's effect on life characteristics. Rather, the placement band would show an unusually large rate of retirement during 2013, making it more difficult to accurately fit the data with a smooth Iowa curve. Experience bands tend to yield the most complete stub curves for recent bands because they have the greatest number of vintages included. Longer stub curves are better for forecasting. The experience bands, however, may also result in more erratic retirement dispersion making the curve fitting process more difficult.

Depreciation analysts must use professional judgment in determining the types of bands to use and the band widths. In practice, analysts may use various combinations of placement and experience bands in order to increase the data sample size, identify trends and changes in life characteristics, and isolate unusual events. Regardless of which bands are used, observed survivor curves in depreciation analysis rarely reach zero percent. This is because, as seen in the OLT above, relatively newer vintage groups have not yet been fully retired at the time the property is studied. An analyst could confine the analysis to older, fully retired vintage groups in order to get complete survivor curves, but such analysis would ignore some the property currently in service and would arguably not provide an accurate description of life characteristics for current plant in service. Because a complete curve is necessary to calculate the average life of the property group, however, curve fitting techniques using Iowa curves or other standardized curves may be employed in order to complete the stub curve.

Curve Fitting

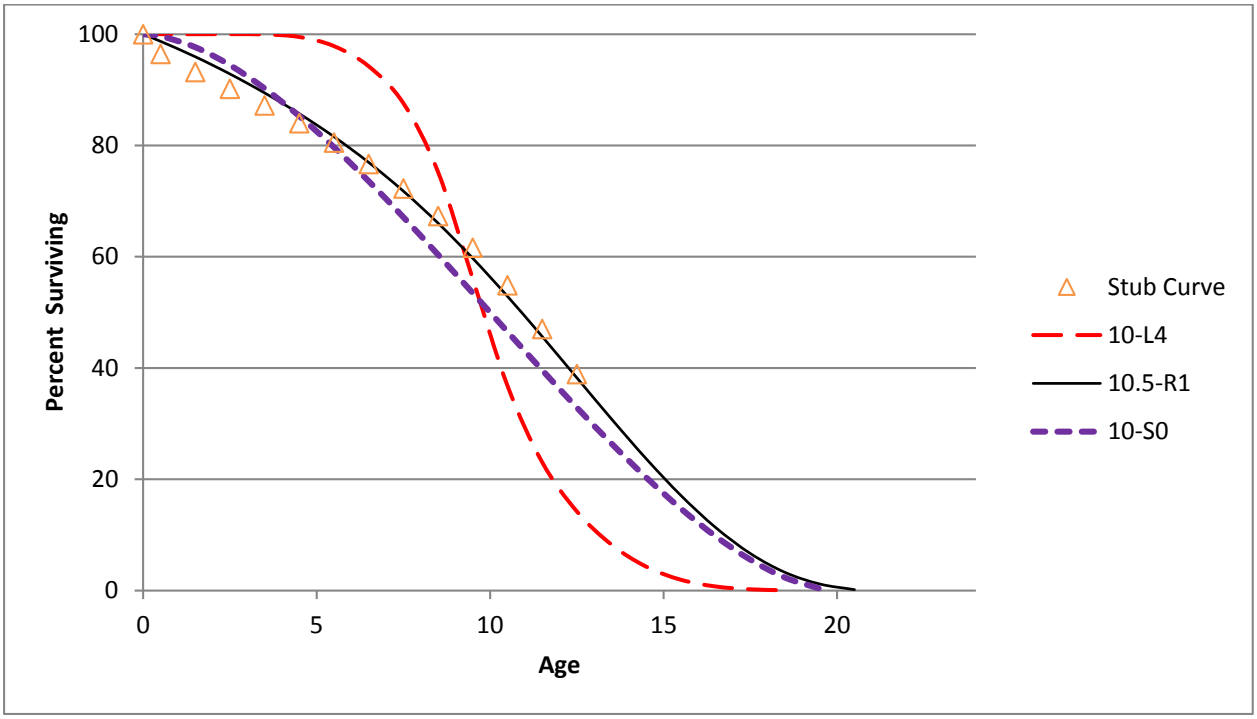
Depreciation analysts typically use the survivor curve rather than the frequency curve to fit the observed stub curves. The most commonly used generalized survivor curves used in the curve fitting process are the Iowa curves discussed above. As Wolf notes, if "the Iowa curves are

adopted as a model, an underlying assumption is that the process describing the retirement pattern is one of the 22 [or more] processes described by the Iowa curves."[99]

Curve fitting may be done through visual matching or mathematical matching. In visual curve fitting, the analyst visually examines the plotted data to make an initial judgment about the Iowa curves that may be a good fit. The figure below illustrates the stub survivor curve shown above. It also shows three different Iowa curves: the 10-L4, the 10.5-R1, and the 10-S0. Visually, it is clear that the 10.5-R1 curve is a better fit than the other two curves.

[99] Wolf *supra* n. 7, at 46 (22 curves includes Winfrey's 18 original curves plus Cowles's four "O" type curves).

Figure 20:
Visual Curve Fitting



In mathematical fitting, the least squares method is used to calculate the best fit. This mathematical method would be excessively time consuming if done by hand. With the use of modern computer software however, mathematical fitting is an efficient and useful process. The typical logic for a computer program, as well as the software employed for the analysis in this testimony is as follows:

> First (an Iowa curve) curve is arbitrarily selected. . . . If the observed curve is a stub curve, . . . calculate the area under the curve and up to the age at final data point. Call this area the realized life. Then systematically vary the average life of the theoretical survivor curve and calculate its realized life at the age corresponding to the study date. This trial and error procedure ends when you find an average life such that the realized life of the theoretical curve equals the realized life of the observed curve. Call this the average life.
>
> Once the average life is found, calculate the difference between each percent surviving point on the observed survivor curve and the corresponding point on the Iowa curve. Square each difference and sum them. The sum of squares is used as a measure of goodness of fit for that particular Iowa type curve. This procedure is

> repeated for the remaining 21 Iowa type curves. The "best fit" is declared to be the type of curve that minimizes the sum of differences squared.[100]

Mathematical fitting requires less judgment from the analyst, and is thus less subjective. Blind reliance on mathematical fitting, however, may lead to poor estimates. Thus, analysts should employ both mathematical and visual curve fitting in reaching their final estimates. This way, analysts may utilize the objective nature of mathematical fitting while still employing professional judgment. As Wolf notes: "The results of mathematical curve fitting serve as a guide for the analyst and speed the visual fitting process. But the results of the mathematical fitting should be checked visually and the final determination of the best fit be made by the analyst."[101]

In the graph above, visual fitting was sufficient to determine that the 10.5-R1 Iowa curve was a better fit than the 10-L4 and the 10-S0 curves. Using the sum of least squares method, mathematical fitting confirms the same result. In the chart below, the percentages surviving from the OLT that formed the original stub curve are shown in the left column, while the corresponding percentages surviving for each age interval are shown for the three Iowa curves. The right portion of the chart shows the differences between the points on each Iowa curve and the stub curve. These differences are summed at the bottom. Curve 10.5-R1 is the best fit because the sum of the squared differences for this curve is less than the same sum of the other two curves. Curve 10-L4 is the worst fit, which was also confirmed visually.

---

[100] Wolf *supra* n. 7, at 47.

[101] *Id*. at 48.

Figure 21:
Mathematical Fitting

Age Interval	Stub Curve	Iowa Curves 10-L4	Iowa Curves 10-S0	Iowa Curves 10.5-R1	Squared Differences 10-L4	Squared Differences 10-S0	Squared Differences 10.5-R1
0.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0
0.5	96.4	100.0	99.7	98.7	12.7	10.3	5.3
1.5	93.2	100.0	97.7	96.0	46.1	19.8	7.6
2.5	90.2	100.0	94.4	92.9	96.2	18.0	7.2
3.5	87.2	100.0	90.2	89.5	162.9	9.3	5.2
4.5	84.0	99.5	85.3	85.7	239.9	1.6	2.9
5.5	80.5	97.9	79.7	81.6	301.1	0.7	1.2
6.5	76.7	94.2	73.6	77.0	308.5	9.5	0.1
7.5	72.3	87.6	67.1	71.8	235.2	26.5	0.2
8.5	67.3	75.2	60.4	66.1	62.7	48.2	1.6
9.5	61.6	56.0	53.5	59.7	31.4	66.6	3.6
10.5	54.9	36.8	46.5	52.9	325.4	69.6	3.9
11.5	47.0	23.1	39.6	45.7	572.6	54.4	1.8
12.5	38.9	14.2	32.9	38.2	609.6	36.2	0.4
SUM					**3004.2**	**371.0**	**41.0**

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EDUCATION

University of Oklahoma — Norman, OK
Master of Business Administration — 2014
Areas of Concentration: Finance, Energy

University of Oklahoma College of Law — Norman, OK
Juris Doctor — 2007
Member, American Indian Law Review

University of Oklahoma — Norman, OK
Bachelor of Business Administration — 2003
Major: Finance

PROFESSIONAL DESIGNATIONS

Society of Depreciation Professionals
Certified Depreciation Professional (CDP)

Society of Utility and Regulatory Financial Analysts
Certified Rate of Return Analyst (CRRA)

The Mediation Institute
Certified Civil / Commercial & Employment Mediator

WORK EXPERIENCE

Resolve Utility Consulting PLLC — Oklahoma City, OK
Managing Member — 2016 – Present
Provide expert analysis and testimony specializing in depreciation and cost of capital issues for clients in utility regulatory proceedings.

Oklahoma Corporation Commission — Oklahoma City, OK
Public Utility Regulatory Analyst — 2012 – 2016
Assistant General Counsel — 2011 – 2012
Represented commission staff in utility regulatory proceedings and provided legal opinions to commissioners. Provided expert analysis and testimony in depreciation, cost of capital, incentive compensation, payroll and other issues.

Perebus Counsel, PLLC — Oklahoma City, OK
Managing Member — 2009 – 2011
Represented clients in the areas of family law, estate planning, debt negotiations, business organization, and utility regulation.

Moricoli & Schovanec, P.C. — Oklahoma City, OK
Associate Attorney — 2007 – 2009
Represented clients in the areas of contracts, oil and gas, business structures and estate administration.

TEACHING EXPERIENCE

University of Oklahoma — Norman, OK
Adjunct Instructor – "Conflict Resolution" — 2014 – Present
Adjunct Instructor – "Ethics in Leadership"

Rose State College — Midwest City, OK
Adjunct Instructor – "Legal Research" — 2013 – 2015
Adjunct Instructor – "Oil & Gas Law"

PUBLICATIONS

American Indian Law Review — Norman, OK
"Vine of the Dead: Reviving Equal Protection Rites for Religious Drug Use" — 2006
(31 Am. Indian L. Rev. 143)

VOLUNTEER EXPERIENCE

Calm Waters — Oklahoma City, OK
Board Member — 2015 – Present
Participate in management of operations, attend meetings, review performance, compensation, and financial records. Assist in fundraising events.

Group Facilitator & Fundraiser — 2014 – Present
Facilitate group meetings designed to help children and families cope with divorce and tragic events. Assist in fundraising events.

St. Jude Children's Research Hospital — Oklahoma City, OK
Oklahoma Fundraising Committee — 2008 – 2010
Raised money for charity by organizing local fundraising events.

PROFESSIONAL ASSOCIATIONS

Oklahoma Bar Association 2007 – Present

Society of Depreciation Professionals 2014 – Present
Board Member – President 2017
Participate in management of operations, attend meetings, review performance, organize presentation agenda.

Society of Utility Regulatory Financial Analysts 2014 – Present

SELECTED CONTINUING PROFESSIONAL EDUCATION

Society of Depreciation Professionals Austin, TX
"Life and Net Salvage Analysis" 2015
Extensive instruction on utility depreciation, including actuarial and simulation life analysis modes, gross salvage, cost of removal, life cycle analysis, and technology forecasting.

Society of Depreciation Professionals New Orleans, LA
"Introduction to Depreciation" and "Extended Training" 2014
Extensive instruction on utility depreciation, including average lives and net salvage.

Society of Utility and Regulatory Financial Analysts Indianapolis, IN
46th Financial Forum. "The Regulatory Compact: Is it Still Relevant?" 2014
Forum discussions on current issues.

Energy Management Institute Houston, TX
"Fundamentals of Power Trading" 2013
Instruction and practical examples on the power market complex, as well as comprehensive training on power trading.

New Mexico State University, Center for Public Utilities Santa Fe, NM
Current Issues 2012, "The Santa Fe Conference" 2012
Forum discussions on various current issues in utility regulation.

Michigan State University, Institute of Public Utilities Clearwater, FL
"39th Eastern NARUC Utility Rate School" 2011
One-week, hands-on training emphasizing the fundamentals of the utility ratemaking process.

New Mexico State University, Center for Public Utilities Albuquerque, NM
"The Basics: Practical Regulatory Training for the Changing Electric Industries" 2010
One-week, hands-on training designed to provide a solid foundation in core areas of utility ratemaking.

The Mediation Institute — Oklahoma City, OK
"Civil / Commercial & Employment Mediation Training" — 2009
Extensive instruction and mock mediations designed to build foundations in conducting mediations in civil matters.

EXPERIENCE IN REGULATORY PROCEEDINGS

1. **Idaho Power Company, 2016** (Idaho, IPC-E-16-23; IPC-E-16-24) – Filing testimony on depreciation rates and cost recovery of North Valmy plant.

2. **Southwestern Electric Power Company, 2016** (Texas, PUC 46449) – Filing testimony on depreciation rates.

3. **Empire District Electric Company, 2016** (Oklahoma, PUD 16-468) – Filing testimony on cost of capital and depreciation rates.

4. **CenterPoint Energy Resources, 2016** (Texas, GUD 10567) – Filing testimony on depreciation rates.

5. **Oklahoma Gas and Electric Company, 2016** (Arkansas, 16-052-U) – Filing testimony on cost of capital; filing testimony on depreciation rates.

6. **Peoples Gas System, 2016** (Florida, 160-159-GU) – Filed report on depreciation rates.

7. **Arizona Public Service Company, 2016** (Arizona, E-01345A-16-0036) – Testified on depreciation rates.

8. **Sierra Pacific Power Company, 2016** (Nevada, 16-06008) – Testified on depreciation rates.

9. **Oklahoma Gas and Electric Company, 2016** (Oklahoma, PUD 15-273) – Testified on cost of capital and depreciation rates.

10. **Public Service Company of Oklahoma, 2015** (Oklahoma, PUD 15-208) – Testified on cost of capital and depreciation rates.

11. **Oklahoma Natural Gas Company, 2015** (Oklahoma, PUD 15-213) – Testified on cost of capital and depreciation rates.

12. **Oak Hills Water System, Inc.** (Oklahoma, PUD 15-123) – Testified on cost of capital and depreciation rates.

13. **CenterPoint Energy Oklahoma Gas, 2014** (Oklahoma, PUD 14-227) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

14. **Public Service Company of Oklahoma, 2014** (Oklahoma, PUD 14-233) – Testified on PSO's application for a certificate of authority to issue new debt securities.

15. **Empire District Electric Company, 2014** (Oklahoma, PUD 14-226) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

16. **Fort Cobb Fuel Authority, 2014** (Oklahoma, PUD 14-219) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

17. **Fort Cobb Fuel Authority, 2014** (Oklahoma, PUD 14-140) – Testified in FCFA's application for a rate increase on outside services, legislative advocacy, miscellaneous taxes, payroll expense and taxes, employee insurance expense, and insurance expense.

18. **Public Service Company of Oklahoma, 2013** (Oklahoma, PUD 13-217) – Lead auditor of PSO's application for a rate increase. Provided additional research support for cost of capital issue. Assisted in coordination of PUD staff analysts and issues.

19. **Public Service Company of Oklahoma, 2013** (Oklahoma, PUD 13-201) – Testified in PSO's application for authorization of a standby and supplemental service tariff.

20. **Fort Cobb Fuel Authority, 2013** (Oklahoma, PUD 13-134) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

21. **Empire District Electric Company, 2013** (Oklahoma, PUD 13-131) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

22. **CenterPoint Energy Oklahoma Gas, 2013** (Oklahoma, PUD 13-127) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

23. **Oklahoma Gas & Electric Company, 2012** (Oklahoma, PUD 12-185) – Testified in OG&E's application for extension of a gas transportation contract.

24. **Empire District Electric Company, 2012** (Oklahoma, PUD 12-170) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

25. **Oklahoma Gas & Electric Company, 2012** (Oklahoma, PUD 12-169) – Testified on prudence of fuel-related costs and process in annual fuel audit and prudence review.

Summary Expense Adjustment

Plant Function	[1] Plant Balance 6/30/2016	[2] OG&E Proposed Expense	[3] ARVEC Proposed Expense	[4] **ARVEC Adjustment**
Intangible Plant	$ 103,393,699	$ 6,390,595	$ 4,056,348	$ (2,334,248)
Steam Production	2,095,289,783	55,792,097	38,236,516	(17,555,581)
Other Production	1,580,814,814	62,759,078	57,344,053	(5,415,025)
Transmission	2,497,323,014	60,885,737	55,024,758	(5,860,979)
Distribution	3,977,004,768	124,195,478	105,586,525	(18,608,953)
General	355,624,717	15,357,381	15,184,124	(173,257)
Total	$ 10,609,450,795	$ 325,380,366	$ 275,432,323	**$ (49,948,043)**

[1], [2] Company workpaper F-1.3

[3] See detail expense adjustment exhibit

[4] = [3] - [2]

Detailed Expense Adjustment

Account No.	Description	[1] Plant Balance 6/30/2016	[2] OGE Proposal Rate	[2] OGE Proposal Annual Accrual	[3] ARVEC Proposal Rate	[3] ARVEC Proposal Annual Accrual	[4] ARVEC Adjustment Rate	[4] ARVEC Adjustment Annual Accrual
	INTANGIBLE PLANT							
301.00	Organization	80,900						
302.00	Franchise and Consents	2,778,385	4.22%	117,248	4.11%	114,312	-0.11%	-2,936
303.20	Miscellaneous Intangible Plant-Software	100,534,414	6.24%	6,273,347	3.92%	3,942,036	-2.32%	-2,331,311
	Total Intangible Plant	**103,393,699**	**6.18%**	**6,390,595**	**3.92%**	**4,056,348**	**-2.26%**	**-2,334,248**
	PRODUCTION PLANT							
	STEAM PRODUCTION - GAS							
	HORSESHOE LAKE UNIT 6							
310.10	Land (Non-Depreciable)	116,199		0		0	0.00%	0
310.20	Land Rights	28,509	1.42%	405	1.59%	454	0.17%	49
311.00	Structures and Improvements	19,740,587	4.43%	874,508	2.45%	483,929	-1.98%	-390,579
311.50	Security	0	4.43%	0		0	-4.43%	0
312.00	Boiler Plant Equipment	16,461,698	4.10%	674,930	2.11%	346,627	-1.99%	-328,302
312.01	CEM	755,207	4.10%	30,963	2.11%	15,902	-1.99%	-15,061
314.00	Turbogenerator Units	8,716,685	5.65%	492,493	3.58%	312,214	-2.07%	-180,279
315.00	Accessory Electric Equipment	2,433,775	4.50%	109,520	2.52%	61,432	-1.98%	-48,088
316.00	Miscellaneous Power Plant Equipment	2,115,271	6.27%	132,627	4.21%	89,116	-2.06%	-43,512
	TOTAL HORSESHOE LAKE UNIT 6	50,367,931		2,315,446		1,309,674		-1,005,772
	HORSESHOE LAKE UNIT 7							
310.10	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	2,757,684	2.70%	74,457	0.82%	22,535	-1.88%	-51,922
312.00	Boiler Plant Equipment	13,649,658	2.99%	408,125	1.10%	150,387	-1.89%	-257,738
312.01	CEM	0	2.99%	0	1.10%	0	-1.89%	0
314.00	Turbogenerator Units	16,203,504	3.24%	524,994	1.24%	201,296	-2.00%	-323,698
315.00	Accessory Electric Equipment	2,360,250	3.53%	83,317	1.62%	38,137	-1.91%	-45,179
316.00	Miscellaneous Power Plant Equipment	1,039,114	3.00%	31,173	0.96%	9,993	-2.04%	-21,180
	TOTAL HORSESHOE LAKE UNIT 7	36,010,209		1,122,066		422,349		-699,717
	HORSESHOE LAKE UNIT 8							
310.10	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
311.00	Structures and Improvements	5,019,603	3.38%	169,663	0.99%	49,794	-2.39%	-119,869
312.00	Boiler Plant Equipment	19,810,070	3.54%	701,276	1.12%	220,980	-2.42%	-480,297
312.01	CEM	1,214,442	3.54%	42,991	1.12%	13,547	-2.42%	-29,444
314.00	Turbogenerator Units	18,206,728	4.22%	768,324	1.73%	315,515	-2.49%	-452,809
315.00	Accessory Electric Equipment	2,542,689	4.26%	108,319	1.87%	47,540	-2.39%	-60,779
316.00	Miscellaneous Power Plant Equipment	2,165,360	3.84%	83,150	1.25%	26,984	-2.59%	-56,166
317.00	ARO	319,026	2.38%	7,604	1.25%	3,976	-1.14%	-3,628
	TOTAL HORSESHOE LAKE UNIT 8	49,277,918		1,881,327		678,336		-1,202,991
	TOTAL HORSESHOE LAKE	135,656,058		5,318,839		2,410,358		-2,908,480
	MUSTANG UNIT 3							
310.00	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	1,628,467	7.55%	122,949	0.00%	0	-7.55%	-122,949
312.00	Boiler Plant Equipment	6,436,528	11.66%	750,499	3.34%	215,132	-8.32%	-535,367
312.01	CEM	0	11.66%	0	3.34%	0	-8.32%	0
314.00	Turbogenerator Units	9,011,274	9.20%	829,037	0.86%	77,648	-8.34%	-751,389
315.00	Accessory Electric Equipment	1,134,098	10.28%	116,585	1.95%	22,150	-8.33%	-94,435
316.00	Miscellaneous Power Plant Equipment	453,218	9.96%	45,140	1.25%	5,648	-8.71%	-39,493
	TOTAL MUSTANG UNIT 3	18,663,584		1,864,211		320,578		-1,543,633
	MUSTANG UNIT 4							
310.10	Land (Non-Depreciable)	101,936		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	10,623,453	11.42%	1,213,198	2.30%	244,237	-9.12%	-968,961
311.50	Security	0	11.42%	0	2.30%	0	-9.12%	0
312.00	Boiler Plant Equipment	16,355,964	9.75%	1,594,706	0.59%	96,410	-9.16%	-1,498,296
312.01	Continuous Emission Monitoring	0	9.75%	0	0.59%	0	-9.16%	0
314.00	Turbogenerator Units	15,249,393	14.33%	2,185,238	5.20%	792,314	-9.13%	-1,392,924
315.00	Accessory Electric Equipment	3,011,459	14.07%	423,712	4.80%	144,400	-9.27%	-279,313
316.00	Miscellaneous Power Plant Equipment	1,981,163	11.03%	218,522	1.95%	38,625	-9.08%	-179,897
317.00	ARO	3,650,343	24.71%	901,848	24.71%	901,848	0.00%	0
	TOTAL MUSTANG UNIT 4	50,973,710		6,537,225		2,217,835		-4,319,390
	TOTAL MUSTANG STATION	69,637,294		8,401,437		2,538,413		-5,863,024
	SEMINOLE UNIT 1							

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
310.10	Land (Non-Depreciable)	1,477,854		0		0	0.00%	0
310.20	Land Rights	78,916	2.07%	1,634	2.19%	1,728	0.12%	95
311.00	Structures and Improvements	19,215,006	3.76%	722,484	2.35%	452,493	-1.41%	-269,991
311.50	Security	336,753	3.76%	12,662	2.35%	7,930	-1.41%	-4,732
312.00	Boiler Plant Equipment	33,738,752	3.56%	1,201,100	2.11%	712,345	-1.45%	-488,755
312.01	CEM	0	3.56%	0	2.11%	0	-1.45%	0
314.00	Turbogenerator Units	26,009,823	3.98%	1,035,191	2.51%	651,555	-1.47%	-383,636
315.00	Accessory Electric Equipment	3,853,228	4.26%	164,148	2.83%	108,989	-1.43%	-55,159
316.00	Miscellaneous Power Plant Equipment	3,890,991	4.24%	164,978	2.69%	104,537	-1.55%	-60,441
	TOTAL SEMINOLE UNIT 1	88,601,323		3,302,196		2,039,577		-1,262,619
	SEMINOLE UNIT 2							
310.10	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	2,515,483	4.65%	116,970	2.52%	63,269	-2.13%	-53,701
312.00	Boiler Plant Equipment	54,066,018	4.24%	2,292,399	2.07%	1,119,448	-2.17%	-1,172,951
312.01	CEM	0	4.24%	0	2.07%	0	-2.17%	0
314.00	Turbogenerator Units	31,189,723	4.89%	1,525,177	2.66%	829,733	-2.23%	-695,444
315.00	Accessory Electric Equipment	2,077,907	4.38%	91,012	2.21%	45,927	-2.17%	-45,086
316.00	Miscellaneous Power Plant Equipment	39,168	8.54%	3,345	6.09%	2,387	-2.45%	-958
	TOTAL SEMINOLE UNIT 2	89,888,299		4,028,904		2,060,765		-1,968,139
	SEMINOLE UNIT 3							
310.10	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	7,283,385	3.29%	239,623	1.79%	130,133	-1.50%	-109,491
312.00	Boiler Plant Equipment	47,164,966	3.82%	1,801,702	2.30%	1,082,730	-1.52%	-718,971
312.01	CEM	0	3.82%	0	2.30%	0	-1.52%	0
314.00	Turbogenerator Units	30,338,490	4.44%	1,347,029	2.91%	884,248	-1.53%	-462,781
315.00	Accessory Electric Equipment	5,153,154	3.44%	177,268	1.94%	100,141	-1.50%	-77,128
316.00	Miscellaneous Power Plant Equipment	401,384	4.28%	17,179	2.69%	10,779	-1.59%	-6,400
317.00	ARO	288,613	2.06%	5,936	2.06%	5,936	0.00%	0
	TOTAL SEMINOLE UNIT 3	90,629,992		3,588,738		2,213,967		-1,374,770
	TOTAL SEMINOLE STATION	269,119,614		10,919,837		6,314,309		-4,605,529
	POWER SUPPLY SERVICES							
316.00	Miscellaneous Power Plant Equipment	1,448,197	1.87%	27,081	1.87%	27,034	0.00%	-47

Detailed Expense Adjustment

Account No.	Description	[1] Plant Balance 6/30/2016	[2] OGE Proposal Rate	[2] OGE Proposal Annual Accrual	[3] ARVEC Proposal Rate	[3] ARVEC Proposal Annual Accrual	[4] ARVEC Adjustment Rate	[4] ARVEC Adjustment Annual Accrual
	TOTAL STEAM PRODUCTION - GAS	475,861,164		24,667,194		11,290,114		-13,377,080
	STEAM PRODUCTION - COAL							
	MUSKOGEE UNIT 4							
310.10	Land (Non-Depreciable)	1,880,432		0		0	0.00%	0
310.20	Land Rights	18,934	2.58%	489	2.69%	509	0.11%	20
311.00	Structures and Improvements	42,223,661	2.42%	1,021,813	2.13%	897,476	-0.29%	-124,336
311.50	Security	0	2.42%	0	2.13%	0	-0.29%	0
312.00	Boiler Plant Equipment	173,115,102	2.29%	3,964,336	1.98%	3,422,642	-0.31%	-541,693
312.01	CEM	1,092,052	2.29%	25,008	1.98%	21,591	-0.31%	-3,417
314.00	Turbogenerator Units	72,879,296	2.71%	1,975,029	2.40%	1,747,822	-0.31%	-227,207
315.00	Accessory Electric Equipment	44,819,387	1.94%	869,496	1.62%	726,277	-0.32%	-143,219
316.00	Miscellaneous Power Plant Equipment	11,597,386	2.29%	265,580	1.95%	226,105	-0.34%	-39,475
317.00	ARO	896,767	36.36%	326,064	36.36%	326,064	0.00%	0
	TOTAL MUSKOGEE UNIT 4	348,523,017		8,447,814		7,368,487		-1,079,327
	MUSKOGEE UNIT 5							
310.10	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	7,053,458	2.29%	161,524	1.90%	134,210	-0.39%	-27,314
312.00	Boiler Plant Equipment	129,072,398	2.48%	3,200,995	2.08%	2,680,352	-0.40%	-520,643
312.01	CEM	1,009,570	2.48%	25,037	2.08%	20,965	-0.40%	-4,072
314.00	Turbogenerator Units	51,123,279	2.40%	1,226,959	1.99%	1,014,858	-0.41%	-212,101
315.00	Accessory Electric Equipment	11,579,336	2.07%	239,692	1.66%	192,336	-0.41%	-47,357
316.00	Miscellaneous Power Plant Equipment	827,625	2.09%	17,297	1.62%	13,380	-0.47%	-3,917
	TOTAL MUSKOGEE UNIT 5	200,665,666		4,871,505		4,056,101		-815,404
	MUSKOGEE UNIT 6							
310.10	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	51,644,909	1.38%	712,700	1.23%	633,898	-0.15%	-78,802
312.00	Boiler Plant Equipment	250,990,264	1.61%	4,040,943	1.45%	3,639,908	-0.16%	-401,036
312.01	CEM	1,296,852	1.61%	20,879	1.45%	18,807	-0.16%	-2,072
314.00	Turbogenerator Units	85,840,919	1.78%	1,527,968	1.61%	1,384,724	-0.17%	-143,245
315.00	Accessory Electric Equipment	43,714,528	1.42%	620,746	1.25%	547,992	-0.17%	-72,754
316.00	Miscellaneous Power Plant Equipment	4,835,026	2.06%	99,602	1.86%	90,028	-0.20%	-9,573
317.00	ARO	185,029	1.98%	3,656	1.98%	3,656	0.00%	0

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	TOTAL MUSKOGEE UNIT 6	438,507,528		7,026,495		6,319,013		-707,482
	TOTAL MUSKOGEE STATION	987,696,211		20,345,814		17,743,601		-2,602,213
	SOONER UNIT 1							
310.10	Land (Non-Depreciable)	7,006,282		0		0	0.00%	0
310.20	Land Rights	813,704	3.06%	24,899	3.16%	25,719	0.10%	820
311.00	Structures and Improvements	91,584,512	1.33%	1,218,074	1.12%	1,025,903	-0.21%	-192,171
311.50	Security	-3,000	1.33%	-40	1.12%	-34	-0.21%	6
312.00	Boiler Plant Equipment	236,079,102	1.85%	4,367,463	1.64%	3,861,198	-0.21%	-506,265
312.01	CEM	1,737,128	0.02%	321	1.64%	28,412	1.62%	28,090
314.00	Turbogenerator Units	36,908,772	1.51%	557,322	1.29%	476,408	-0.22%	-80,914
315.00	Accessory Electric Equipment	23,849,911	1.37%	326,744	1.15%	274,294	-0.22%	-52,450
316.00	Miscellaneous Power Plant Equipment	6,335,951	1.94%	122,917	1.70%	107,900	-0.24%	-15,018
	TOTAL SOONER UNIT 1	404,312,362		6,617,702		5,799,800		-817,901
	SOONER UNIT 2							
310.10	Land (Non-Depreciable)	0		0		0	0.00%	0
310.20	Land Rights	0		0		0	0.00%	0
311.00	Structures and Improvements	12,443,473	1.55%	192,874	1.23%	152,766	-0.32%	-40,107
312.00	Boiler Plant Equipment	157,279,369	1.89%	2,972,580	1.56%	2,454,269	-0.33%	-518,311
312.01	CEM	1,612,300	1.89%	30,472	1.56%	25,159	-0.33%	-5,313
314.00	Turbogenerator Units	41,166,371	1.69%	695,712	1.34%	553,148	-0.35%	-142,564
315.00	Accessory Electric Equipment	12,756,681	1.70%	216,864	1.36%	173,200	-0.34%	-43,664
316.00	Miscellaneous Power Plant Equipment	2,025,320	2.47%	50,025	2.05%	41,597	-0.42%	-8,428
317.00	ARO	136,533	2.09%	2,860	2.09%	2,860	0.00%	0
	TOTAL SOONER UNIT 2	227,420,046		4,161,387		3,403,000		-758,387
	TOTAL SOONER STATION	631,732,409		10,779,089		9,202,800		-1,576,289
	TOTAL STEAM PRODUCTION - COAL	1,619,428,620		31,124,903		26,946,401		-4,178,501
	TOTAL STEAM PRODUCTION	2,095,289,783	2.66%	55,792,097	1.82%	38,236,516	-0.84%	-17,555,581
	OTHER PRODUCTION							

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	TINKER PLANT							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	972,164	1.65%	16,041	0.96%	9,329	-0.69%	-6,712
342.00	Fuel Holders, Producers and Accessories	167,151	4.17%	6,970	3.47%	5,806	-0.70%	-1,164
343.00	Prime Movers	3,909,264	2.26%	88,349	1.54%	60,277	-0.72%	-28,072
344.00	Generators	3,314,014	3.53%	116,985	2.84%	94,019	-0.69%	-22,966
345.00	Accessory Electric Equipment	3,023,751	2.14%	64,708	1.42%	42,845	-0.72%	-21,863
346.00	Miscellaneous Power Plant Equipment	8,664	2.77%	240	2.04%	177	-0.73%	-63
	TOTAL TINKER PLANT	11,395,008		293,293		212,452		-80,841
	HORSESHOE LAKE UNIT 9 & 10							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	987,208	2.88%	28,432	2.78%	27,480	-0.10%	-952
342.00	Fuel Holders, Producers and Accessories	0	0.00%	0	0.00%	0	0.00%	0
343.00	Prime Movers	5,625,975	3.80%	213,787	3.68%	207,087	-0.12%	-6,700
343.99	CEMS	7,512	3.80%	285	3.68%	277	-0.12%	-9
344.00	Generators	34,375,689	3.61%	1,240,962	3.50%	1,204,563	-0.11%	-36,399
345.00	Accessory Electric Equipment	4,306,354	3.24%	139,526	3.14%	135,200	-0.10%	-4,326
346.00	Miscellaneous Power Plant Equipment	941,451	3.21%	30,221	3.10%	29,222	-0.11%	-999
	TOTAL HORSESHOE LAKE 9 & 10	46,244,189		1,653,213		1,603,828		-49,385
	MCCLAIN GAS 1							
340.10	Land (Non-Depreciable)	527,700		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	8,029,933	2.51%	201,551	2.42%	193,969	-0.09%	-7,583
342.00	Fuel Holders, Producers and Accessories	251,433	2.27%	5,708	2.18%	5,472	-0.09%	-236
343.00	Prime Movers	81,616,507	3.88%	3,166,720	3.76%	3,070,782	-0.12%	-95,939
343.17	LTSA - 3 year	4,561,977	20.47%	933,837	20.47%	933,837	0.00%	0
343.17	LTSA - 4 year	3,009,895	20.47%	616,126	20.47%	616,126	0.00%	0
343.17	LTSA - 6 year	521,469	20.47%	106,745	20.47%	106,745	0.00%	0
343.17	LTSA - 30 year	349,749	20.47%	71,594	20.47%	71,594	0.00%	0
343.99	CEMS	162,853	3.88%	6,319	3.76%	6,127	-0.12%	-191
344.00	Generators	0		0		0	0.00%	0
345.00	Accessory Electric Equipment	4,434,652	2.64%	117,075	2.53%	112,351	-0.11%	-4,724
346.00	Miscellaneous Power Plant Equipment	4,164,093	2.90%	120,759	2.78%	115,871	-0.12%	-4,888
	TOTAL MCCLAIN GAS 1	107,630,260		5,346,432		5,232,872		-113,560

Detailed Expense Adjustment

Account No.	Description	[1] Plant Balance 6/30/2016	[2] OGE Proposal Rate	[2] OGE Proposal Annual Accrual	[3] ARVEC Proposal Rate	[3] ARVEC Proposal Annual Accrual	[4] ARVEC Adjustment Rate	[4] ARVEC Adjustment Annual Accrual
	MCCLAIN GAS 2							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	959,632	2.38%	22,839	2.28%	21,854	-0.10%	-985
342.00	Fuel Holders, Producers and Accessories	169,454	2.18%	3,694	2.08%	3,533	-0.10%	-161
343.00	Prime Movers	72,263,231	3.57%	2,579,797	3.46%	2,497,012	-0.11%	-82,785
343.17	LTSA - 3 year	4,560,907	20.34%	927,688	20.34%	927,688	0.00%	0
343.17	LTSA - 4 year	3,076,563	20.34%	625,773	20.34%	625,773	0.00%	0
343.17	LTSA - 30 year	343,590	20.34%	69,886	20.34%	69,886	0.00%	0
343.99	CEMS	146,800	3.57%	5,241	3.46%	5,073	-0.11%	-168
344.00	Generators	0		0		0	0.00%	0
345.00	Accessory Electric Equipment	4,377,450	2.61%	114,251	2.50%	109,589	-0.11%	-4,663
346.00	Miscellaneous Power Plant Equipment	0	2.90%	0	2.90%	0	0.00%	0
	TOTAL MCCLAIN GAS 2	85,897,626		4,349,170		4,260,408		-88,763
	MCCLAIN STEAM 1							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	528,864	2.49%	13,169	2.30%	12,148	-0.19%	-1,020
342.00	Fuel Holders, Producers and Accessories	0		0		0	0.00%	0
343.00	Prime Movers	32,561,101	3.32%	1,081,029	3.07%	1,000,910	-0.25%	-80,118
344.00	Generators	0		0		0	0.00%	0
345.00	Accessory Electric Equipment	2,217,821	2.67%	59,216	2.47%	54,768	-0.20%	-4,448
346.00	Miscellaneous Power Plant Equipment	0		0		0	0.00%	0
	TOTAL MCCLAIN STEAM 1	35,307,786		1,153,413		1,067,827		-85,586
	REDBUD UNIT 1							
340.10	Land (Non-Depreciable)	326,890		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	32,632,977	2.22%	724,452	2.16%	703,689	-0.06%	-20,763
342.00	Fuel Holders. Products, and Accessories	12,118,339	2.25%	272,663	2.18%	263,786	-0.07%	-8,877
343.00	Prime movers	87,556,316	3.11%	2,723,001	3.02%	2,647,790	-0.09%	-75,211
343.17	LTSA - 5 year	2,129,176	19.84%	422,428	19.84%	422,428	0.00%	0
343.17	LTSA - 24 year	1,490,678	4.59%	68,422	4.59%	68,422	0.00%	0
343.99	CEMS	334,107	3.11%	10,391	3.02%	10,104	-0.09%	-287
344.00	Generators	717,739	3.08%	22,106	3.01%	21,629	-0.07%	-477
345.00	Accessory Electric Equipment	12,890,375	2.24%	288,744	2.16%	278,486	-0.08%	-10,258
346.00	Miscellaneous Power Plant Equipment	2,238,949	2.66%	59,556	2.58%	57,677	-0.08%	-1,879

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	TOTAL REDBUD UNIT 1	152,435,547		4,591,764		4,474,012		-117,753
	REDBUD UNIT 2							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	139,702	2.81%	3,926	2.73%	3,809	-0.08%	-117
342.00	Fuel Holders. Products, and Accessories	690,650	2.27%	15,678	2.18%	15,047	-0.09%	-631
343.00	Prime movers	66,189,675	3.32%	2,197,497	3.22%	2,131,254	-0.10%	-66,244
343.17	LTSA - 5 year	1,895,907	20.30%	384,869	20.30%	384,869	0.00%	0
343.17	LTSA - 24 year	1,490,678	5.01%	74,683	5.01%	74,683	0.00%	0
343.99	CEMS	290,338	3.32%	9,639	3.22%	9,349	-0.10%	-291
344.00	Generators	0		0		0	0.00%	0
345.00	Accessory Electric Equipment	9,274,077	2.29%	212,376	2.20%	203,685	-0.09%	-8,692
346.00	Miscellaneous Power Plant Equipment	15,295	3.16%	483	3.07%	469	-0.09%	-14
	TOTAL REDBUD UNIT 2	79,986,322		2,899,152		2,823,164		-75,987
	REDBUD UNIT 3							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	123,900	2.81%	3,482	2.73%	3,388	-0.08%	-94
342.00	Fuel Holders. Products, and Accessories	691,291	2.27%	15,692	2.18%	15,058	-0.09%	-634
343.00	Prime movers	66,164,646	3.01%	1,991,556	2.91%	1,925,911	-0.10%	-65,644
343.17	LTSA - 5 year	1,908,402	19.53%	372,711	19.53%	372,711	0.00%	0
343.17	LTSA - 24 year	1,490,678	4.78%	71,254	4.78%	71,254	0.00%	0
343.99	CEMS	300,081	3.01%	9,032	2.91%	8,735	-0.10%	-298
344.00	Generators	23,199	3.03%	703	2.94%	683	-0.09%	-20
345.00	Accessory Electric Equipment	9,104,079	2.27%	206,663	2.18%	198,253	-0.09%	-8,410
346.00	Miscellaneous Power Plant Equipment	4,236	3.35%	142	3.27%	138	-0.08%	-4
	TOTAL REDBUD UNIT 3	79,810,512		2,671,235		2,596,131		-75,104
	REDBUD UNIT 4							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	157,366	2.73%	4,296	2.65%	4,177	-0.08%	-119
342.00	Fuel Holders. Products, and Accessories	688,211	2.26%	15,554	2.17%	14,928	-0.09%	-625
343.00	Prime movers	60,312,296	3.17%	1,911,900	3.06%	1,845,067	-0.11%	-66,833
343.17	LTSA - 5 year	2,141,159	19.93%	426,733	19.93%	426,733	0.00%	0
343.17	LTSA - 24 year	1,490,678	4.84%	72,149	4.84%	72,149	0.00%	0
343.99	CEMS	317,662	3.17%	10,070	3.06%	9,718	-0.11%	-352

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
344.00	Generators	23,035	3.03%	698	2.94%	677	-0.09%	-21
345.00	Accessory Electric Equipment	9,340,132	2.20%	205,483	2.11%	196,622	-0.09%	-8,861
346.00	Miscellaneous Power Plant Equipment	4,236	3.35%	142	3.26%	138	-0.09%	-4
	TOTAL REDBUD UNIT 4	74,474,775		2,647,024		2,570,208		-76,815
	CENTENNIAL WIND FARM							
340.00	Land (Non-Depreciable)	0		0		0	0.00%	0
341.00	Structures and Improvements	2,334,024	4.18%	97,562	3.26%	76,059	-0.92%	-21,504
342.00	Fuel Holders, Producers and Accessories	0		0		0	0.00%	0
343.00	Prime movers	0		0		0	0.00%	0
344.00	Generators	187,259,443	4.16%	7,789,993	3.32%	6,223,889	-0.84%	-1,566,104
345.00	Accessory Electric Equipment	990,842	4.50%	44,588	3.57%	35,340	-0.93%	-9,248
346.00	Miscellaneous Power Plant Equipment	889,299	5.15%	45,799	4.13%	36,734	-1.02%	-9,065
347.00	ARO	15,226,139	5.06%	770,948	5.06%	770,948	0.00%	0
	TOTAL CENTENNIAL WIND FARM	206,699,747		8,748,890		7,142,970		-1,605,920
	OU SPIRIT WIND FARM 1							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	5,209,833	4.03%	209,956	3.25%	169,476	-0.78%	-40,480
342.00	Fuel Holders, Producers and Accessories	0		0		0	0.00%	0
343.00	Prime movers	0		0		0	0.00%	0
344.00	Generators	243,265,220	4.19%	10,192,813	3.47%	8,436,310	-0.72%	-1,756,502
345.00	Accessory Electric Equipment	1,556,024	5.00%	77,801	4.11%	63,920	-0.89%	-13,881
346.00	Miscellaneous Power Plant Equipment	245,871	4.74%	11,654	3.94%	9,683	-0.80%	-1,971
347.00	ARO	8,710,081	4.40%	382,864	4.40%	382,864	0.00%	0
	TOTAL OU SPIRIT WIND FARM	258,987,030		10,875,089		9,062,253		-1,812,836
	CROSSROADS WIND FARM							
340.10	Land (Non-Depreciable)	0		0		0	0.00%	0
340.20	Land Rights	0		0		0	0.00%	0
341.00	Structures and Improvements	11,586,653	3.86%	447,245	3.20%	370,709	-0.66%	-76,536
342.00	Fuel Holders, Producers and Accessories	0		0		0	0.00%	0
343.00	Prime movers	0		0		0	0.00%	0
344.00	Generators	359,619,578	3.95%	14,204,973	3.71%	13,342,186	-0.24%	-862,787
345.00	Accessory Electric Equipment	43,982,126	4.04%	1,776,878	3.38%	1,485,732	-0.66%	-291,146
346.00	Miscellaneous Power Plant Equipment	343,162	3.97%	13,624	3.39%	11,618	-0.58%	-2,006
347.00	ARO	19,684,115	4.04%	795,324	4.04%	795,324	0.00%	0

Detailed Expense Adjustment

Account No.	Description	[1] Plant Balance 6/30/2016	[2] OGE Proposal Rate	[2] OGE Proposal Annual Accrual	[3] ARVEC Proposal Rate	[3] ARVEC Proposal Annual Accrual	[4] ARVEC Adjustment Rate	[4] ARVEC Adjustment Annual Accrual
	TOTAL CROSSROADS WIND FARM	435,215,635		17,238,044		16,005,568		-1,232,475
	MUSTANG SOLAR							
341.00	Structures and Improvements	695,028	4.04%	28,079	4.04%	28,079	0.00%	0
344.00	Generators	4,725,949	4.47%	211,250	4.47%	211,250	0.00%	0
345.00	Accessory Electric Equipment	1,309,402	4.05%	53,031	4.05%	53,031	0.00%	0
	TOTAL MUSTANG SOLAR	6,730,378		292,360		292,360		0
	TOTAL OTHER PRODUCTION	1,580,814,814	3.97%	62,759,078	3.63%	57,344,053	-0.34%	-5,415,025
	TOTAL PRODUCTION	**3,676,104,598**		**118,551,175**		**95,580,569**		**-22,970,606**
	TRANSMISSION PLANT							
350.10	Land (Non-Depreciable)	3,737,150		0				
350.20	Land Rights	111,149,385	1.35%	1,500,517	1.01%	1,127,409	-0.34%	-373,108
350.30	Land Rights-Power Supply	201,920	1.35%	2,726	1.01%	2,048	-0.34%	-678
352.00	Structures and Improvements-Transmission	6,077,453	1.67%	101,493	1.44%	87,333	-0.23%	-14,160
352.10	Structures and Improvements-Power Supply	834,645	1.67%	13,939	1.44%	11,994	-0.23%	-1,945
353.00	Station Equipment	713,355,226	2.20%	15,693,815	2.19%	15,608,645	-0.01%	-85,170
353.13	Security	934,554	2.20%	20,560	2.19%	20,449	-0.01%	-112
353.91	Step Up Transformers (Power Supply)	37,132,717	2.50%	928,318	2.50%	928,318	0.00%	0
	Total Station Equipment	873,423,051		18,261,368		17,786,196		-475,172
354.00	Towers and Fixtures	160,178,524	1.40%	2,242,499	1.45%	2,330,002	0.05%	87,502
355.00	Poles and Fixtures	879,633,906	2.90%	25,509,383	2.54%	22,329,460	-0.36%	-3,179,924
355.10	Poles and Fixtures-Power Supply	7,473,207	2.90%	216,723	2.54%	189,707	-0.36%	-27,016
356.00	Overhead Conductors and Devices	562,277,689	2.54%	14,281,853	2.15%	12,069,064	-0.39%	-2,212,790
356.10	Overhead Conductors and Devices-Power Supply	13,641,086	2.54%	346,484	2.15%	292,800	-0.39%	-53,683
358.00	Underground Conductors and Devices	110,494	0.27%	298	0.36%	401	0.09%	103
359.00	ARO	585,057	4.64%	27,128	4.64%	27,128	0.00%	0
	TOTAL TRANSMISSION PLANT	**2,497,323,014**	**2.44%**	**60,885,737**	**2.20%**	**55,024,758**	**-0.23%**	**-5,860,979**
	DISTRIBUTION PLANT							

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
360.10	Land (Non-Depreciable)	7,810,994		0		0	0.00%	0
360.20	Land Rights	5,150,063	1.53%	78,796	0.90%	46,114	-0.63%	-32,682
361.00	Structures and Improvements	7,624,077	1.71%	130,372	1.47%	111,891	-0.24%	-18,481
362.00	Station Equipment	613,679,745	2.16%	13,255,482	1.83%	11,248,352	-0.33%	-2,007,131
362.10	Security	0	2.16%	0	1.83%	0	-0.33%	0
362.90	Step Up Transformers for Power Supply-Tinker	240,811	2.16%	5,202	1.83%	4,414	-0.33%	-788
364.00	Poles, Towers, and Fixtures	639,676,774	2.89%	18,486,659	2.74%	17,503,037	-0.15%	-983,622
365.00	Overhead Conductors and Devices	497,298,327	2.69%	13,377,325	2.66%	13,234,681	-0.03%	-142,644
366.00	Underground Conduit	226,691,672	2.20%	4,987,217	1.81%	4,112,520	-0.39%	-874,697
367.00	Underground Conductors and Devices	779,069,646	1.95%	15,191,858	1.83%	14,273,580	-0.12%	-918,278
368.00	Line Transformers	465,738,410	3.44%	16,021,401	2.82%	13,155,105	-0.62%	-2,866,296
369.00	Services	246,271,127	2.01%	4,950,050	1.99%	4,891,611	-0.02%	-58,439
370.10	Meters	147,779,269	6.68%	9,871,655	5.85%	8,648,141	-0.83%	-1,223,515
370.30	Meters-Equipment	36,765,057	5.85%	2,150,756	5.85%	2,150,756	0.00%	0
371.00	Installation on Customer Premises	60,027,002	21.81%	13,091,889	10.00%	6,000,836	-11.81%	-7,091,053
373.00	Street Lighting and Signal Systems	243,181,796	5.18%	12,596,817	4.20%	10,205,489	-0.98%	-2,391,328
	TOTAL DISTRIBUTION PLANT	**3,977,004,768**	**3.12%**	**124,195,478**	**2.65%**	**105,586,525**	**-0.47%**	**-18,608,953**
	GENERAL PLANT							
	POWER DELIVERY							
389.10	Land (Non-Depreciable)	3,066,467		0		0	0.00%	0
389.20	Land Rights	147,826	2.74%	4,050	0.90%	1,324	-1.84%	-2,727
390.00	Structures and Improvements	184,174,322	2.03%	3,738,739	1.90%	3,502,253	-0.13%	-236,486
391.00	Office Furniture and Equipment	14,925,874	6.67%	995,556	6.75%	1,007,115	0.08%	11,560
391.10	Computer Equipment	7,171,273	20.00%	1,434,255	20.66%	1,481,783	0.66%	47,529
393.00	Stores Equipment	1,392,436	4.00%	55,697	4.02%	56,014	0.02%	317
394.00	Tools, Shop and Garage Equipment	11,414,553	4.00%	456,582	4.02%	458,690	0.02%	2,108
395.00	Laboratory Equipment	11,910,471	5.00%	595,524	5.03%	598,573	0.03%	3,050
396.00	Power Operated Equipment	9,421,036	4.86%	457,862	4.81%	453,123	-0.05%	-4,740
397.00	Communication Equipment	23,720,213	10.00%	2,372,021	10.02%	2,376,591	0.02%	4,569
398.00	Miscellaneous Equipment	6,006,601	5.00%	300,330	5.03%	301,894	0.03%	1,564
	TOTAL POWER DELIVERY	273,351,071		10,410,616		10,237,359		-173,257
	FLEET EQUIPMENT							
	FLEET EQUIPMENT - POWER SUPPLY							
392.10	Standard Cars	0	7.41%	0	7.41%	0	0.00%	0
392.30	Pickup Trucks	1,189,662	7.41%	88,154	7.41%	88,154	0.00%	0
392.40	Light Trucks	313,936	7.41%	23,263	7.41%	23,263	0.00%	0
392.50	Heavy Trucks	377,464	5.79%	21,855	5.79%	21,855	0.00%	0

Detailed Expense Adjustment

		[1]	[2]		[3]		[4]	
			OGE Proposal		ARVEC Proposal		ARVEC Adjustment	
Account No.	Description	Plant Balance 6/30/2016	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
392.60	Trailers	208,681	3.52%	7,346	3.52%	7,346	0.00%	0
	TOTAL - POWER SUPPLY FLEET	2,089,743		140,617		140,617		0
	FLEET EQUIPMENT - POWER DELIVERY							
392.10	Standard Cars	1,651,691	7.41%	122,390	7.41%	122,390	0.00%	0
392.30	Pickup Trucks	12,854,014	7.41%	952,482	7.41%	952,482	0.00%	0
392.40	Light Trucks	2,966,679	7.41%	219,831	7.41%	219,831	0.00%	0
392.50	Heavy Trucks	57,444,834	5.79%	3,326,056	5.79%	3,326,056	0.00%	0
392.60	Trailers	5,266,685	3.52%	185,387	3.52%	185,387	0.00%	0
	TOTAL- POWER DELIVERY FLEET	80,183,903		4,806,147		4,806,147		0
	TOTAL FLEET EQUIPMENT	82,273,646		4,946,764		4,946,764		0
	TOTAL GENERAL PLANT	355,624,717	4.32%	15,357,381	4.27%	15,184,124	-0.05%	-173,257
	TOTAL ELECTRIC PLANT	**10,609,450,795**	**3.07%**	**325,380,366**	**2.60%**	**275,432,323**	**-0.47%**	**-49,948,043**

[1] OG&E Depreciation Study pp. VI-4 - VI-11
[2] Company Schedule F-1.3
[3] From Rate Development exhibit
[4] = [3] - [2]

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	Intangible Plant							
301.00	Organization	80,900						
302.00	Franchises and Consents	2,592,571	4.22%	109,494	4.11%	106,667	-0.11%	-2,827
303.20	Miscellaneous Intangible Plant - Software	63,248,130	6.24%	3,948,825	3.92%	2,480,011	-2.32%	-1,468,814
	Total Intangible Plant	65,921,601	6.16%	4,058,319	3.92%	2,586,677	-2.23%	-1,471,642
	Coal and Gas Production Plant							
310.10	Land							
	Horseshoe Lake 6	116,199						
	Mustang 1	101,936						
	Seminole 1	1,239,444						
	Muskogee 3	54,996						
	Muskogee 4	1,825,436						
	Sooner 1	7,006,282						
	Total Land	10,344,294						
310.20	Rights of Way							
	Horseshoe Lake 6	28,509	1.42%	406	1.59%	454	0.17%	48
	Mustang 1	27,941	1.03%	289	1.03%	289	0.00%	0
	Seminole 1	78,916	2.07%	1,633	2.19%	1,728	0.12%	95
	Muskogee 4	18,934	2.58%	489	2.69%	509	0.10%	20
	Sooner 1	813,704	3.06%	24,898	3.16%	25,719	0.10%	821
	Total Rights of Way	968,005	2.86%	27,715	2.96%	28,699	0.10%	984
311.00	Structures and Improvements							
	Horseshoe Lake 6	11,211,175	4.43%	496,615	2.45%	274,835	-1.98%	-221,780
	Horseshoe Lake 7	2,780,824	2.70%	75,144	0.82%	22,724	-1.89%	-52,420
	Horseshoe Lake 8	4,909,590	3.38%	165,966	0.99%	48,702	-2.39%	-117,264
	Mustang 1	7,416,271	22.93%	1,700,482	11.93%	884,691	-11.00%	-815,791
	Mustang 2	195,298	5.54%	10,821	0.00%	0	-5.54%	-10,821
	Mustang 3	1,628,467	7.55%	122,953	0.00%	0	-7.55%	-122,953
	Mustang 4	3,270,373	11.42%	373,357	2.30%	75,187	-9.12%	-298,170

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	Seminole 1	18,980,575	3.76%	714,177	2.35%	446,973	-1.41%	-267,204
	Seminole 2	2,515,483	4.65%	116,924	2.52%	63,269	-2.13%	-53,655
	Seminole 3	7,102,749	3.29%	233,578	1.79%	126,905	-1.50%	-106,673
	Muskogee 4	41,211,521	2.42%	998,317	2.13%	875,963	-0.30%	-122,354
	Muskogee 5	7,042,387	2.29%	161,285	1.90%	134,000	-0.39%	-27,285
	Muskogee 6	51,625,592	1.38%	713,600	1.23%	633,661	-0.15%	-79,939
	Sooner 1	90,538,993	1.33%	1,204,794	1.12%	1,014,191	-0.21%	-190,603
	Sooner 2	12,443,474	1.55%	192,929	1.23%	152,766	-0.32%	-40,163
	Total Structures and Improvements	262,872,771	2.77%	7,280,942	1.80%	4,753,869	-0.97%	-2,527,073
312.00	Boiler Plant Equipment							
	Horseshoe Lake 6	16,714,253	4.10%	686,081	2.11%	351,945	-2.00%	-334,136
	Horseshoe Lake 7	14,425,660	2.99%	431,637	1.10%	158,937	-1.89%	-272,700
	Horseshoe Lake 8	16,592,080	3.54%	587,749	1.12%	185,084	-2.43%	-402,665
	Mustang 1	5,543,334	12.19%	675,725	1.19%	65,959	-11.00%	-609,766
	Mustang 2	3,597,630	7.74%	278,296	0.11%	3,834	-7.63%	-274,462
	Mustang 3	6,594,441	11.66%	768,608	3.34%	220,410	-8.31%	-548,198
	Mustang 4	16,899,943	9.75%	1,647,826	0.59%	99,617	-9.16%	-1,548,209
	Seminole 1	31,309,355	3.56%	1,113,684	2.11%	661,052	-1.45%	-452,632
	Seminole 2	26,377,010	4.24%	1,118,745	2.07%	546,142	-2.17%	-572,603
	Seminole 3	48,103,101	3.82%	1,837,606	2.30%	1,104,266	-1.52%	-733,340
	Muskogee 4	133,639,978	2.29%	3,062,780	1.98%	2,642,183	-0.31%	-420,597
	Muskogee 5	123,366,915	2.48%	3,057,785	2.08%	2,561,871	-0.40%	-495,914
	Muskogee 6	241,126,822	1.61%	3,883,994	1.45%	3,496,866	-0.16%	-387,128
	Sooner 1	215,877,477	1.85%	3,994,353	1.64%	3,530,790	-0.21%	-463,563
	Sooner 2	153,267,556	1.89%	2,903,827	1.56%	2,391,667	-0.33%	-512,160
	Total Boiler Plant Equipment	1,053,435,555	2.47%	26,048,696	1.71%	18,020,622	-0.76%	-8,028,074
314.00	Turbogenerator Units							
	Horseshoe Lake 6	7,851,909	5.65%	443,617	3.58%	281,239	-2.07%	-162,378
	Horseshoe Lake 7	16,203,244	3.24%	524,264	1.24%	201,293	-1.99%	-322,971
	Horseshoe Lake 8	17,870,801	4.22%	754,047	1.73%	309,694	-2.49%	-444,353
	Mustang 1	5,045,332	8.27%	417,197	0.00%	0	-8.27%	-417,197
	Mustang 2	4,630,128	9.27%	429,268	1.61%	74,344	-7.67%	-354,924
	Mustang 3	9,011,273	9.20%	829,449	0.86%	77,648	-8.34%	-751,801

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	Mustang 4	14,753,735	14.33%	2,114,546	5.20%	766,561	-9.14%	-1,347,985
	Seminole GT	1,588,884	2.87%	45,538	0.00%	0	-2.87%	-45,538
	Seminole 1	25,900,404	3.98%	1,030,169	2.51%	648,814	-1.47%	-381,355
	Seminole 2	30,298,116	4.89%	1,480,754	2.66%	806,014	-2.23%	-674,740
	Seminole 3	30,307,045	4.44%	1,346,705	2.91%	883,332	-1.53%	-463,373
	Muskogee 4	55,774,534	2.71%	1,512,076	2.40%	1,337,609	-0.31%	-174,467
	Muskogee 5	50,930,321	2.40%	1,219,799	1.99%	1,011,027	-0.41%	-208,772
	Muskogee 6	78,214,074	1.78%	1,395,057	1.61%	1,261,693	-0.17%	-133,364
	Sooner 1	36,739,503	1.51%	555,598	1.29%	474,224	-0.22%	-81,374
	Sooner 2	41,163,301	1.69%	693,628	1.34%	553,107	-0.34%	-140,521
	Total Turbogenerator Units	426,282,605	3.47%	14,791,712	2.00%	8,686,598	-1.47%	-6,105,114
315.00	Accessory Electric Equipment							
	Horseshoe Lake 6	2,312,662	4.50%	104,129	2.52%	58,375	-1.98%	-45,754
	Horseshoe Lake 7	2,057,256	3.53%	72,629	1.62%	33,242	-1.91%	-39,387
	Horseshoe Lake 8	2,556,414	4.26%	108,949	1.87%	47,796	-2.39%	-61,153
	Mustang 1	1,420,869	21.79%	309,588	10.79%	153,293	-11.00%	-156,295
	Mustang 2	600,475	11.54%	69,302	3.93%	23,593	-7.61%	-45,709
	Mustang 3	1,134,098	10.28%	116,543	1.95%	22,150	-8.32%	-94,393
	Mustang 4	1,734,242	14.07%	243,934	4.80%	83,157	-9.27%	-160,777
	Seminole 1	3,853,228	4.26%	164,204	2.83%	108,989	-1.43%	-55,215
	Seminole 2	2,035,788	4.38%	89,195	2.21%	44,996	-2.17%	-44,199
	Seminole 3	5,142,314	3.44%	176,700	1.94%	99,930	-1.49%	-76,770
	Muskogee 4	21,997,602	1.94%	426,256	1.62%	356,461	-0.32%	-69,795
	Muskogee 5	11,579,336	2.07%	240,249	1.66%	192,336	-0.41%	-47,913
	Muskogee 6	41,899,914	1.42%	593,067	1.25%	525,245	-0.16%	-67,822
	Sooner 1	23,826,732	1.37%	327,076	1.15%	274,028	-0.22%	-53,048
	Sooner 2	12,733,338	1.70%	216,687	1.36%	172,883	-0.34%	-43,804
	Total Accessory Electric Equipment	134,884,266	2.42%	3,258,508	1.63%	2,196,472	-0.79%	-1,062,036
316.00	Miscellaneous Power Plant Equipment							
	Horseshoe Lake 6	1,733,789	6.27%	108,736	4.21%	73,044	-2.06%	-35,692
	Horseshoe Lake 7	1,039,114	3.00%	31,215	0.96%	9,993	-2.04%	-21,222
	Horseshoe Lake 8	2,128,870	3.84%	81,800	1.25%	26,530	-2.60%	-55,270
	Mustang 1	626,438	27.25%	170,718	16.25%	101,809	-11.00%	-68,909

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	Mustang 2	28,575	28.28%	8,081	20.34%	5,813	-7.94%	-2,268
	Mustang 3	453,218	9.96%	45,154	1.25%	5,648	-8.72%	-39,506
	Mustang 4	1,283,308	11.03%	141,502	1.58%	20,304	-9.44%	-121,198
	Seminole 1	3,768,642	4.24%	159,778	2.69%	101,250	-1.55%	-58,528
	Seminole 2	39,168	8.54%	3,345	6.09%	2,387	-2.45%	-958
	Seminole 3	401,384	4.28%	17,171	2.69%	10,779	-1.59%	-6,392
	Muskogee 4	5,261,604	2.29%	120,335	1.95%	102,582	-0.34%	-17,753
	Muskogee 5	843,110	2.09%	17,581	1.62%	13,631	-0.47%	-3,950
	Muskogee 6	4,454,520	2.06%	91,797	1.86%	82,943	-0.20%	-8,854
	Sooner 1	4,328,583	1.94%	83,886	1.70%	73,715	-0.23%	-10,171
	Sooner 2	2,013,056	2.47%	49,791	2.05%	41,345	-0.42%	-8,446
	Power Supply Services	1,448,198	1.87%	27,056	1.87%	27,034	0.00%	-22
	Total Miscellaneous Power Plant Equipment	29,851,577	3.88%	1,157,946	2.34%	698,807	-1.54%	-459,139
	Total Coal and Gas Production Plant	1,918,639,072	2.74%	52,565,519	1.78%	34,385,067	-0.96%	-18,180,452
	Other Production Plant							
340.10	Land							
	Redbud 1	326,890						
	McClain Gas 1	489,856						
	Total Land	816,746						
341.00	Structures and Improvements							
	Redbud 1	32,409,694	2.22%	720,064	2.16%	698,874	-0.07%	-21,190
	Redbud 2	82,392	2.81%	2,312	2.73%	2,246	-0.08%	-66
	Redbud 3	78,180	2.81%	2,200	2.73%	2,138	-0.08%	-62
	Redbud 4	103,476	2.73%	2,828	2.65%	2,746	-0.08%	-82
	Horseshoe Lake 9 and 10	987,208	2.88%	28,473	2.78%	27,480	-0.10%	-993
	Tinker	972,164	1.65%	16,011	0.96%	9,329	-0.69%	-6,682
	McClain Gas 1	5,791,481	2.51%	145,593	2.42%	139,897	-0.10%	-5,696
	McClain Gas 2	959,632	2.38%	22,804	2.28%	21,854	-0.10%	-950
	McClain Steam 1	528,864	2.49%	13,158	2.30%	12,148	-0.19%	-1,010
	Centennial Wind Farm	2,332,087	4.18%	97,395	3.26%	75,995	-0.92%	-21,400

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	OU Spirit Wind Farm	5,209,833	4.03%	209,852	3.25%	169,476	-0.77%	-40,376
	Crossroads Wind Farm	11,586,653	3.86%	447,377	3.20%	370,709	-0.66%	-76,668
	Total Structures and Improvements	61,041,664	2.80%	1,708,067	2.51%	1,532,893	-0.29%	-175,174
342.00	Fuel Holders, Producers and Accessories							
	Redbud 1	11,904,643	2.25%	267,592	2.18%	259,134	-0.07%	-8,458
	Redbud 2	690,650	2.27%	15,668	2.18%	15,047	-0.09%	-621
	Redbud 3	691,291	2.27%	15,689	2.18%	15,058	-0.09%	-631
	Redbud 4	688,211	2.26%	15,563	2.17%	14,928	-0.09%	-635
	Tinker	167,150	4.17%	6,962	3.47%	5,806	-0.69%	-1,156
	McClain Gas 1	246,888	2.27%	5,609	2.18%	5,373	-0.10%	-236
	McClain Gas 2	162,706	2.18%	3,549	2.08%	3,392	-0.10%	-157
	Total Fuel Holders, Producers and Accessories	14,551,539	2.27%	330,632	2.19%	318,739	-0.08%	-11,893
343.00	Prime Movers							
	Redbud 1	86,059,677	3.11%	2,673,538	3.02%	2,602,530	-0.08%	-71,008
	Redbud 2	65,494,633	3.32%	2,174,732	3.22%	2,108,874	-0.10%	-65,858
	Redbud 3	65,549,317	3.01%	1,974,020	2.91%	1,908,000	-0.10%	-66,020
	Redbud 4	60,410,046	3.17%	1,912,669	3.06%	1,848,057	-0.11%	-64,612
	Horseshoe Lake 9 and 10	5,417,003	3.80%	205,745	3.68%	199,395	-0.12%	-6,350
	Tinker	3,910,681	2.26%	88,457	1.54%	60,299	-0.72%	-28,158
	McClain Gas 1	65,049,598	3.88%	2,523,719	3.76%	2,447,460	-0.12%	-76,259
	McClain Gas 2	68,969,030	3.57%	2,462,819	3.46%	2,383,183	-0.12%	-79,636
	McClain Steam 1	31,891,452	3.32%	1,057,394	3.07%	980,326	-0.24%	-77,068
	Total Prime Movers	452,751,437	3.33%	15,073,093	3.21%	14,538,124	-0.12%	-534,969
343.10	LTSA: 5-Year							
	Redbud 1	2,129,244	19.84%	422,346	20.47%	435,874	0.64%	13,528
	Redbud 2	1,895,120	20.30%	384,635	21.02%	398,435	0.73%	13,800
	Redbud 3	1,908,402	19.53%	372,724	20.25%	386,456	0.72%	13,732
	Redbud 4	2,141,159	19.93%	426,824	20.65%	442,110	0.71%	15,286
	McClain Gas 1	8,442,767	20.47%	1,728,487	20.96%	1,769,719	0.49%	41,232
	McClain Gas 2	7,981,330	20.34%	1,623,610	20.93%	1,670,766	0.59%	47,156
	McClain Steam 1	8,624		0	0.00%	0	0.00%	0

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
343.20	LTSA: 20-Year							
	Redbud 1	1,490,678	4.59%	68,435	4.89%	72,921	0.30%	4,486
	Redbud 2	1,490,678	5.01%	74,741	5.36%	79,883	0.34%	5,142
	Redbud 3	1,490,678	4.78%	71,295	5.12%	76,375	0.34%	5,080
	Redbud 4	1,490,678	4.84%	72,097	5.17%	77,138	0.34%	5,041
	Total LTSA	30,469,356	17.21%	5,245,194	17.75%	5,409,678	0.54%	164,484
344.00	Generators							
	Redbud 1	717,739	3.08%	22,097	3.01%	21,629	-0.07%	-468
	Redbud 3	23,199	3.03%	703	2.94%	683	-0.09%	-20
	Redbud 4	23,035	3.03%	697	2.94%	677	-0.09%	-20
	Horseshoe Lake 9 and 10	34,372,147	3.61%	1,239,847	3.50%	1,204,439	-0.10%	-35,408
	Tinker	3,314,013	3.53%	117,104	2.84%	94,019	-0.70%	-23,085
	Centennial Wind Farm	187,491,332	4.16%	7,800,983	3.32%	6,231,596	-0.84%	-1,569,387
	OU Spirit Wind Farm	245,143,282	4.19%	10,276,697	3.47%	8,501,440	-0.72%	-1,775,257
	Crossroads Wind Farm	359,760,960	3.95%	14,208,271	3.71%	13,347,431	-0.24%	-860,840
	Total Generators	830,845,707	4.05%	33,666,399	3.54%	29,401,915	-0.51%	-4,264,484
345.00	Accessory Electric Equipment							
	Redbud 1	12,892,722	2.24%	288,185	2.16%	278,537	-0.07%	-9,648
	Redbud 2	9,282,943	2.29%	212,152	2.20%	203,880	-0.09%	-8,272
	Redbud 3	9,119,140	2.27%	207,297	2.18%	198,580	-0.10%	-8,717
	Redbud 4	9,353,445	2.20%	205,325	2.11%	196,902	-0.09%	-8,423
	Horseshoe Lake 9 and 10	4,298,290	3.24%	139,241	3.14%	134,947	-0.10%	-4,294
	Tinker	3,023,751	2.14%	64,679	1.42%	42,845	-0.72%	-21,834
	McClain Gas 1	3,534,608	2.64%	93,412	2.53%	89,548	-0.11%	-3,864
	McClain Gas 2	3,477,788	2.61%	90,662	2.50%	87,066	-0.10%	-3,596
	McClain Steam 1	2,217,821	2.67%	59,318	2.47%	54,768	-0.21%	-4,550
	Centennial Wind Farm	911,783	4.50%	41,041	3.57%	32,520	-0.93%	-8,521
	OU Spirit Wind Farm	788,993	5.00%	39,486	4.11%	32,411	-0.90%	-7,075
	Crossroads Wind Farm	44,050,762	4.04%	1,781,015	3.38%	1,488,051	-0.67%	-292,964
	Total Accessory Electric Equipment	102,952,046	3.13%	3,221,813	2.76%	2,840,055	-0.37%	-381,758

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
346.00	Miscellaneous Power Plant Equipment							
	Redbud 1	2,010,342	2.66%	53,390	2.58%	51,788	-0.08%	-1,602
	Redbud 2	15,295	3.16%	483	3.07%	469	-0.09%	-14
	Redbud 3	4,236	3.35%	142	3.27%	138	-0.08%	-4
	Redbud 4	4,236	3.35%	142	3.26%	138	-0.09%	-4
	Horseshoe Lake 9 and 10	941,452	3.21%	30,179	3.10%	29,222	-0.10%	-957
	Tinker	8,664	2.77%	240	2.04%	177	-0.73%	-63
	McClain Gas 1	4,078,113	2.90%	118,464	2.78%	113,479	-0.12%	-4,985
	Centennial Wind Farm	417,174	5.15%	21,470	4.13%	17,232	-1.02%	-4,238
	OU Spirit Wind Farm	83,465	4.74%	3,958	3.94%	3,287	-0.80%	-671
	Crossroads Wind Farm	58,088	3.97%	2,308	3.39%	1,967	-0.59%	-341
	Total Miscellaneous Power Plant Equipment	7,621,067	3.03%	230,776	2.86%	217,896	-0.17%	-12,880
	Total Other Production Plant	1,501,049,562	3.96%	59,475,974	3.61%	54,259,299	-0.35%	-5,216,675
	Transmission Plant							
350.10	Land	3,541,128						
350.20	Land Rights	108,362,302	1.35%	1,464,896	1.01%	1,099,139	-0.34%	-365,757
352.00	Structures and Improvements	6,242,912	1.67%	104,499	1.44%	89,711	-0.24%	-14,788
353.00	Station Equipment	605,259,534	2.20%	13,297,119	1.97%	11,916,751	-0.23%	-1,380,368
353.10	Station Equipment - Step Up Transformers	53,127,938	2.50%	1,328,567	2.19%	1,162,472	-0.31%	-166,095
354.00	Towers and Fixtures	161,001,202	1.40%	2,260,703	1.45%	2,341,969	0.05%	81,266
355.00	Poles and Fixtures	828,826,933	2.90%	24,001,988	2.54%	21,039,727	-0.36%	-2,962,261
356.00	Overhead Conductors and Devices	566,280,790	2.54%	14,358,944	2.15%	12,154,989	-0.39%	-2,203,955
358.00	Underground Conductors and Devices	110,494	0.27%	297	0.36%	401	0.09%	104
	Total Transmission Plant	2,332,753,234	2.44%	56,817,013	2.14%	49,805,158	-0.30%	-7,011,855
	Distribution Plant							
360.10	Land	7,788,308						
360.20	Land Rights	4,906,915	1.53%	74,987	0.90%	43,937	-0.63%	-31,050
361.00	Structures and Improvements	6,789,470	1.71%	116,125	1.47%	99,642	-0.24%	-16,483
362.00	Station Equipment	587,980,205	2.16%	12,678,412	1.83%	10,777,296	-0.32%	-1,901,116

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
364.00	Poles, Towers and Fixtures	560,493,940	2.89%	16,172,820	2.74%	15,336,411	-0.15%	-836,409
365.00	Overhead Conductors and Devices	436,100,316	2.69%	11,716,941	2.66%	11,606,008	-0.03%	-110,933
366.00	Underground Conduit	190,859,208	2.20%	4,199,472	1.81%	3,462,466	-0.39%	-737,006
367.00	Underground Conductors and Devices	689,744,665	1.95%	13,460,359	1.83%	12,637,029	-0.12%	-823,330
368.00	Line Transformers	413,056,822	3.44%	14,189,491	2.82%	11,667,077	-0.61%	-2,522,414
369.00	Services	238,422,853	2.01%	4,783,747	1.99%	4,735,723	-0.02%	-48,024
370.00	Meters - Smart Meters	127,156,385	6.68%	8,496,662	6.70%	8,523,601	0.02%	26,939
370.10	Meters - Metering Equipment	35,422,587	5.85%	2,072,755	5.85%	2,072,953	0.00%	198
371.00	Installations on Customer Premises	39,213,363	21.81%	8,551,973	10.00%	3,920,119	-11.81%	-4,631,854
373.00	Street Lighting and Signal Systems	219,537,743	5.18%	11,371,043	4.20%	9,213,231	-0.98%	-2,157,812
	Total Distribution Plant	3,557,472,780	3.03%	107,884,787	2.65%	94,095,493	-0.39%	-13,789,294
	General Plant							
389.10	Land	2,866,064						
389.20	Land Rights	147,844	2.74%	4,058	2.76%	4,079	0.01%	21
390.00	Structures and Improvements	164,117,131	2.03%	3,329,857	1.90%	3,120,846	-0.13%	-209,011
391.00	Office Furniture and Equipment	12,773,167	6.67%	851,517	6.75%	861,863	0.08%	10,346
391.10	Office Furniture and Equipment - Computers	726,801	20.00%	145,355	20.66%	150,177	0.66%	4,822
392.10	Transportation Equipment - Cars and Trucks	18,189,606	7.41%	1,347,380	7.48%	1,359,854	0.07%	12,474
392.50	Transportation Equipment - Heavy Trucks	52,763,703	5.79%	3,055,061	5.76%	3,037,246	-0.03%	-17,815
392.60	Transportation Equipment - Trailers	4,712,699	3.52%	165,857	3.53%	166,270	0.01%	413
393.00	Stores Equipment	740,516	4.00%	29,603	4.02%	29,789	0.03%	186
394.00	Tools, Shop and Garage Equipment	9,861,717	4.00%	394,750	4.02%	396,290	0.02%	1,540
395.00	Laboratory Equipment	11,618,008	5.00%	581,408	5.03%	583,875	0.02%	2,467
396.00	Power Operated Equipment	9,218,433	4.86%	448,177	4.81%	443,378	-0.05%	-4,799
397.00	Communication Equipment	22,056,606	10.00%	2,206,107	10.02%	2,209,910	0.02%	3,803
398.00	Miscellaneous Equipment	5,833,193	5.00%	291,909	5.03%	293,178	0.02%	1,269
	Total General Plant	315,625,488	4.07%	12,851,039	4.01%	12,656,754	-0.06%	-194,285
	Unrecovered Reserve for Amortization							
391.00	Office Furniture and Equipment			850,190		850,190		
393.00	Stores Equipment			8,439		8,439		

Detailed Rate Comparison

Account No.	Description	[1] Original Cost	[2] OGE Proposed Rates Rate	[2] OGE Proposed Rates Annual Accrual	[3] ARVEC Proposed Rates Rate	[3] ARVEC Proposed Rates Annual Accrual	[4] Difference Rate	[4] Difference Annual Accrual
394.00	Tools, Shop and Garage Equipment			123,426		123,426		
395.00	Laboratory Equipment			351,391		351,391		
397.00	Communication Equipment			100,050		100,050		
398.00	Miscellaneous Equipment			-255,017		-255,017		
	Total General Plant			1,178,479		1,178,479		
	Accounts Not Studied							
	Muskogee 3							
311.00	Structures and Improvements							
312.00	Boiler Plant Equipment							
314.00	Turbogenerator Units							
315.00	Accessory Electric Equipment							
316.00	Miscellaneous Power Plant Equipment							
	Enid							
342.00	Fuel Holders, Producers and Accessories							
344.00	Generators							
	Woodward							
342.00	Fuel Holders, Producers and Accessories							
344.00	Generators							
	ARO							
317.00	ARO for Steam Production	3,497,863						
347.00	ARO for Other Production	43,620,335						
359.00	ARO for Transmission	585,057						
	Total Accounts Not Studied	47,703,255						
	TOTAL ELECTRIC PLANT	**$ 9,739,164,992**	**3.03%**	**$ 294,831,130**	**2.55%**	**$ 248,966,928**	**-0.47%**	**$ (45,864,202)**

[1] Company Depreciation Study

Detailed Rate Comparison

		[1]	[2]		[3]		[4]	
			OGE Proposed Rates		ARVEC Proposed Rates		Difference	
Account No.	Description	Original Cost	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual

[2] Company Schedule F-1.3
[3] From Rate Development exhibit
[4] = [3] - [2]

Depreciation Rate Development
(SL-AL-RL-BG System)

Account No.	Description	[1] Original Cost	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Service Life Accrual	[9] Service Life Rate	[10] Net Salvage Accrual	[11] Net Salvage Rate	[12] Total Accrual	[13] Total Rate
	Intangible Plant														
301.00	Organization	80,900			N/D										
302.00	Franchises and Consents	2,592,571	25	SQ	0.0%	2,592,571	1,493,905	1,098,666	10.30	106,667	4.11%	0	0.00%	106,667	**4.11%**
303.20	Miscellaneous Intangible Plant - Software	63,248,130	15	SQ	0.0%	63,248,130	29,598,260	33,649,870	13.57	2,480,011	3.92%	0	0.00%	2,480,011	**3.92%**
	Total Intangible Plant	65,921,601				65,840,701	31,092,165	34,748,536	13.43	2,586,677	3.92%	0	0.00%	2,586,677	**3.92%**
	Coal and Gas Production Plant														
310.10	Land														
	Horseshoe Lake 6	116,199			N/D										
	Mustang 1	101,936			N/D										
	Seminole 1	1,239,444			N/D										
	Muskogee 3	54,996			N/D										
	Muskogee 4	1,825,436			N/D										
	Sooner 1	7,006,282			N/D										
	Total Land	10,344,294													
310.20	Rights of Way														
	Horseshoe Lake 6	28,509	100	S4	-1.5%	28,942	24,856	4,086	9.00	406	1.42%	48	0.17%	454	**1.59%**
	Mustang 1	27,941	100	S4	0.0%	27,941	27,652	289	1.00	289	1.03%	0	0.00%	289	**1.03%**
	Seminole 1	78,916	100	S4	-2.0%	80,484	52,835	27,649	16.00	1,630	2.07%	98	0.12%	1,728	**2.19%**
	Muskogee 4	18,934	100	S4	-2.9%	19,488	5,296	14,192	27.90	489	2.58%	20	0.10%	509	**2.69%**
	Sooner 1	813,704	100	S4	-3.0%	838,493	66,925	771,568	30.00	24,893	3.06%	826	0.10%	25,719	**3.16%**
	Total Rights of Way	968,005				995,348	177,564	817,784	28.50	27,707	2.86%	992	0.10%	28,699	**2.96%**
311.00	Structures and Improvements														
	Horseshoe Lake 6	11,211,175	100	R1.5	-1.5%	11,381,226	8,935,191	2,446,035	8.90	255,729	2.28%	19,107	0.17%	274,835	**2.45%**
	Horseshoe Lake 7	2,780,824	100	R1.5	-2.6%	2,852,324	2,545,547	306,777	13.50	17,428	0.63%	5,296	0.19%	22,724	**0.82%**
	Horseshoe Lake 8	4,909,590	100	R1.5	-2.4%	5,025,142	4,318,958	706,184	14.50	40,733	0.83%	7,969	0.16%	48,702	**0.99%**
	Mustang 1	7,416,271	100	R1.5	0.0%	7,416,271	6,531,580	884,691	1.00	884,691	11.93%	0	0.00%	884,691	**11.93%**
	Mustang 2	195,298	100	R1.5	-0.3%	195,923	207,944	-12,021	3.00	-4,215	-2.16%	208	2.16%	-4,007	**0.00%**
	Mustang 3	1,628,467	100	R1.5	-0.4%	1,635,736	1,669,747	-34,011	3.00	-13,760	-0.84%	2,423	0.84%	-11,337	**0.00%**
	Mustang 4	3,270,373	100	R1.5	-0.8%	3,297,531	3,071,969	225,562	3.00	66,135	2.02%	9,052	0.28%	75,187	**2.30%**
	Seminole 1	18,980,575	100	R1.5	-2.0%	19,357,757	12,384,985	6,972,772	15.60	422,794	2.23%	24,178	0.13%	446,973	**2.35%**
	Seminole 2	2,515,483	100	R1.5	-2.0%	2,565,470	1,584,797	980,673	15.50	60,044	2.39%	3,225	0.13%	63,269	**2.52%**
	Seminole 3	7,102,749	100	R1.5	-1.7%	7,226,734	5,259,703	1,967,031	15.50	118,906	1.67%	7,999	0.11%	126,905	**1.79%**
	Muskogee 4	41,211,521	100	R1.5	-2.9%	42,416,217	18,852,812	23,563,405	26.90	831,179	2.02%	44,784	0.11%	875,963	**2.13%**
	Muskogee 5	7,042,387	100	R1.5	-3.2%	7,270,109	3,571,723	3,698,386	27.60	125,749	1.79%	8,251	0.12%	134,000	**1.90%**
	Muskogee 6	51,625,592	100	R1.5	-3.9%	53,657,575	32,936,867	20,720,708	32.70	571,521	1.11%	62,140	0.12%	633,661	**1.23%**
	Sooner 1	90,538,993	100	R1.5	-3.0%	93,297,173	64,392,717	28,904,456	28.50	917,413	1.01%	96,778	0.11%	1,014,191	**1.12%**
	Sooner 2	12,443,474	100	R1.5	-3.6%	12,889,249	8,459,021	4,430,228	29.00	137,395	1.10%	15,372	0.12%	152,766	**1.23%**
	Total Structures and Improvements	262,872,771				270,484,438	174,723,561	95,760,877	20.21	4,431,742	1.69%	306,784	0.12%	4,738,525	**1.80%**
312.00	Boiler Plant Equipment														
	Horseshoe Lake 6	16,714,253	85	R0.5	-1.5%	16,967,775	13,870,655	3,097,120	8.80	323,136	1.93%	28,809	0.17%	351,945	**2.11%**
	Horseshoe Lake 7	14,425,660	85	R0.5	-2.6%	14,796,572	12,666,821	2,129,751	13.40	131,257	0.91%	27,680	0.19%	158,937	**1.10%**
	Horseshoe Lake 8	16,592,080	85	R0.5	-2.4%	16,982,591	14,335,897	2,646,694	14.30	157,775	0.95%	27,308	0.16%	185,084	**1.12%**
	Mustang 1	5,543,334	85	R0.5	0.0%	5,543,334	5,477,375	65,959	1.00	65,959	1.19%	0	0.00%	65,959	**1.19%**
	Mustang 2	3,597,630	85	R0.5	-0.3%	3,609,142	3,597,640	11,502	3.00	-3	0.00%	3,837	0.11%	3,834	**0.11%**
	Mustang 3	6,594,441	85	R0.5	-0.4%	6,623,878	5,962,648	661,230	3.00	210,598	3.19%	9,813	0.15%	220,410	**3.34%**
	Mustang 4	16,899,943	85	R0.5	-0.8%	17,040,280	16,741,430	298,850	3.00	52,838	0.31%	46,779	0.28%	99,617	**0.59%**
	Seminole 1	31,309,355	85	R0.5	-2.0%	31,931,535	21,817,445	10,114,090	15.30	620,386	1.98%	40,665	0.13%	661,052	**2.11%**
	Seminole 2	26,377,010	85	R0.5	-2.0%	26,901,174	18,599,822	8,301,352	15.20	511,657	1.94%	34,484	0.13%	546,142	**2.07%**
	Seminole 3	48,103,101	85	R0.5	-1.7%	48,942,788	32,157,938	16,784,850	15.20	1,049,024	2.18%	55,243	0.11%	1,104,266	**2.30%**
	Muskogee 4	133,639,978	85	R0.5	-2.9%	137,546,542	69,378,210	68,168,332	25.80	2,490,766	1.86%	151,417	0.11%	2,642,183	**1.98%**
	Muskogee 5	123,366,915	85	R0.5	-3.2%	127,356,108	58,954,161	68,401,947	26.70	2,412,463	1.96%	149,408	0.12%	2,561,871	**2.08%**
	Muskogee 6	241,126,822	85	R0.5	-3.9%	250,617,573	140,815,975	109,801,598	31.40	3,194,613	1.32%	302,253	0.13%	3,496,866	**1.45%**
	Sooner 1	215,877,477	85	R0.5	-3.0%	222,453,969	125,357,245	97,096,724	27.50	3,291,645	1.52%	239,145	0.11%	3,530,790	**1.64%**
	Sooner 2	153,267,556	85	R0.5	-3.6%	158,758,213	91,313,208	67,445,005	28.20	2,196,963	1.43%	194,704	0.13%	2,391,667	**1.56%**
	Total Boiler Plant Equipment	1,053,435,555				1,086,071,475	631,046,470	455,025,005	25.25	16,709,075	1.59%	1,311,547	0.12%	18,020,622	**1.71%**

Depreciation Rate Development
(SL-AL-RL-BG System)

Account No.	Description	[1] Original Cost	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Service Life Accrual	[9] Service Life Rate	[10] Net Salvage Accrual	[11] Net Salvage Rate	[12] Total Accrual	[13] Total Rate
314.00	Turbogenerator Units														
	Horseshoe Lake 6	7,851,909	60	R1	-1.5%	7,971,007	5,580,473	2,390,534	8.50	267,228	3.40%	14,012	0.18%	281,239	**3.58%**
	Horseshoe Lake 7	16,203,244	60	R1	-2.6%	16,619,862	14,063,445	2,556,417	12.70	168,488	1.04%	32,805	0.20%	201,293	**1.24%**
	Horseshoe Lake 8	17,870,801	60	R1	-2.4%	18,291,408	13,955,695	4,335,713	14.00	279,650	1.56%	30,043	0.17%	309,694	**1.73%**
	Mustang 1	5,045,332	60	R1	0.0%	5,045,332	5,183,122	-137,790	1.00	-137,790	-2.73%	0	2.73%	-137,790	**0.00%**
	Mustang 2	4,630,128	60	R1	-0.3%	4,644,944	4,429,346	215,598	2.90	69,235	1.50%	5,109	0.11%	74,344	**1.61%**
	Mustang 3	9,011,273	60	R1	-0.4%	9,051,500	8,826,320	225,180	2.90	63,777	0.71%	13,871	0.15%	77,648	**0.86%**
	Mustang 4	14,753,735	60	R1	-0.8%	14,876,250	12,653,222	2,223,028	2.90	724,315	4.91%	42,247	0.29%	766,561	**5.20%**
	Seminole GT	1,588,884	60	R1	-2.0%	1,620,662	1,667,982	-47,320	2.50	-31,639	-1.99%	12,711	1.99%	-18,928	**0.00%**
	Seminole 1	25,900,404	60	R1	-2.0%	26,415,097	16,747,769	9,667,328	14.90	614,271	2.37%	34,543	0.13%	648,814	**2.51%**
	Seminole 2	30,298,116	60	R1	-2.0%	30,900,200	18,890,591	12,009,609	14.90	765,606	2.53%	40,408	0.13%	806,014	**2.66%**
	Seminole 3	30,307,045	60	R1	-1.7%	30,836,085	17,497,773	13,338,312	15.10	848,296	2.80%	35,036	0.12%	883,332	**2.91%**
	Muskogee 4	55,774,534	60	R1	-2.9%	57,404,935	23,162,156	34,242,779	25.60	1,273,921	2.28%	63,688	0.11%	1,337,609	**2.40%**
	Muskogee 5	50,930,321	60	R1	-3.2%	52,577,204	26,290,494	26,286,710	26.00	947,686	1.86%	63,342	0.12%	1,011,027	**1.99%**
	Muskogee 6	78,214,074	60	R1	-3.9%	81,292,580	43,820,305	37,472,275	29.70	1,158,039	1.48%	103,653	0.13%	1,261,693	**1.61%**
	Sooner 1	36,739,503	60	R1	-3.0%	37,858,735	25,196,967	12,661,768	26.70	432,305	1.18%	41,919	0.11%	474,224	**1.29%**
	Sooner 2	41,163,301	60	R1	-3.6%	42,637,935	27,482,811	15,155,124	27.40	499,288	1.21%	53,819	0.13%	553,107	**1.34%**
	Total Turbogenerator Units	426,282,605				438,043,736	265,448,471	172,595,265	20.23	7,942,676	1.86%	587,205	0.14%	8,529,880	**2.00%**
315.00	Accessory Electric Equipment														
	Horseshoe Lake 6	2,312,662	70	R2.5	-1.5%	2,347,741	1,828,204	519,537	8.90	54,434	2.35%	3,941	0.17%	58,375	**2.52%**
	Horseshoe Lake 7	2,057,256	70	R2.5	-2.6%	2,110,152	1,668,038	442,114	13.30	29,264	1.42%	3,977	0.19%	33,242	**1.62%**
	Horseshoe Lake 8	2,556,414	70	R2.5	-2.4%	2,616,582	1,928,315	688,267	14.40	43,618	1.71%	4,178	0.16%	47,796	**1.87%**
	Mustang 1	1,420,869	70	R2.5	0.0%	1,420,869	1,267,576	153,293	1.00	153,293	10.79%	0	0.00%	153,293	**10.79%**
	Mustang 2	600,475	70	R2.5	-0.3%	602,397	531,618	70,779	3.00	22,952	3.82%	641	0.11%	23,593	**3.93%**
	Mustang 3	1,134,098	70	R2.5	-0.4%	1,139,161	1,074,926	64,235	2.90	20,404	1.80%	1,746	0.15%	22,150	**1.95%**
	Mustang 4	1,734,242	70	R2.5	-0.8%	1,748,643	1,499,172	249,471	3.00	78,357	4.52%	4,800	0.28%	83,157	**4.80%**
	Seminole 1	3,853,228	70	R2.5	-2.0%	3,929,799	2,240,476	1,689,323	15.50	104,048	2.70%	4,940	0.13%	108,989	**2.83%**
	Seminole 2	2,035,788	70	R2.5	-2.0%	2,076,243	1,387,807	688,436	15.30	42,352	2.08%	2,644	0.13%	44,996	**2.21%**
	Seminole 3	5,142,314	70	R2.5	-1.7%	5,232,078	3,683,160	1,548,918	15.50	94,139	1.83%	5,791	0.11%	99,930	**1.94%**
	Muskogee 4	21,997,602	70	R2.5	-2.9%	22,640,635	13,586,527	9,054,108	25.40	331,145	1.51%	25,316	0.12%	356,461	**1.62%**
	Muskogee 5	11,579,336	70	R2.5	-3.2%	11,953,765	6,953,037	5,000,728	26.00	177,935	1.54%	14,401	0.12%	192,336	**1.66%**
	Muskogee 6	41,899,914	70	R2.5	-3.9%	43,549,094	27,213,984	16,335,110	31.10	472,216	1.13%	53,028	0.13%	525,245	**1.25%**
	Sooner 1	23,826,732	70	R2.5	-3.0%	24,552,589	17,290,856	7,261,733	26.50	246,637	1.04%	27,391	0.11%	274,028	**1.15%**
	Sooner 2	12,733,338	70	R2.5	-3.6%	13,189,497	8,452,513	4,736,984	27.40	156,234	1.23%	16,648	0.13%	172,883	**1.36%**
	Total Accessory Electric Equipment	134,884,266				139,109,245	90,606,209	48,503,036	22.08	2,027,029	1.50%	169,444	0.13%	2,196,472	**1.63%**
316.00	Miscellaneous Power Plant Equipment														
	Horseshoe Lake 6	1,733,789	45	R0.5	-1.5%	1,760,087	1,131,907	628,180	8.60	69,986	4.04%	3,058	0.18%	73,044	**4.21%**
	Horseshoe Lake 7	1,039,114	45	R0.5	-2.6%	1,065,831	941,915	123,916	12.40	7,839	0.75%	2,155	0.21%	9,993	**0.96%**
	Horseshoe Lake 8	2,128,870	45	R0.5	-2.4%	2,178,975	1,826,132	352,843	13.30	22,762	1.07%	3,767	0.18%	26,530	**1.25%**
	Mustang 1	626,438	45	R0.5	0.0%	626,438	524,629	101,809	1.00	101,809	16.25%	0	0.00%	101,809	**16.25%**
	Mustang 2	28,575	45	R0.5	-0.3%	28,666	11,226	17,440	3.00	5,783	20.24%	30	0.11%	5,813	**20.34%**
	Mustang 3	453,218	45	R0.5	-0.4%	455,241	439,427	15,814	2.80	4,925	1.09%	723	0.16%	5,648	**1.25%**
	Mustang 4	1,283,308	45	R0.5	-0.8%	1,293,964	1,235,083	58,881	2.90	16,629	1.30%	3,675	0.29%	20,304	**1.58%**
	Seminole 1	3,768,642	45	R0.5	-2.0%	3,843,533	2,415,910	1,427,623	14.10	95,938	2.55%	5,311	0.14%	101,250	**2.69%**
	Seminole 2	39,168	45	R0.5	-2.0%	39,947	7,482	32,465	13.60	2,330	5.95%	57	0.15%	2,387	**6.09%**
	Seminole 3	401,384	45	R0.5	-1.7%	408,391	252,095	156,296	14.50	10,296	2.57%	483	0.12%	10,779	**2.69%**
	Muskogee 4	5,261,604	45	R0.5	-2.9%	5,415,411	2,984,229	2,431,182	23.70	96,092	1.83%	6,490	0.12%	102,582	**1.95%**
	Muskogee 5	843,110	45	R0.5	-3.2%	870,373	558,231	312,142	22.90	12,440	1.48%	1,191	0.14%	13,631	**1.62%**
	Muskogee 6	4,454,520	45	R0.5	-3.9%	4,629,850	2,506,506	2,123,344	25.60	76,094	1.71%	6,849	0.15%	82,943	**1.86%**
	Sooner 1	4,328,583	45	R0.5	-3.0%	4,460,449	2,617,582	1,842,867	25.00	68,440	1.58%	5,275	0.12%	73,715	**1.70%**
	Sooner 2	2,013,056	45	R0.5	-3.6%	2,085,171	1,159,033	926,138	22.40	38,126	1.89%	3,219	0.16%	41,345	**2.05%**
	Power Supply Services	1,448,198	45	R0.5	-2.0%	1,477,162	349,832	1,127,330	41.70	26,340	1.82%	695	0.05%	27,034	**1.87%**
	Total Miscellaneous Power Plant Equipment	29,851,577				30,639,490	18,961,219	11,678,271	16.71	655,830	2.20%	42,977	0.14%	698,807	**2.34%**
	Total Coal and Gas Production Plant	1,918,639,072				1,965,343,732	1,180,963,494	784,380,238	22.93	31,794,057	1.66%	2,418,948	0.13%	34,213,006	**1.78%**
	Other Production Plant														
340.10	Land														
	Redbud 1	326,890			N/D										
	McClain Gas 1	489,856			N/D										

Depreciation Rate Development
(SL-AL-RL-BG System)

Account No.	Description	[1] Original Cost	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Service Life Accrual	[9] Service Life Rate	[10] Net Salvage Accrual	[11] Net Salvage Rate	[12] Total Accrual	[13] Total Rate
	Total Land	816,746													
341.00	Structures and Improvements														
	Redbud 1	32,409,694	45	S4	-2.9%	33,336,287	11,181,974	22,154,313	31.70	669,644	2.07%	29,230	0.09%	698,874	**2.16%**
	Redbud 2	82,392	45	S4	-3.3%	85,092	8,487	76,605	34.10	2,167	2.63%	79	0.10%	2,246	**2.73%**
	Redbud 3	78,180	45	S4	-3.2%	80,711	7,813	72,898	34.10	2,064	2.64%	74	0.09%	2,138	**2.73%**
	Redbud 4	103,476	45	S4	-3.2%	106,800	13,148	93,652	34.10	2,649	2.56%	97	0.09%	2,746	**2.65%**
	Horseshoe Lake 9 and 10	987,208	45	S4	-1.0%	996,922	430,842	566,080	20.60	27,008	2.74%	472	0.05%	27,480	**2.78%**
	Tinker	972,164	45	S4	-0.4%	976,427	873,812	102,615	11.00	8,941	0.92%	388	0.04%	9,329	**0.96%**
	McClain Gas 1	5,791,481	45	S4	-3.0%	5,964,676	1,683,819	4,280,857	30.60	134,237	2.32%	5,660	0.10%	139,897	**2.42%**
	McClain Gas 2	959,632	45	S4	-3.1%	989,764	358,180	631,584	28.90	20,811	2.17%	1,043	0.11%	21,854	**2.28%**
	McClain Steam 1	528,864	45	S4	-3.4%	546,885	192,150	354,735	29.20	11,531	2.18%	617	0.12%	12,148	**2.30%**
	Centennial Wind Farm	2,332,087	45	S4	-0.4%	2,341,683	712,342	1,629,341	21.44	75,548	3.24%	448	0.02%	75,995	**3.26%**
	OU Spirit Wind Farm	5,209,833	45	S4	-0.5%	5,233,981	1,093,680	4,140,301	24.43	168,488	3.23%	988	0.02%	169,476	**3.25%**
	Crossroads Wind Farm	11,586,653	45	S4	-0.6%	11,650,670	1,493,255	10,157,415	27.40	368,372	3.18%	2,336	0.02%	370,709	**3.20%**
	Total Structures and Improvements	61,041,664				62,309,898	18,049,502	44,260,396	28.87	1,491,461	2.44%	41,432	0.07%	1,532,893	**2.51%**
342.00	Fuel Holders, Producers and Accessories														
	Redbud 1	11,904,643	55	R4	-2.9%	12,244,997	4,211,845	8,033,152	31.00	248,155	2.08%	10,979	0.09%	259,134	**2.18%**
	Redbud 2	690,650	55	R4	-3.3%	713,283	246,827	466,456	31.00	14,317	2.07%	730	0.11%	15,047	**2.18%**
	Redbud 3	691,291	55	R4	-3.2%	713,675	246,876	466,799	31.00	14,336	2.07%	722	0.10%	15,058	**2.18%**
	Redbud 4	688,211	55	R4	-3.2%	710,320	247,539	462,781	31.00	14,215	2.07%	713	0.10%	14,928	**2.17%**
	Tinker	167,150	55	R4	-0.4%	167,883	104,016	63,867	11.00	5,739	3.43%	67	0.04%	5,806	**3.47%**
	McClain Gas 1	246,888	55	R4	-3.0%	254,271	88,246	166,025	30.90	5,134	2.08%	239	0.10%	5,373	**2.18%**
	McClain Gas 2	162,706	55	R4	-3.1%	167,815	63,673	104,142	30.70	3,226	1.98%	166	0.10%	3,392	**2.08%**
	Total Fuel Holders, Producers and Accessories	14,551,539				14,972,243	5,209,022	9,763,221	30.63	305,122	2.10%	13,616	0.09%	318,739	**2.19%**
343.00	Prime Movers														
	Redbud 1	86,059,677	35	R2	-2.9%	88,520,123	21,374,840	67,145,283	25.80	2,507,164	2.91%	95,366	0.11%	2,602,530	**3.02%**
	Redbud 2	65,494,633	35	R2	-3.3%	67,640,892	13,442,833	54,198,059	25.70	2,025,362	3.09%	83,512	0.13%	2,108,874	**3.22%**
	Redbud 3	65,549,317	35	R2	-3.2%	67,671,804	18,063,792	49,608,012	26.00	1,826,366	2.79%	81,634	0.12%	1,908,000	**2.91%**
	Redbud 4	60,410,046	35	R2	-3.2%	62,350,718	14,670,842	47,679,876	25.80	1,772,837	2.93%	75,220	0.12%	1,848,057	**3.06%**
	Horseshoe Lake 9 and 10	5,417,003	35	R2	-1.0%	5,470,306	1,861,263	3,609,043	18.10	196,450	3.63%	2,945	0.05%	199,395	**3.68%**
	Tinker	3,910,681	35	R2	-0.4%	3,927,829	3,294,691	633,138	10.50	58,666	1.50%	1,633	0.04%	60,299	**1.54%**
	McClain Gas 1	65,049,598	35	R2	-3.0%	66,994,906	7,766,380	59,228,526	24.20	2,367,075	3.64%	80,385	0.12%	2,447,460	**3.76%**
	McClain Gas 2	68,969,030	35	R2	-3.1%	71,134,658	13,223,312	57,911,346	24.30	2,294,062	3.33%	89,120	0.13%	2,383,183	**3.46%**
	McClain Steam 1	31,891,452	35	R2	-3.4%	32,978,153	10,822,794	22,155,359	22.60	932,241	2.92%	48,084	0.15%	980,326	**3.07%**
	Total Prime Movers	452,751,437				466,689,391	104,520,747	362,168,644	24.91	13,980,224	3.09%	557,899	0.12%	14,538,124	**3.21%**
343.10	LTSA: 5-Year														
	Redbud 1	2,129,244	5	SQ	-2.9%	2,190,119	228,688	1,961,431	4.50	422,346	19.84%	13,528	0.64%	435,874	**20.47%**
	Redbud 2	1,895,120	5	SQ	-3.3%	1,957,223	164,263	1,792,960	4.50	384,635	20.30%	13,801	0.73%	398,435	**21.02%**
	Redbud 3	1,908,402	5	SQ	-3.2%	1,970,196	231,144	1,739,052	4.50	372,724	19.53%	13,732	0.72%	386,456	**20.25%**
	Redbud 4	2,141,159	5	SQ	-3.2%	2,209,943	220,449	1,989,494	4.50	426,824	19.93%	15,285	0.71%	442,110	**20.65%**
	McClain Gas 1	8,442,767	5	SQ	-3.0%	8,695,248	3,828,520	4,866,728	2.75	1,677,908	19.87%	91,811	1.09%	1,769,719	**20.96%**
	McClain Gas 2	7,981,330	5	SQ	-3.1%	8,231,944	3,587,215	4,644,729	2.78	1,580,617	19.80%	90,149	1.13%	1,670,766	**20.93%**
	McClain Steam 1	8,624	5	SQ	-3.4%	8,918	8,624	294	2.78	0	0.00%	0	0.00%	0	**0.00%**
343.20	LTSA: 20-Year														
	Redbud 1	1,490,678	20	SQ	-2.9%	1,533,296	840,547	692,749	9.50	68,435	4.59%	4,486	0.30%	72,921	**4.89%**
	Redbud 2	1,490,678	20	SQ	-3.3%	1,539,527	780,635	758,892	9.50	74,741	5.01%	5,142	0.34%	79,883	**5.36%**
	Redbud 3	1,490,678	20	SQ	-3.2%	1,538,946	813,380	725,566	9.50	71,295	4.78%	5,081	0.34%	76,375	**5.12%**
	Redbud 4	1,490,678	20	SQ	-3.2%	1,538,566	805,755	732,811	9.50	72,097	4.84%	5,041	0.34%	77,138	**5.17%**
	Total LTSA	30,469,356				31,413,926	11,509,220	19,904,706	3.68	5,151,622	16.91%	258,056	0.85%	5,409,678	**17.75%**
344.00	Generators														
	Redbud 1	717,739	45	R2.5	-2.9%	738,259	56,945	681,314	31.50	20,978	2.92%	651	0.09%	21,629	**3.01%**
	Redbud 3	23,199	45	R2.5	-3.2%	23,950	2,099	21,851	32.00	659	2.84%	23	0.10%	683	**2.94%**
	Redbud 4	23,035	45	R2.5	-3.2%	23,775	2,119	21,656	32.00	654	2.84%	23	0.10%	677	**2.94%**
	Horseshoe Lake 9 and 10	34,372,147	45	R2.5	-1.0%	34,710,369	11,223,803	23,486,566	19.50	1,187,095	3.45%	17,345	0.05%	1,204,439	**3.50%**
	Tinker	3,314,013	45	R2.5	-0.4%	3,328,545	2,313,143	1,015,402	10.80	92,673	2.80%	1,346	0.04%	94,019	**2.84%**
	Centennial Wind Farm	187,491,332	45	R2.5	-0.4%	188,262,859	61,075,976	127,186,883	20.41	6,193,795	3.30%	37,801	0.02%	6,231,596	**3.32%**

Depreciation Rate Development
(SL-AL-RL-BG System)

Account No.	Description	[1] Original Cost	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Service Life Accrual	[9] Service Life Rate	[10] Net Salvage Accrual	[11] Net Salvage Rate	[12] Total Accrual	[13] Total Rate
	OU Spirit Wind Farm	245,143,282	45	R2.5	-0.5%	246,279,521	49,131,117	197,148,404	23.19	8,452,444	3.45%	48,997	0.02%	8,501,440	**3.47%**
	Crossroads Wind Farm	359,760,960	45	R2.5	-0.6%	361,748,639	48,350,952	313,397,687	23.48	13,262,777	3.69%	84,654	0.02%	13,347,431	**3.71%**
	Total Generators	830,845,707				835,115,918	172,156,154	662,959,764	22.55	29,211,074	3.52%	190,841	0.02%	29,401,915	**3.54%**
345.00	Accessory Electric Equipment														
	Redbud 1	12,892,722	45	R2.5	-2.9%	13,261,324	4,988,779	8,272,545	29.70	266,126	2.06%	12,411	0.10%	278,537	**2.16%**
	Redbud 2	9,282,943	45	R2.5	-3.3%	9,587,145	3,531,922	6,055,223	29.70	193,637	2.09%	10,242	0.11%	203,880	**2.20%**
	Redbud 3	9,119,140	45	R2.5	-3.2%	9,414,418	3,516,577	5,897,841	29.70	188,638	2.07%	9,942	0.11%	198,580	**2.18%**
	Redbud 4	9,353,445	45	R2.5	-3.2%	9,653,925	3,549,956	6,103,969	31.00	187,209	2.00%	9,693	0.10%	196,902	**2.11%**
	Horseshoe Lake 9 and 10	4,298,290	45	R2.5	-1.0%	4,340,585	1,736,116	2,604,469	19.30	132,755	3.09%	2,191	0.05%	134,947	**3.14%**
	Tinker	3,023,751	45	R2.5	-0.4%	3,037,010	2,591,418	445,592	10.40	41,570	1.37%	1,275	0.04%	42,845	**1.42%**
	McClain Gas 1	3,534,608	45	R2.5	-3.0%	3,640,311	1,186,684	2,453,627	27.40	85,691	2.42%	3,858	0.11%	89,548	**2.53%**
	McClain Gas 2	3,477,788	45	R2.5	-3.1%	3,586,991	1,210,095	2,376,896	27.30	83,066	2.39%	4,000	0.12%	87,066	**2.50%**
	McClain Steam 1	2,217,821	45	R2.5	-3.4%	2,293,393	809,173	1,484,220	27.10	51,980	2.34%	2,789	0.13%	54,768	**2.47%**
	Centennial Wind Farm	911,783	45	R2.5	-0.4%	915,535	241,070	674,465	20.74	32,339	3.55%	181	0.02%	32,520	**3.57%**
	OU Spirit Wind Farm	788,993	45	R2.5	-0.5%	792,650	28,399	764,251	23.58	32,256	4.09%	155	0.02%	32,411	**4.11%**
	Crossroads Wind Farm	44,050,762	45	R2.5	-0.6%	44,294,142	5,664,347	38,629,795	25.96	1,478,675	3.36%	9,375	0.02%	1,488,051	**3.38%**
	Total Accessory Electric Equipment	102,952,046				104,817,429	29,054,536	75,762,893	26.68	2,773,943	2.69%	66,112	0.06%	2,840,055	**2.76%**
346.00	Miscellaneous Power Plant Equipment														
	Redbud 1	2,010,342	40	R2	-2.9%	2,067,818	612,573	1,455,245	28.10	49,743	2.47%	2,045	0.10%	51,788	**2.58%**
	Redbud 2	15,295	40	R2	-3.3%	15,796	1,633	14,163	30.20	452	2.96%	17	0.11%	469	**3.07%**
	Redbud 3	4,236	40	R2	-3.2%	4,373	152	4,221	30.50	134	3.16%	4	0.11%	138	**3.27%**
	Redbud 4	4,236	40	R2	-3.2%	4,372	158	4,214	30.50	134	3.16%	4	0.11%	138	**3.26%**
	Horseshoe Lake 9 and 10	941,452	40	R2	-1.0%	950,716	413,037	537,679	18.40	28,718	3.05%	503	0.05%	29,222	**3.10%**
	Tinker	8,664	40	R2	-0.4%	8,702	6,849	1,853	10.50	173	2.00%	4	0.04%	177	**2.04%**
	McClain Gas 1	4,078,113	40	R2	-3.0%	4,200,069	1,329,063	2,871,006	25.30	108,658	2.66%	4,820	0.12%	113,479	**2.78%**
	Centennial Wind Farm	417,174	40	R2	-0.4%	418,891	71,147	347,744	20.18	17,147	4.11%	85	0.02%	17,232	**4.13%**
	OU Spirit Wind Farm	83,465	40	R2	-0.5%	83,852	9,270	74,582	22.69	3,270	3.92%	17	0.02%	3,287	**3.94%**
	Crossroads Wind Farm	58,088	40	R2	-0.6%	58,409	8,910	49,499	25.17	1,954	3.36%	13	0.02%	1,967	**3.39%**
	Total Miscellaneous Power Plant Equipment	7,621,067				7,813,000	2,452,792	5,360,208	24.60	210,383	2.76%	7,513	0.10%	217,896	**2.86%**
	Total Other Production Plant	1,501,049,562				1,523,131,804	342,951,973	1,180,179,831	21.75	53,123,829	3.54%	1,135,471	0.08%	54,259,299	**3.61%**
	Transmission Plant														
350.10	Land	3,541,128			N/D										
350.20	Land Rights	108,362,302	96	L4	0.0%	108,362,302	15,594,976	92,767,326	84.40	1,099,139	1.01%	0	0.00%	1,099,139	**1.01%**
352.00	Structures and Improvements	6,242,912	73	R4	-5.0%	6,555,058	1,055,765	5,499,293	61.30	84,619	1.36%	5,092	0.08%	89,711	**1.44%**
353.00	Station Equipment	605,259,534	64	R1	-30.0%	786,837,394	123,074,387	663,763,007	55.70	8,656,825	1.43%	3,259,926	0.54%	11,916,751	**1.97%**
353.10	Station Equipment - Step Up Transformers	53,127,938	48	R1	-10.0%	58,440,732	12,988,096	45,452,636	39.10	1,026,594	1.93%	135,877	0.26%	1,162,472	**2.19%**
354.00	Towers and Fixtures	161,001,202	75	R4	-15.0%	185,151,382	44,399,061	140,752,321	60.10	1,940,135	1.21%	401,833	0.25%	2,341,969	**1.45%**
355.00	Poles and Fixtures	828,826,933	61	L0	-60.0%	1,326,123,093	135,274,530	1,190,848,563	56.60	12,253,576	1.48%	8,786,151	1.06%	21,039,727	**2.54%**
356.00	Overhead Conductors and Devices	566,280,790	68	R2	-50.0%	849,421,185	129,845,858	719,575,327	59.20	7,372,212	1.30%	4,782,777	0.84%	12,154,989	**2.15%**
358.00	Underground Conductors and Devices	110,494	53	S6	0.0%	110,494	108,170	2,324	5.79	401	0.36%	0	0.00%	401	**0.36%**
	Total Transmission Plant	2,332,753,234				3,321,001,640	462,340,843	2,858,660,797	57.40	32,433,502	1.39%	17,371,656	0.74%	49,805,158	**2.14%**
	Distribution Plant														
360.10	Land	7,788,308			N/D										
360.20	Land Rights	4,906,915	99	L4	0.0%	4,906,915	1,348,042	3,558,873	81.00	43,937	0.90%	0	0.00%	43,937	**0.90%**
361.00	Structures and Improvements	6,789,470	70	R2.5	-10.0%	7,468,417	1,768,895	5,699,522	57.20	87,772	1.29%	11,870	0.17%	99,642	**1.47%**
362.00	Station Equipment	587,980,205	68	R2	-30.0%	764,374,267	163,001,153	601,373,114	55.80	7,616,112	1.30%	3,161,184	0.54%	10,777,296	**1.83%**
364.00	Poles, Towers and Fixtures	560,493,940	55	R1	-60.0%	896,790,304	223,521,850	673,268,454	43.90	7,675,902	1.37%	7,660,509	1.37%	15,336,411	**2.74%**
365.00	Overhead Conductors and Devices	436,100,316	54	R0.5	-50.0%	654,150,473	149,289,112	504,861,361	43.50	6,593,361	1.51%	5,012,647	1.15%	11,606,008	**2.66%**
366.00	Underground Conduit	190,859,208	65	R2.5	-25.0%	238,574,011	54,717,057	183,856,954	53.10	2,563,882	1.34%	898,584	0.47%	3,462,466	**1.81%**
367.00	Underground Conductors and Devices	689,744,665	64	R2.5	-25.0%	862,180,832	203,791,638	658,389,194	52.10	9,327,313	1.35%	3,309,715	0.48%	12,637,029	**1.83%**
368.00	Line Transformers	413,056,822	44	O2	-25.0%	516,321,028	82,305,752	434,015,276	37.20	8,891,158	2.15%	2,775,920	0.67%	11,667,077	**2.82%**
369.00	Services	238,422,853	53	R5	-20.0%	286,107,423	116,568,538	169,538,885	35.80	3,403,752	1.43%	1,331,971	0.56%	4,735,723	**1.99%**
370.00	Meters - Smart Meters	127,156,385	15	S2.5	-5.0%	133,514,204	31,230,993	102,283,211	12.00	7,993,783	6.29%	529,818	0.42%	8,523,601	**6.70%**
370.10	Meters - Metering Equipment	35,422,587	14	L0.5	-5.0%	37,193,716	16,464,184	20,729,532	10.00	1,895,840	5.35%	177,113	0.50%	2,072,953	**5.85%**
371.00	Installations on Customer Premises	39,213,363	15	L3	0.0%	39,213,363	12,321,349	26,892,014	6.86	3,920,119	10.00%	0	0.00%	3,920,119	**10.00%**

Depreciation Rate Development
(SL-AL-RL-BG System)

Account No.	Description	[1] Original Cost	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Service Life Accrual	[9] Service Life Rate	[10] Net Salvage Accrual	[11] Net Salvage Rate	[12] Total Accrual	[13] Total Rate
373.00	Street Lighting and Signal Systems	219,537,743	31	L2	-30.0%	285,399,066	97,449,160	187,949,906	20.40	5,984,734	2.73%	3,228,496	1.47%	9,213,231	**4.20%**
	Total Distribution Plant	3,557,472,780				4,726,194,018	1,153,777,723	3,572,416,295	37.97	65,997,665	1.86%	28,097,828	0.79%	94,095,493	**2.65%**
	General Plant														
389.10	Land	2,866,064			N/D										
389.20	Land Rights	147,844	45	R4	0.0%	147,844	82,176	65,668	16.10	4,079	2.76%	0	0.00%	4,079	**2.76%**
390.00	Structures and Improvements	164,117,131	44	L2	0.0%	164,117,131	65,810,486	98,306,645	31.50	3,120,846	1.90%	0	0.00%	3,120,846	**1.90%**
391.00	Office Furniture and Equipment	12,773,167	15	SQ	0.0%	12,773,167	3,465,050	9,308,117	10.80	861,863	6.75%	0	0.00%	861,863	**6.75%**
391.10	Office Furniture and Equipment - Computers	726,801	5	SQ	0.0%	726,801	403,920	322,881	2.15	150,177	20.66%	0	0.00%	150,177	**20.66%**
392.10	Transportation Equipment - Cars and Trucks	18,189,606	10	S2.5	10.0%	16,370,645	9,027,433	7,343,212	5.40	1,696,699	9.33%	-336,845	-1.85%	1,359,854	**7.48%**
392.50	Transportation Equipment - Heavy Trucks	52,763,703	13	L2.5	10.0%	47,487,332	23,493,088	23,994,244	7.90	3,705,141	7.02%	-667,895	-1.27%	3,037,246	**5.76%**
392.60	Transportation Equipment - Trailers	4,712,699	23	S0.5	10.0%	4,241,429	1,132,187	3,109,242	18.70	191,471	4.06%	-25,202	-0.53%	166,270	**3.53%**
393.00	Stores Equipment	740,516	25	SQ	0.0%	740,516	391,985	348,531	11.70	29,789	4.02%	0	0.00%	29,789	**4.02%**
394.00	Tools, Shop and Garage Equipment	9,861,717	25	SQ	0.0%	9,861,717	4,234,400	5,627,317	14.20	396,290	4.02%	0	0.00%	396,290	**4.02%**
395.00	Laboratory Equipment	11,618,008	20	SQ	0.0%	11,618,008	5,020,220	6,597,788	11.30	583,875	5.03%	0	0.00%	583,875	**5.03%**
396.00	Power Operated Equipment	9,218,433	18	L2	15.0%	7,835,668	3,002,848	4,832,820	10.90	570,237	6.19%	-126,859	-1.38%	443,378	**4.81%**
397.00	Communication Equipment	22,056,606	10	SQ	0.0%	22,056,606	6,565,140	15,491,466	7.01	2,209,910	10.02%	0	0.00%	2,209,910	**10.02%**
398.00	Miscellaneous Equipment	5,833,193	20	SQ	0.0%	5,833,193	2,285,735	3,547,458	12.10	293,178	5.03%	0	0.00%	293,178	**5.03%**
	Total General Plant	315,625,488				303,810,058	124,914,668	178,895,390	14.13	13,813,554	4.38%	-1,156,800	-0.37%	12,656,754	**4.01%**
	Unrecovered Reserve for Amortization														
391.00	Office Furniture and Equipment						-4,250,950							850,190	
393.00	Stores Equipment						-42,195							8,439	
394.00	Tools, Shop and Garage Equipment						-617,132							123,426	
395.00	Laboratory Equipment						-1,756,957							351,391	
397.00	Communication Equipment						-500,249							100,050	
398.00	Miscellaneous Equipment						1,275,084							-255,017	
	Total Unrecovered Reserve for Amortization						-5,892,399							1,178,479	
	Accounts Not Studied														
	Muskogee 3														
311.00	Structures and Improvements						430,499								
312.00	Boiler Plant Equipment						2,047,264								
314.00	Turbogenerator Units						934,359								
315.00	Accessory Electric Equipment						223,239								
316.00	Miscellaneous Power Plant Equipment						25,344								
	Enid														
342.00	Fuel Holders, Producers and Accessories						144								
344.00	Generators						-324,548								
	Woodward														
342.00	Fuel Holders, Producers and Accessories						247								
344.00	Generators						-216,010								
	ARO														
317.00	ARO for Steam Production	3,497,863					-4,826,990								
347.00	ARO for Other Production	43,620,335					-6,832,335								
359.00	ARO for Transmission	585,057					-95,275								
	Total Accounts Not Studied	47,703,255					-8,634,062								
	TOTAL ELECTRIC PLANT	**9,739,164,992**				**11,905,321,953**	**3,281,514,405**	**8,609,281,087**	**34.60**	**199,749,285**	**2.05%**	**47,867,103**	**0.50%**	**248,794,866**	**2.55%**

[1] OG&E Depreciation Study pp. VI-4 - VI-11
[2] Average life and Iowa curve shape developed through actuarial analysis and professional judgment
[3] Weighted net salvage for life span accounts from weighted net salvage exhibit; net salvage for mass accounts developed through statistical analysis and professional judgment

Depreciation Rate Development
(SL-AL-RL-BG System)

		[1]	[2]		[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Account		Original	Iowa Curve		Net	Depreciable	Book	Future	Remaining	Service Life		Net Salvage		Total	
No.	Description	Cost	Type	AL	Salvage	Base	Reserve	Accruals	Life	Accrual	Rate	Accrual	Rate	Accrual	Rate

[4] = [1]*(1-[3])
[5] From Company accounting records
[6] = [4] - [5]
[7] Composite remaining life based on Iowa cuve in [2]; see remaining life exhibit for detailed calculations
[8] = ([1] - [5]) / [7]
[9] = [8] / [1]
[10] = [12] - [8]
[11] = [13] - [9]
[12] = [6] / [7]
[13] = [12] / [1]. Any negative rates adjusted up to zero.

Weighted Net Salvage

	[1]	[2]	[3]	[4]	[5]
	Terminal Retirements		Interim Retirements		Weighted
Location	Retirements	Net Salvage	Retirements	Net Salvage	Net Salvage
Coal and Gas Production Plant					
Horseshoe Lake 6	91%	0.0%	9%	-16%	-1.5%
Horseshoe Lake 7	84%	0.0%	16%	-16%	-2.6%
Horseshoe Lake 8	85%	0.0%	15%	-16%	-2.4%
Mustang 1	100%	0.0%	0%	-16%	0.0%
Mustang 2	98%	0.0%	2%	-16%	-0.3%
Mustang 3	97%	0.0%	3%	-16%	-0.4%
Mustang 4	95%	0.0%	5%	-16%	-0.8%
Seminole GT	97%	0.0%	3%	-16%	-0.5%
Seminole 1	88%	0.0%	12%	-16%	-2.0%
Seminole 2	86%	0.0%	14%	-16%	-2.3%
Seminole 3	89%	0.0%	11%	-16%	-1.7%
Muskogee 4	82%	0.0%	18%	-16%	-2.9%
Muskogee 5	80%	0.0%	20%	-16%	-3.2%
Muskogee 6	75%	0.0%	25%	-16%	-3.9%
Sooner 1	81%	0.0%	19%	-16%	-3.0%
Sooner 2	78%	0.0%	22%	-16%	-3.6%
Other Production Plant					
Redbud 1	43%	0.0%	57%	-5%	-2.9%
Redbud 2	34%	0.0%	66%	-5%	-3.3%
Redbud 3	35%	0.0%	65%	-5%	-3.2%
Redbud 4	36%	0.0%	64%	-5%	-3.2%
Horseshoe Lake 9 and 10	80%	0.0%	20%	-5%	-1.0%
Tinker	91%	0.0%	9%	-5%	-0.4%
McClain Gas 1	40%	0.0%	60%	-5%	-3.0%
McClain Gas 2	37%	0.0%	63%	-5%	-3.1%
McClain Steam 1	32%	0.0%	68%	-5%	-3.4%
Wind Production Plant					
Centennial	92%	0.0%	8%	-5%	-0.4%
OU Spirit	91%	0.0%	9%	-5%	-0.5%
Crossroads	89%	0.0%	11%	-5%	-0.6%

[1] From Depreciation Study
[2] Removed 100% of OG&E's proposed terminal net salvage due to lack of support (see responsive testimony)
[3] From Depreciation Study
[4] From Depreciation Study
[5] = [1]*[2] + [3]*[4]

Account 315 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE R2.5-70**	**ARVEC R2-81**	**OGE SSD**	**ARVEC SSD**
0.0	17,055,445	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	16,926,925	100.00%	99.96%	99.94%	0.0000	0.0000
1.5	15,183,969	100.00%	99.88%	99.82%	0.0000	0.0000
2.5	10,802,469	99.92%	99.79%	99.70%	0.0000	0.0000
3.5	8,719,948	99.92%	99.70%	99.57%	0.0000	0.0000
4.5	8,265,647	99.51%	99.60%	99.43%	0.0000	0.0000
5.5	8,487,622	99.51%	99.50%	99.29%	0.0000	0.0000
6.5	8,484,547	99.48%	99.39%	99.14%	0.0000	0.0000
7.5	8,217,401	99.48%	99.27%	98.99%	0.0000	0.0000
8.5	6,973,073	98.23%	99.15%	98.83%	0.0001	0.0000
9.5	51,365,170	98.23%	99.02%	98.66%	0.0001	0.0000
10.5	50,826,268	98.23%	98.88%	98.49%	0.0000	0.0000
11.5	49,662,040	98.04%	98.74%	98.31%	0.0000	0.0000
12.5	49,594,796	98.04%	98.58%	98.13%	0.0000	0.0000
13.5	49,498,495	97.96%	98.42%	97.93%	0.0000	0.0000
14.5	49,367,384	97.96%	98.25%	97.73%	0.0000	0.0000
15.5	49,361,082	97.95%	98.07%	97.52%	0.0000	0.0000
16.5	85,860,307	97.80%	97.87%	97.31%	0.0000	0.0000
17.5	86,240,564	97.78%	97.67%	97.08%	0.0000	0.0000
18.5	97,308,830	97.78%	97.46%	96.85%	0.0000	0.0001
19.5	114,588,363	97.77%	97.23%	96.61%	0.0000	0.0001
20.5	114,121,149	97.60%	96.99%	96.36%	0.0000	0.0002
21.5	115,922,254	97.60%	96.74%	96.10%	0.0001	0.0002
22.5	115,508,294	97.55%	96.48%	95.83%	0.0001	0.0003
23.5	116,781,309	97.48%	96.20%	95.56%	0.0002	0.0004
24.5	115,377,960	97.01%	95.91%	95.27%	0.0001	0.0003
25.5	112,854,021	95.17%	95.60%	94.97%	0.0000	0.0000
26.5	111,864,026	94.81%	95.28%	94.67%	0.0000	0.0000
27.5	69,318,278	94.73%	94.94%	94.35%	0.0000	0.0000
28.5	68,639,983	94.58%	94.58%	94.02%	0.0000	0.0000
29.5	68,022,179	94.56%	94.21%	93.68%	0.0000	0.0001
30.5	67,826,929	94.47%	93.81%	93.33%	0.0000	0.0001
31.5	67,653,986	94.29%	93.40%	92.97%	0.0001	0.0002
32.5	68,805,148	94.05%	92.97%	92.59%	0.0001	0.0002
33.5	68,673,326	93.87%	92.52%	92.20%	0.0002	0.0003
34.5	34,796,241	93.50%	92.04%	91.80%	0.0002	0.0003
35.5	32,942,580	89.76%	91.54%	91.39%	0.0003	0.0003
36.5	24,195,859	89.68%	91.02%	90.97%	0.0002	0.0002
37.5	7,049,913	88.86%	90.48%	90.53%	0.0003	0.0003
38.5	8,151,022	88.82%	89.91%	90.07%	0.0001	0.0002
39.5	6,206,283	88.78%	89.32%	89.61%	0.0000	0.0001
40.5	8,557,927	88.78%	88.70%	89.13%	0.0000	0.0000
41.5	7,303,756	88.75%	88.06%	88.63%	0.0000	0.0000
42.5	7,223,449	87.79%	87.38%	88.12%	0.0000	0.0000
43.5	7,069,233	87.23%	86.68%	87.59%	0.0000	0.0000
44.5	7,069,233	87.23%	85.94%	87.05%	0.0002	0.0000
45.5	5,896,320	86.39%	85.18%	86.49%	0.0001	0.0000
46.5	5,892,739	86.39%	84.38%	85.91%	0.0004	0.0000
47.5	5,890,997	86.37%	83.56%	85.32%	0.0008	0.0001

Account 315 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE R2.5-70**	**ARVEC R2-81**	**OGE SSD**	**ARVEC SSD**
48.5	5,804,246	85.50%	82.69%	84.71%	0.0008	0.0001
49.5	5,781,315	85.17%	81.80%	84.08%	0.0011	0.0001
50.5	4,468,388	85.17%	80.86%	83.43%	0.0019	0.0003
51.5	4,460,171	85.01%	79.89%	82.77%	0.0026	0.0005
52.5	4,360,441	83.11%	78.89%	82.09%	0.0018	0.0001
53.5	4,300,638	83.08%	77.84%	81.39%	0.0027	0.0003
54.5	3,273,838	82.65%	76.75%	80.66%	0.0035	0.0004
55.5	2,166,906	82.60%	75.62%	79.92%	0.0049	0.0007
56.5	1,300,767	82.41%	74.45%	79.16%	0.0063	0.0011
57.5	1,300,767	82.41%	73.24%	78.38%	0.0084	0.0016
58.5	0	82.41%	71.98%	77.58%	0.0109	0.0023
Sum of Squared Differences				[8]	0.0490	0.0116

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

[4] The Company's selected Iowa curve to be fitted to the OLT.

[5] My selected Iowa curve to be fitted to the OLT.

[6] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.

[7] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.

[8] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

Account 356 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE R3-60**	**ARVEC R2-68**	**Best Fit R2-80**	**OGE SSD**	**ARVEC SSD**	**R2-80 SSD**
0.0	463,541,575	100.00%	100.00%	100.00%	100.00%	0.0000	0.0000	0.0000
0.5	348,248,572	100.00%	99.99%	99.93%	99.94%	0.0000	0.0000	0.0000
1.5	270,937,096	99.93%	99.96%	99.79%	99.82%	0.0000	0.0000	0.0000
2.5	194,228,108	99.91%	99.93%	99.63%	99.69%	0.0000	0.0000	0.0000
3.5	175,994,308	99.90%	99.89%	99.48%	99.56%	0.0000	0.0000	0.0000
4.5	100,421,765	99.83%	99.85%	99.31%	99.42%	0.0000	0.0000	0.0000
5.5	85,778,271	99.83%	99.80%	99.13%	99.28%	0.0000	0.0000	0.0000
6.5	72,623,298	99.83%	99.74%	98.95%	99.13%	0.0000	0.0001	0.0000
7.5	64,303,781	99.65%	99.68%	98.76%	98.97%	0.0000	0.0001	0.0000
8.5	55,165,896	99.65%	99.61%	98.56%	98.81%	0.0000	0.0001	0.0001
9.5	50,908,467	99.62%	99.53%	98.35%	98.64%	0.0000	0.0002	0.0001
10.5	51,056,884	99.62%	99.45%	98.12%	98.47%	0.0000	0.0002	0.0001
11.5	49,299,191	99.62%	99.35%	97.89%	98.29%	0.0000	0.0003	0.0002
12.5	14,380,219	99.62%	99.24%	97.65%	98.10%	0.0000	0.0004	0.0002
13.5	12,522,184	99.45%	99.12%	97.40%	97.90%	0.0000	0.0004	0.0002
14.5	11,567,554	98.60%	98.99%	97.14%	97.69%	0.0000	0.0002	0.0001
15.5	9,819,173	98.58%	98.85%	96.86%	97.48%	0.0000	0.0003	0.0001
16.5	14,410,507	98.43%	98.68%	96.57%	97.26%	0.0000	0.0003	0.0001
17.5	13,809,559	98.43%	98.51%	96.27%	97.03%	0.0000	0.0005	0.0002
18.5	18,185,161	98.43%	98.31%	95.96%	96.80%	0.0000	0.0006	0.0003
19.5	22,210,914	98.37%	98.10%	95.63%	96.55%	0.0000	0.0007	0.0003
20.5	24,875,358	98.37%	97.87%	95.29%	96.30%	0.0000	0.0009	0.0004
21.5	24,875,358	98.37%	97.62%	94.94%	96.03%	0.0001	0.0012	0.0005
22.5	26,196,773	93.17%	97.35%	94.57%	95.76%	0.0017	0.0002	0.0007
23.5	27,955,597	93.16%	97.05%	94.19%	95.47%	0.0015	0.0001	0.0005
24.5	31,594,241	93.09%	96.73%	93.79%	95.18%	0.0013	0.0000	0.0004
25.5	40,498,739	93.09%	96.38%	93.37%	94.88%	0.0011	0.0000	0.0003
26.5	40,602,701	93.09%	96.01%	92.94%	94.56%	0.0009	0.0000	0.0002
27.5	40,677,613	93.09%	95.61%	92.49%	94.24%	0.0006	0.0000	0.0001
28.5	41,680,800	92.34%	95.17%	92.03%	93.90%	0.0008	0.0000	0.0002
29.5	46,382,261	92.34%	94.71%	91.54%	93.55%	0.0006	0.0001	0.0001
30.5	55,902,977	92.34%	94.21%	91.04%	93.19%	0.0004	0.0002	0.0001
31.5	58,866,769	92.34%	93.68%	90.52%	92.82%	0.0002	0.0003	0.0000
32.5	60,668,096	92.34%	93.11%	89.98%	92.44%	0.0001	0.0006	0.0000
33.5	62,340,031	92.32%	92.50%	89.41%	92.04%	0.0000	0.0008	0.0000
34.5	59,591,048	92.07%	91.85%	88.83%	91.63%	0.0000	0.0010	0.0000
35.5	62,439,236	89.99%	91.16%	88.23%	91.21%	0.0001	0.0003	0.0001
36.5	56,703,442	89.94%	90.42%	87.60%	90.77%	0.0000	0.0005	0.0001
37.5	150,813,329	89.90%	89.64%	86.95%	90.32%	0.0000	0.0009	0.0000
38.5	186,987,397	89.57%	88.81%	86.28%	89.85%	0.0001	0.0011	0.0000
39.5	187,261,084	89.57%	87.93%	85.59%	89.37%	0.0003	0.0016	0.0000
40.5	80,641,152	88.84%	87.00%	84.87%	88.88%	0.0003	0.0016	0.0000
41.5	73,906,920	88.30%	86.01%	84.12%	88.37%	0.0005	0.0017	0.0000
42.5	68,845,126	88.17%	84.96%	83.35%	87.84%	0.0010	0.0023	0.0000
43.5	61,006,521	87.51%	83.85%	82.56%	87.30%	0.0013	0.0025	0.0000
44.5	45,622,520	86.33%	82.68%	81.73%	86.74%	0.0013	0.0021	0.0000
45.5	44,444,502	86.32%	81.44%	80.88%	86.16%	0.0024	0.0030	0.0000
46.5	43,096,003	86.17%	80.12%	80.01%	85.57%	0.0037	0.0038	0.0000
47.5	40,938,896	85.76%	78.74%	79.10%	84.96%	0.0049	0.0044	0.0001
48.5	32,770,666	85.76%	77.29%	78.17%	84.33%	0.0072	0.0058	0.0002
49.5	31,971,640	85.68%	75.75%	77.20%	83.68%	0.0099	0.0072	0.0004
50.5	31,087,290	85.62%	74.14%	76.21%	83.02%	0.0132	0.0088	0.0007
51.5	29,747,173	84.68%	72.44%	75.19%	82.33%	0.0150	0.0090	0.0006
52.5	27,736,408	84.53%	70.66%	74.14%	81.63%	0.0192	0.0108	0.0008
53.5	23,175,254	84.45%	68.80%	73.06%	80.91%	0.0245	0.0130	0.0013
54.5	22,652,283	84.30%	66.86%	71.94%	80.16%	0.0304	0.0153	0.0017
55.5	22,168,717	83.94%	64.83%	70.80%	79.40%	0.0365	0.0173	0.0021
56.5	0	83.77%	62.72%	69.62%	78.61%	0.0443	0.0200	0.0027
Sum of Squared Differences				[10]		0.2255	0.1430	0.0168

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

Account 356 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE R3-60**	**ARVEC R2-68**	**Best Fit R2-80**	**OGE SSD**	**ARVEC SSD**	**R2-80 SSD**

[4] The Company's selected Iowa curve to be fitted to the OLT.
[5] My selected Iowa curve to be fitted to the OLT.
[6] Better fitting curve mathematically
[7] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.
[8] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.
[9] = ([6] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.
[10] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

Account 366 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE R2.5-55**	**ARVEC R2.5-65**	**OGE SSD**	**ARVEC SSD**
0.0	136,008,165	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	123,593,009	99.98%	99.95%	99.96%	0.0000	0.0000
1.5	119,873,862	99.86%	99.84%	99.87%	0.0000	0.0000
2.5	102,984,419	99.58%	99.73%	99.78%	0.0000	0.0000
3.5	89,770,406	99.38%	99.61%	99.67%	0.0000	0.0000
4.5	82,387,168	99.22%	99.47%	99.57%	0.0000	0.0000
5.5	75,288,034	99.09%	99.33%	99.45%	0.0000	0.0000
6.5	62,818,143	94.62%	99.18%	99.33%	0.0021	0.0022
7.5	56,907,921	94.41%	99.01%	99.20%	0.0021	0.0023
8.5	49,152,145	94.30%	98.84%	99.07%	0.0021	0.0023
9.5	42,526,425	94.17%	98.65%	98.92%	0.0020	0.0023
10.5	37,722,999	94.07%	98.44%	98.77%	0.0019	0.0022
11.5	34,773,779	93.94%	98.22%	98.60%	0.0018	0.0022
12.5	32,169,436	93.83%	97.99%	98.43%	0.0017	0.0021
13.5	29,542,619	93.71%	97.74%	98.24%	0.0016	0.0021
14.5	30,769,449	93.60%	97.47%	98.05%	0.0015	0.0020
15.5	32,761,261	93.52%	97.18%	97.84%	0.0013	0.0019
16.5	36,794,822	93.15%	96.87%	97.62%	0.0014	0.0020
17.5	35,291,762	93.00%	96.54%	97.38%	0.0013	0.0019
18.5	31,940,830	92.91%	96.19%	97.13%	0.0011	0.0018
19.5	32,144,661	92.79%	95.81%	96.87%	0.0009	0.0017
20.5	29,476,148	92.65%	95.41%	96.59%	0.0008	0.0016
21.5	28,236,318	92.55%	94.99%	96.30%	0.0006	0.0014
22.5	28,631,807	91.56%	94.53%	95.99%	0.0009	0.0020
23.5	27,260,820	91.35%	94.05%	95.66%	0.0007	0.0019
24.5	25,874,136	91.20%	93.53%	95.32%	0.0005	0.0017
25.5	25,002,891	91.10%	92.99%	94.95%	0.0004	0.0015
26.5	23,195,031	90.89%	92.41%	94.57%	0.0002	0.0014
27.5	18,871,756	90.76%	91.80%	94.16%	0.0001	0.0012
28.5	16,596,303	89.45%	91.14%	93.74%	0.0003	0.0018
29.5	16,889,358	88.63%	90.46%	93.29%	0.0003	0.0022
30.5	20,124,465	88.45%	89.73%	92.81%	0.0002	0.0019
31.5	19,647,228	88.35%	88.96%	92.32%	0.0000	0.0016
32.5	16,028,185	88.07%	88.15%	91.80%	0.0000	0.0014
33.5	15,471,715	87.88%	87.29%	91.25%	0.0000	0.0011
34.5	66,855,023	87.69%	86.38%	90.67%	0.0002	0.0009
35.5	64,908,729	87.64%	85.43%	90.07%	0.0005	0.0006
36.5	64,485,429	87.51%	84.42%	89.44%	0.0010	0.0004
37.5	64,363,198	87.39%	83.36%	88.77%	0.0016	0.0002
38.5	65,536,657	87.17%	82.25%	88.08%	0.0024	0.0001
39.5	13,738,215	87.09%	81.08%	87.35%	0.0036	0.0000
40.5	12,120,505	86.55%	79.85%	86.59%	0.0045	0.0000
41.5	11,593,068	86.23%	78.56%	85.80%	0.0059	0.0000
42.5	4,753,649	85.96%	77.20%	84.97%	0.0077	0.0001
43.5	1,095,892	85.65%	75.78%	84.10%	0.0097	0.0002
44.5	1,087,296	85.31%	74.29%	83.20%	0.0121	0.0004
45.5	1,083,865	85.04%	72.73%	82.25%	0.0152	0.0008
46.5	1,077,812	84.57%	71.09%	81.26%	0.0182	0.0011
47.5	1,072,483	84.15%	69.39%	80.23%	0.0218	0.0015

Account 366 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE R2.5-55**	**ARVEC R2.5-65**	**OGE SSD**	**ARVEC SSD**
48.5	1,055,137	83.24%	67.62%	79.16%	0.0244	0.0017
49.5	1,047,946	82.67%	65.77%	78.04%	0.0286	0.0021
50.5	1,039,408	82.28%	63.85%	76.88%	0.0340	0.0029
51.5	1,038,719	82.22%	61.86%	75.66%	0.0415	0.0043
52.5	1,036,288	82.03%	59.80%	74.40%	0.0494	0.0058
53.5	1,023,723	81.04%	57.68%	73.09%	0.0546	0.0063
54.5	1,019,394	80.70%	55.50%	71.73%	0.0635	0.0080
55.5	1,018,249	80.60%	53.26%	70.32%	0.0748	0.0106
56.5	0	80.42%	50.97%	68.85%	0.0867	0.0134
Sum of Squared Differences				[8]	0.5897	0.1128
Up to 1% of Beginning Exposures				[9]	0.0552	0.0536

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

[4] The Company's selected Iowa curve to be fitted to the OLT.

[5] My selected Iowa curve to be fitted to the OLT.

[6] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.

[7] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.

[8] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

[9] = Sum of squared differences up to the 1% of beginning exposures cut-off.

*The bold horizontal line represents the 1% of beginning exposures cut-off.

Account 373 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE L1-25**	**ARVEC L2-31**	**Best Fit R1-62**	**OGE SSD**	**ARVEC SSD**	**R2-80 SSD**
0.0	168,145,600	100.00%	100.00%	100.00%	100.00%	0.0000	0.0000	0.0000
0.5	157,870,525	99.92%	99.88%	100.00%	99.79%	0.0000	0.0000	0.0000
1.5	147,513,581	99.52%	99.54%	99.99%	99.37%	0.0000	0.0000	0.0000
2.5	136,591,084	98.55%	99.05%	99.94%	98.94%	0.0000	0.0002	0.0000
3.5	128,205,448	98.00%	98.39%	99.84%	98.49%	0.0000	0.0003	0.0000
4.5	122,945,839	97.33%	97.51%	99.68%	98.04%	0.0000	0.0006	0.0001
5.5	115,265,722	96.96%	96.40%	99.43%	97.58%	0.0000	0.0006	0.0000
6.5	105,690,831	96.54%	95.04%	99.10%	97.11%	0.0002	0.0007	0.0000
7.5	94,439,052	96.13%	93.42%	98.67%	96.63%	0.0007	0.0006	0.0000
8.5	84,599,389	95.74%	91.54%	98.13%	96.14%	0.0018	0.0006	0.0000
9.5	76,471,292	95.36%	89.41%	97.48%	95.65%	0.0035	0.0004	0.0000
10.5	70,476,346	94.89%	87.04%	96.72%	95.14%	0.0062	0.0003	0.0000
11.5	64,688,880	94.42%	84.46%	95.82%	94.62%	0.0099	0.0002	0.0000
12.5	58,228,382	93.89%	81.71%	94.74%	94.10%	0.0148	0.0001	0.0000
13.5	52,078,885	93.15%	78.84%	93.44%	93.56%	0.0205	0.0000	0.0000
14.5	48,187,666	92.33%	75.89%	91.90%	93.02%	0.0270	0.0000	0.0000
15.5	42,361,549	90.65%	72.91%	90.08%	92.46%	0.0315	0.0000	0.0003
16.5	40,428,057	89.62%	69.93%	87.99%	91.90%	0.0388	0.0003	0.0005
17.5	35,420,132	88.99%	66.96%	85.64%	91.33%	0.0485	0.0011	0.0005
18.5	31,071,030	87.88%	64.01%	83.05%	90.75%	0.0570	0.0023	0.0008
19.5	29,272,788	86.87%	61.08%	80.26%	90.16%	0.0665	0.0044	0.0011
20.5	26,324,487	86.01%	58.18%	77.28%	89.56%	0.0774	0.0076	0.0013
21.5	24,395,225	84.96%	55.32%	74.17%	88.96%	0.0879	0.0116	0.0016
22.5	22,576,460	83.97%	52.49%	70.96%	88.34%	0.0991	0.0169	0.0019
23.5	20,831,676	83.25%	49.72%	67.70%	87.71%	0.1125	0.0242	0.0020
24.5	18,865,911	82.32%	46.99%	64.41%	87.08%	0.1248	0.0321	0.0023
25.5	17,539,992	81.63%	44.32%	61.13%	86.43%	0.1392	0.0420	0.0023
26.5	17,173,665	80.66%	41.71%	57.88%	85.77%	0.1517	0.0519	0.0026
27.5	15,989,571	79.94%	39.17%	54.70%	85.10%	0.1662	0.0637	0.0027
28.5	14,203,772	79.30%	36.70%	51.60%	84.42%	0.1815	0.0768	0.0026
29.5	11,337,892	78.63%	34.30%	48.59%	83.73%	0.1965	0.0903	0.0026
30.5	10,656,249	77.62%	31.98%	45.69%	83.02%	0.2083	0.1020	0.0029
31.5	9,020,527	77.02%	29.75%	42.90%	82.30%	0.2235	0.1164	0.0028
32.5	7,258,334	76.33%	27.59%	40.22%	81.57%	0.2375	0.1304	0.0027
33.5	6,466,114	75.07%	25.53%	37.67%	80.83%	0.2455	0.1399	0.0033
34.5	17,522,663	74.22%	23.55%	35.23%	80.06%	0.2568	0.1520	0.0034
35.5	16,518,621	73.83%	21.66%	32.91%	79.29%	0.2722	0.1674	0.0030
36.5	15,986,742	73.53%	19.86%	30.70%	78.50%	0.2880	0.1834	0.0025
37.5	37,991,083	73.20%	18.16%	28.60%	77.69%	0.3030	0.1989	0.0020
38.5	49,325,846	72.82%	16.54%	26.60%	76.87%	0.3167	0.2136	0.0016
39.5	37,239,877	72.59%	15.02%	24.70%	76.04%	0.3315	0.2293	0.0012
40.5	36,312,634	71.83%	13.59%	22.90%	75.18%	0.3392	0.2394	0.0011
41.5	14,022,429	71.33%	12.24%	21.18%	74.31%	0.3491	0.2515	0.0009
42.5	16,437,930	70.42%	10.99%	19.55%	73.43%	0.3532	0.2587	0.0009
43.5	15,698,162	70.22%	9.83%	18.01%	72.52%	0.3647	0.2726	0.0005
44.5	15,547,336	69.98%	8.75%	16.55%	71.60%	0.3749	0.2855	0.0003
45.5	15,497,296	69.86%	7.75%	15.16%	70.67%	0.3857	0.2992	0.0001
46.5	15,445,207	69.72%	6.84%	13.85%	69.72%	0.3954	0.3121	0.0000
47.5	15,393,488	69.60%	6.00%	12.62%	68.74%	0.4045	0.3247	0.0001
48.5	15,333,044	69.48%	5.23%	11.46%	67.76%	0.4127	0.3366	0.0003
49.5	15,286,904	69.38%	4.54%	10.37%	66.75%	0.4204	0.3482	0.0007
50.5	15,222,801	69.26%	3.92%	9.35%	65.73%	0.4269	0.3589	0.0012
51.5	15,151,301	69.20%	3.36%	8.40%	64.70%	0.4335	0.3697	0.0020
52.5	15,109,737	69.14%	2.86%	7.51%	63.64%	0.4393	0.3798	0.0030
53.5	15,036,154	69.06%	2.42%	6.69%	62.57%	0.4441	0.3890	0.0042
54.5	14,990,998	69.01%	2.03%	5.94%	61.49%	0.4487	0.3978	0.0057
55.5	14,937,781	68.95%	1.68%	5.24%	60.39%	0.4525	0.4059	0.0073
56.5	0	68.89%	1.39%	4.60%	59.27%	0.4557	0.4133	0.0092
Sum of Squared Differences				[10]		11.2473	7.7062	0.0885

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

Account 373 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**OGE L1-25**	**ARVEC L2-31**	**Best Fit R1-62**	**OGE SSD**	**ARVEC SSD**	**R2-80 SSD**

[4] The Company's selected Iowa curve to be fitted to the OLT.
[5] My selected Iowa curve to be fitted to the OLT.
[6] Better fitting curve mathematically
[7] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.
[8] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.
[9] = ([6] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.
[10] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

Account 303.2 - Software Rate Calculation

[1]	[2]	[3]	[4]	[5]
Year	**Original Cost**	**Future Accruals**	**Remaining Life (Years)**	**Annual Accrual**
2004	$ 48,000			
2005	3,403,604			
2006	626,715			
2007	285,441			
2008	10,397			
2009	1,837,883			
2010	525,705			
2011	4,064,765	$ 824,043	11.5	$ 71,656
2012	28,836,531	12,414,711	12.5	993,177
2013	2,234,459	1,470,971	13.5	108,961
2014	21,374,630	18,940,145	14.5	1,306,217
Total	$ 63,248,130	$ 33,649,870		$ 2,480,011

Survivor Curve:	**SQ-15**	[6]
Net Salvage:	**0.0%**	[7]
Composite Remaining Life	**13.6**	[8]
Accrual Rate	**3.9%**	[9]

[1], [2], [3] From Depreciation Study

[4] Remaining life based on selected Iowa Curve at [6]

[5] = [3] / [4]

[6] Selected Iowa curve

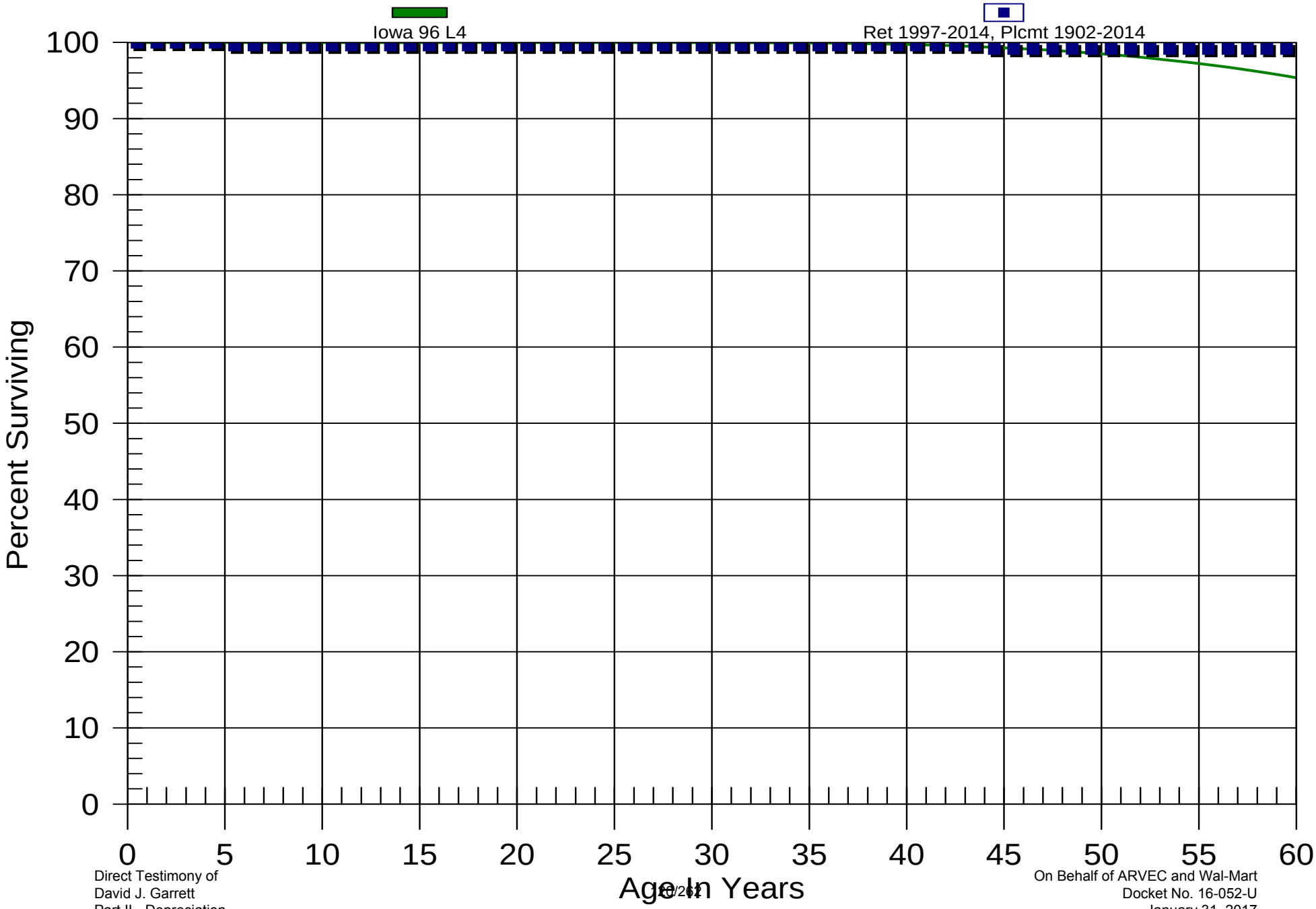
[7] Selected net salvage percent

[8] = Sum of [3] / Sum of [5]

[9] = Sum of [5] / Sum of [2]

OGE

Electric Division
350.20 Land Rights
Original And Smooth Survivor Curves



OGE
Electric Division
350.20 Land Rights
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

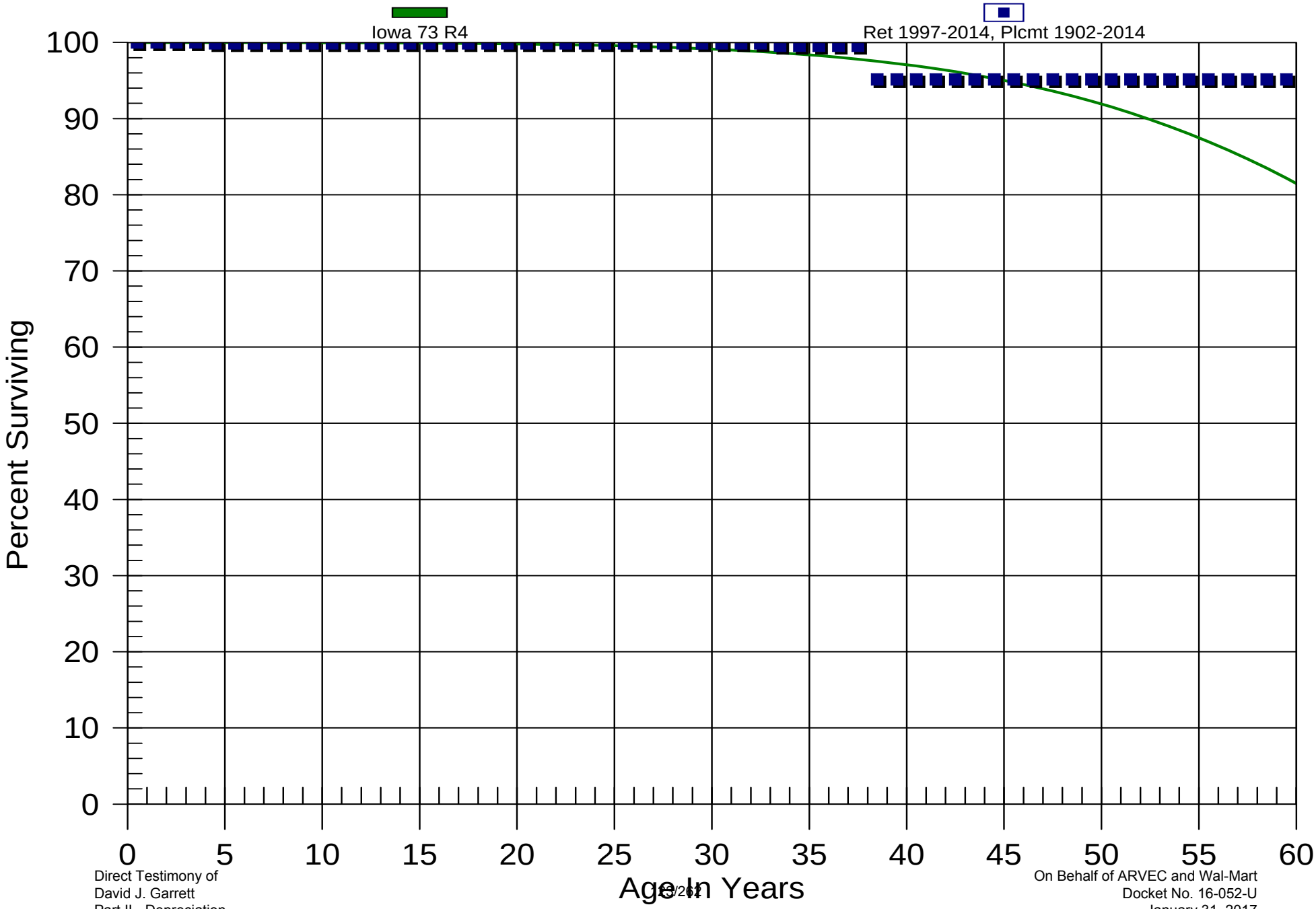
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$108,726,597.00	$0.00	0.00000	100.00
0.5 - 1.5	$78,983,682.00	$0.00	0.00000	100.00
1.5 - 2.5	$42,704,083.00	$10,935.00	0.00026	100.00
2.5 - 3.5	$28,730,062.00	$0.00	0.00000	99.97
3.5 - 4.5	$25,614,789.00	$0.00	0.00000	99.97
4.5 - 5.5	$6,522,792.00	$23,430.00	0.00359	99.97
5.5 - 6.5	$5,285,793.00	$0.00	0.00000	99.62
6.5 - 7.5	$5,146,151.00	$0.00	0.00000	99.62
7.5 - 8.5	$4,845,237.00	$0.00	0.00000	99.62
8.5 - 9.5	$4,337,443.00	$0.00	0.00000	99.62
9.5 - 10.5	$874,269.00	$0.00	0.00000	99.62
10.5 - 11.5	$1,740,865.00	$0.00	0.00000	99.62
11.5 - 12.5	$2,372,006.00	$0.00	0.00000	99.62
12.5 - 13.5	$2,506,159.00	$0.00	0.00000	99.62
13.5 - 14.5	$3,233,499.00	$0.00	0.00000	99.62
14.5 - 15.5	$3,155,788.00	$0.00	0.00000	99.62
15.5 - 16.5	$1,643,224.00	$0.00	0.00000	99.62
16.5 - 17.5	$3,112,159.00	$0.00	0.00000	99.62
17.5 - 18.5	$4,494,980.00	$0.00	0.00000	99.62
18.5 - 19.5	$4,485,217.00	$0.00	0.00000	99.62
19.5 - 20.5	$4,078,959.00	$0.00	0.00000	99.62
20.5 - 21.5	$4,500,405.00	$0.00	0.00000	99.62
21.5 - 22.5	$4,380,367.00	$0.00	0.00000	99.62
22.5 - 23.5	$4,510,391.00	$0.00	0.00000	99.62
23.5 - 24.5	$4,943,930.00	$0.00	0.00000	99.62
24.5 - 25.5	$4,370,193.00	$0.00	0.00000	99.62
25.5 - 26.5	$6,127,793.00	$0.00	0.00000	99.62
26.5 - 27.5	$7,654,403.00	$0.00	0.00000	99.62
27.5 - 28.5	$7,357,707.00	$0.00	0.00000	99.62
28.5 - 29.5	$5,257,591.00	$0.00	0.00000	99.62
29.5 - 30.5	$2,064,996.00	$0.00	0.00000	99.62
30.5 - 31.5	$5,544,339.00	$0.00	0.00000	99.62
31.5 - 32.5	$10,063,257.00	$0.00	0.00000	99.62
32.5 - 33.5	$10,578,779.00	$0.00	0.00000	99.62
33.5 - 34.5	$10,190,727.00	$0.00	0.00000	99.62
34.5 - 35.5	$8,400,060.00	$0.00	0.00000	99.62
35.5 - 36.5	$10,257,417.00	$0.00	0.00000	99.62

OGE
Electric Division
350.20 Land Rights
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$11,455,862.00	$0.00	0.00000	99.62
37.5 - 38.5	$5,137,493.00	$0.00	0.00000	99.62
38.5 - 39.5	$11,079,444.00	$0.00	0.00000	99.62
39.5 - 40.5	$17,613,579.00	$0.00	0.00000	99.62
40.5 - 41.5	$17,118,585.00	$0.00	0.00000	99.62
41.5 - 42.5	$16,704,112.00	$0.00	0.00000	99.62
42.5 - 43.5	$16,135,225.00	$0.00	0.00000	99.62
43.5 - 44.5	$14,621,584.00	$63,762.00	0.00436	99.62
44.5 - 45.5	$14,391,054.00	$0.00	0.00000	99.18
45.5 - 46.5	$14,266,535.00	$0.00	0.00000	99.18
46.5 - 47.5	$13,794,899.00	$0.00	0.00000	99.18
47.5 - 48.5	$13,253,882.00	$0.00	0.00000	99.18
48.5 - 49.5	$9,057,886.00	$0.00	0.00000	99.18
49.5 - 50.5	$8,553,967.00	$0.00	0.00000	99.18
50.5 - 51.5	$8,379,075.00	$0.00	0.00000	99.18
51.5 - 52.5	$8,218,935.00	$0.00	0.00000	99.18
52.5 - 53.5	$7,498,491.00	$0.00	0.00000	99.18
53.5 - 54.5	$6,332,789.00	$0.00	0.00000	99.18
54.5 - 55.5	$6,299,021.00	$0.00	0.00000	99.18
55.5 - 56.5	$6,299,021.00	$0.00	0.00000	99.18

OGE

Electric Division
352.00 Structures and Improvements
Original And Smooth Survivor Curves



OGE
Electric Division
352.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$5,204,910.00	$0.00	0.00000	100.00
0.5 - 1.5	$4,652,856.00	$0.00	0.00000	100.00
1.5 - 2.5	$4,644,854.00	$0.00	0.00000	100.00
2.5 - 3.5	$4,337,249.00	$0.00	0.00000	100.00
3.5 - 4.5	$3,732,232.00	$4,896.00	0.00131	100.00
4.5 - 5.5	$2,827,011.00	$0.00	0.00000	99.87
5.5 - 6.5	$2,533,740.00	$0.00	0.00000	99.87
6.5 - 7.5	$2,509,024.00	$0.00	0.00000	99.87
7.5 - 8.5	$2,509,024.00	$0.00	0.00000	99.87
8.5 - 9.5	$1,252,587.00	$0.00	0.00000	99.87
9.5 - 10.5	$1,279,391.00	$0.00	0.00000	99.87
10.5 - 11.5	$128,880.00	$0.00	0.00000	99.87
11.5 - 12.5	$118,915.00	$0.00	0.00000	99.87
12.5 - 13.5	$128,880.00	$0.00	0.00000	99.87
13.5 - 14.5	$119,179.00	$0.00	0.00000	99.87
14.5 - 15.5	$136,140.00	$0.00	0.00000	99.87
15.5 - 16.5	$150,990.00	$0.00	0.00000	99.87
16.5 - 17.5	$147,039.00	$0.00	0.00000	99.87
17.5 - 18.5	$145,898.00	$0.00	0.00000	99.87
18.5 - 19.5	$75,363.00	$0.00	0.00000	99.87
19.5 - 20.5	($67,609.00)	$0.00	0.00000	99.87
20.5 - 21.5	$323,122.00	$0.00	0.00000	99.87
21.5 - 22.5	$432,939.00	$0.00	0.00000	99.87
22.5 - 23.5	$507,387.00	$0.00	0.00000	99.87
23.5 - 24.5	$446,561.00	$0.00	0.00000	99.87
24.5 - 25.5	$622,004.00	$0.00	0.00000	99.87
25.5 - 26.5	$760,605.00	$0.00	0.00000	99.87
26.5 - 27.5	$760,605.00	$0.00	0.00000	99.87
27.5 - 28.5	$739,801.00	$0.00	0.00000	99.87
28.5 - 29.5	$760,183.00	$0.00	0.00000	99.87
29.5 - 30.5	$785,309.00	$0.00	0.00000	99.87
30.5 - 31.5	$774,940.00	$0.00	0.00000	99.87
31.5 - 32.5	$727,249.00	$0.00	0.00000	99.87
32.5 - 33.5	$749,619.00	$2,400.00	0.00320	99.87
33.5 - 34.5	$815,277.00	$0.00	0.00000	99.55
34.5 - 35.5	$824,070.00	$0.00	0.00000	99.55
35.5 - 36.5	$854,991.00	$0.00	0.00000	99.55

OGE
Electric Division
352.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

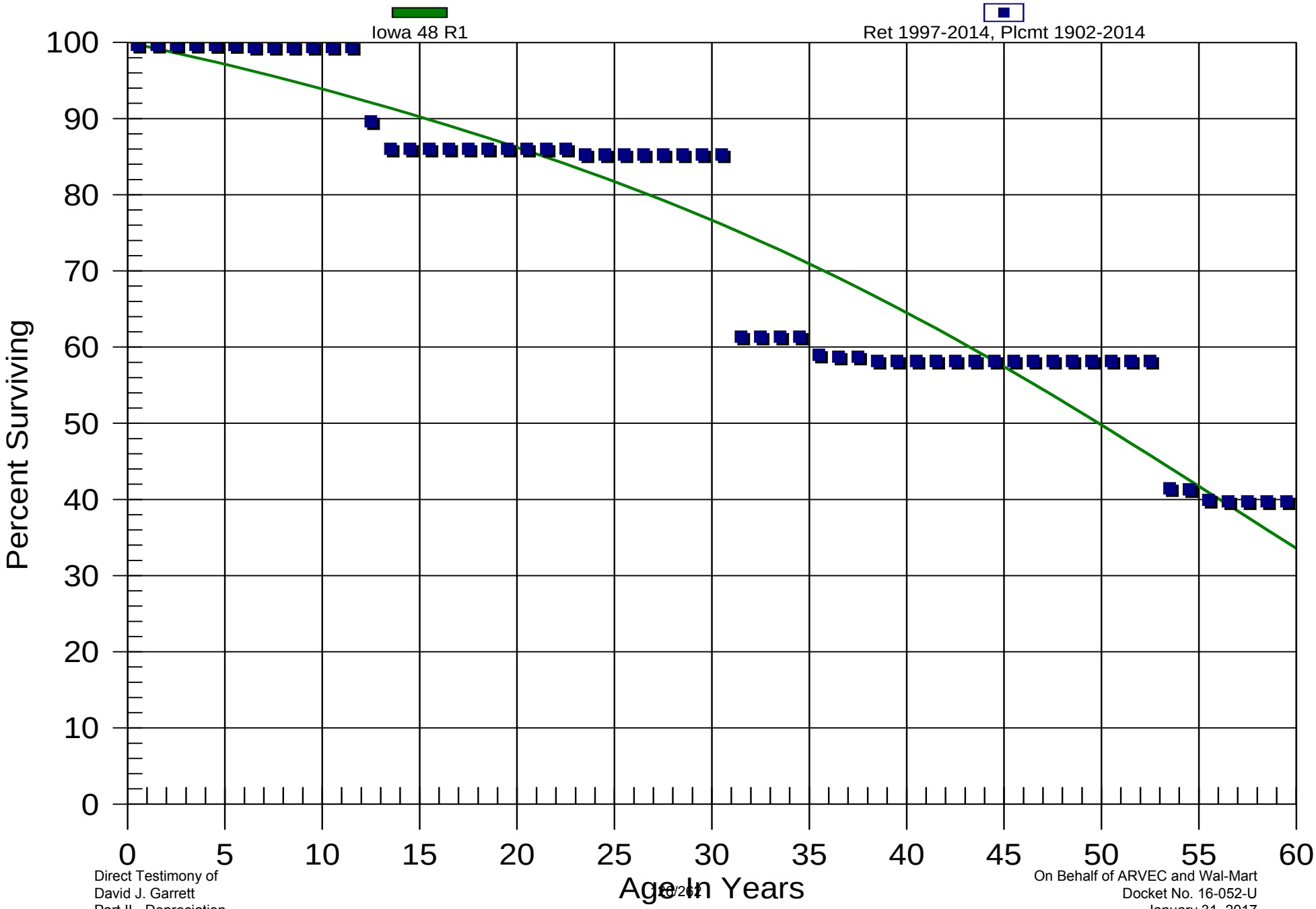
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$845,694.00	$0.00	0.00000	99.55
37.5 - 38.5	$698,736.00	$30,921.00	0.04425	99.55
38.5 - 39.5	$465,612.00	$0.00	0.00000	95.14
39.5 - 40.5	$562,231.00	$0.00	0.00000	95.14
40.5 - 41.5	$482,710.00	$0.00	0.00000	95.14
41.5 - 42.5	$477,637.00	$0.00	0.00000	95.14
42.5 - 43.5	$266,444.00	$0.00	0.00000	95.14
43.5 - 44.5	$266,444.00	$0.00	0.00000	95.14
44.5 - 45.5	$266,444.00	$0.00	0.00000	95.14
45.5 - 46.5	$220,817.00	$0.00	0.00000	95.14
46.5 - 47.5	$203,239.00	$0.00	0.00000	95.14
47.5 - 48.5	$198,091.00	$0.00	0.00000	95.14
48.5 - 49.5	$198,091.00	$0.00	0.00000	95.14
49.5 - 50.5	$198,091.00	$0.00	0.00000	95.14
50.5 - 51.5	$152,078.00	$0.00	0.00000	95.14
51.5 - 52.5	$130,033.00	$0.00	0.00000	95.14
52.5 - 53.5	$130,033.00	$0.00	0.00000	95.14
53.5 - 54.5	$130,033.00	$0.00	0.00000	95.14
54.5 - 55.5	$130,033.00	$0.00	0.00000	95.14
55.5 - 56.5	$121,877.00	$0.00	0.00000	95.14

OGE

Electric Division

353.10 Station Equipment - Step Up Transformers

Original And Smooth Survivor Curves



OGE
Electric Division
353.10 Station Equipment - Step Up Transformers
Observed Life Table
Retirement Expr. 1999 TO 2014
Placement Years 1955 TO 2014

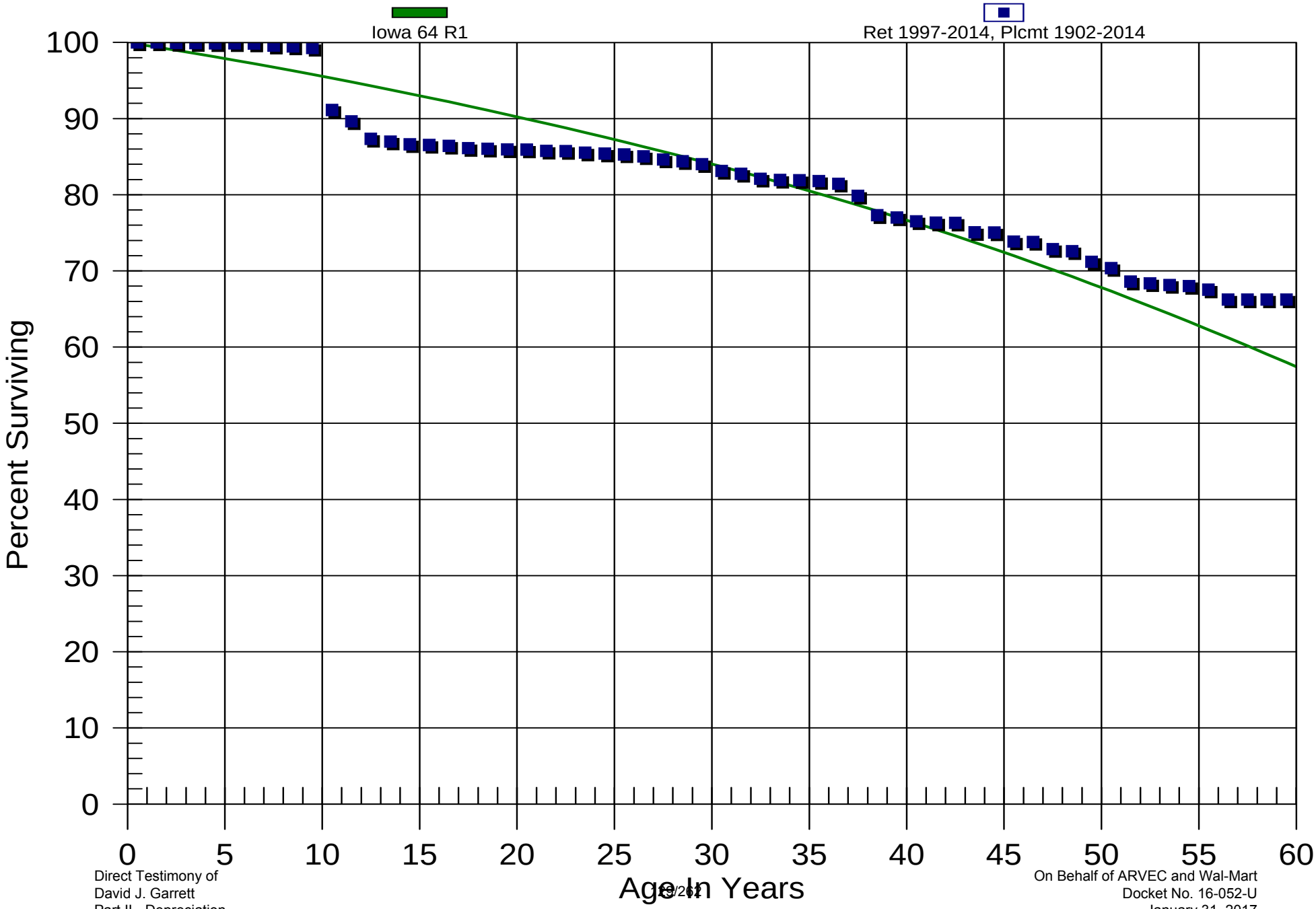
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$35,900,406.00	$118,403.00	0.00330	100.00
0.5 - 1.5	$35,527,252.00	$0.00	0.00000	99.67
1.5 - 2.5	$35,208,532.00	$0.00	0.00000	99.67
2.5 - 3.5	$39,503,967.00	$0.00	0.00000	99.67
3.5 - 4.5	$27,050,178.00	$1,500.00	0.00006	99.67
4.5 - 5.5	$20,175,175.00	$0.00	0.00000	99.66
5.5 - 6.5	$15,510,657.00	$42,382.00	0.00273	99.66
6.5 - 7.5	$10,223,581.00	$0.00	0.00000	99.39
7.5 - 8.5	$11,925,259.00	$0.00	0.00000	99.39
8.5 - 9.5	$10,093,015.00	$0.00	0.00000	99.39
9.5 - 10.5	$9,152,849.00	$0.00	0.00000	99.39
10.5 - 11.5	$10,587,061.00	$0.00	0.00000	99.39
11.5 - 12.5	$10,584,517.00	$931,967.00	0.08805	99.39
12.5 - 13.5	$9,542,718.00	$381,670.00	0.04000	90.64
13.5 - 14.5	$4,111,230.00	$0.00	0.00000	87.02
14.5 - 15.5	$3,458,788.00	$0.00	0.00000	87.02
15.5 - 16.5	$3,458,788.00	$0.00	0.00000	87.02
16.5 - 17.5	$4,557,101.00	$0.00	0.00000	87.02
17.5 - 18.5	$4,557,101.00	$0.00	0.00000	87.02
18.5 - 19.5	$5,986,745.00	$0.00	0.00000	87.02
19.5 - 20.5	$7,635,242.00	$0.00	0.00000	87.02
20.5 - 21.5	$8,834,300.00	$0.00	0.00000	87.02
21.5 - 22.5	$10,157,913.00	$0.00	0.00000	87.02
22.5 - 23.5	$10,854,683.00	$95,911.00	0.00884	87.02
23.5 - 24.5	$7,395,895.00	$0.00	0.00000	86.25
24.5 - 25.5	$8,240,119.00	$0.00	0.00000	86.25
25.5 - 26.5	$8,240,119.00	$0.00	0.00000	86.25
26.5 - 27.5	$8,053,392.00	$0.00	0.00000	86.25
27.5 - 28.5	$8,226,321.00	$0.00	0.00000	86.25
28.5 - 29.5	$8,979,760.00	$0.00	0.00000	86.25
29.5 - 30.5	$9,202,803.00	$0.00	0.00000	86.25
30.5 - 31.5	$8,479,591.00	$2,345,267.00	0.27658	86.25
31.5 - 32.5	$6,134,324.00	$0.00	0.00000	62.39
32.5 - 33.5	$6,015,921.00	$0.00	0.00000	62.39
33.5 - 34.5	$6,134,324.00	$0.00	0.00000	62.39
34.5 - 35.5	$4,481,637.00	$172,929.00	0.03859	62.39
35.5 - 36.5	$4,308,708.00	$20,008.00	0.00464	59.99

OGE
Electric Division
353.10 Station Equipment - Step Up Transformers
Observed Life Table
Retirement Expr. 1999 TO 2014
Placement Years 1955 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$3,429,642.00	$0.00	0.00000	59.71
37.5 - 38.5	$3,046,195.00	$24,706.00	0.00811	59.71
38.5 - 39.5	$3,021,489.00	$0.00	0.00000	59.22
39.5 - 40.5	$3,021,489.00	$0.00	0.00000	59.22
40.5 - 41.5	$2,690,665.00	$0.00	0.00000	59.22
41.5 - 42.5	$2,972,782.00	$0.00	0.00000	59.22
42.5 - 43.5	$2,244,049.00	$0.00	0.00000	59.22
43.5 - 44.5	$2,674,822.00	$0.00	0.00000	59.22
44.5 - 45.5	$1,921,383.00	$0.00	0.00000	59.22
45.5 - 46.5	$1,921,383.00	$0.00	0.00000	59.22
46.5 - 47.5	$1,546,282.00	$0.00	0.00000	59.22
47.5 - 48.5	$1,546,282.00	$0.00	0.00000	59.22
48.5 - 49.5	$1,546,282.00	$0.00	0.00000	59.22
49.5 - 50.5	$1,427,879.00	$0.00	0.00000	59.22
50.5 - 51.5	$1,427,879.00	$0.00	0.00000	59.22
51.5 - 52.5	$1,427,879.00	$0.00	0.00000	59.22
52.5 - 53.5	$1,087,879.00	$312,370.00	0.28714	59.22
53.5 - 54.5	$775,509.00	$2,617.00	0.00337	42.22
54.5 - 55.5	$772,892.00	$25,930.00	0.03355	42.08
55.5 - 56.5	$746,962.00	$3,851.00	0.00516	40.66
56.5 - 57.5	$590,636.00	$0.00	0.00000	40.45
57.5 - 58.5	$312,370.00	$0.00	0.00000	40.45
58.5 - 59.5	$312,370.00	$0.00	0.00000	40.45

OGE

Electric Division
353.00 Station Equipment
Original And Smooth Survivor Curves



OGE
Electric Division
353.00 Station Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

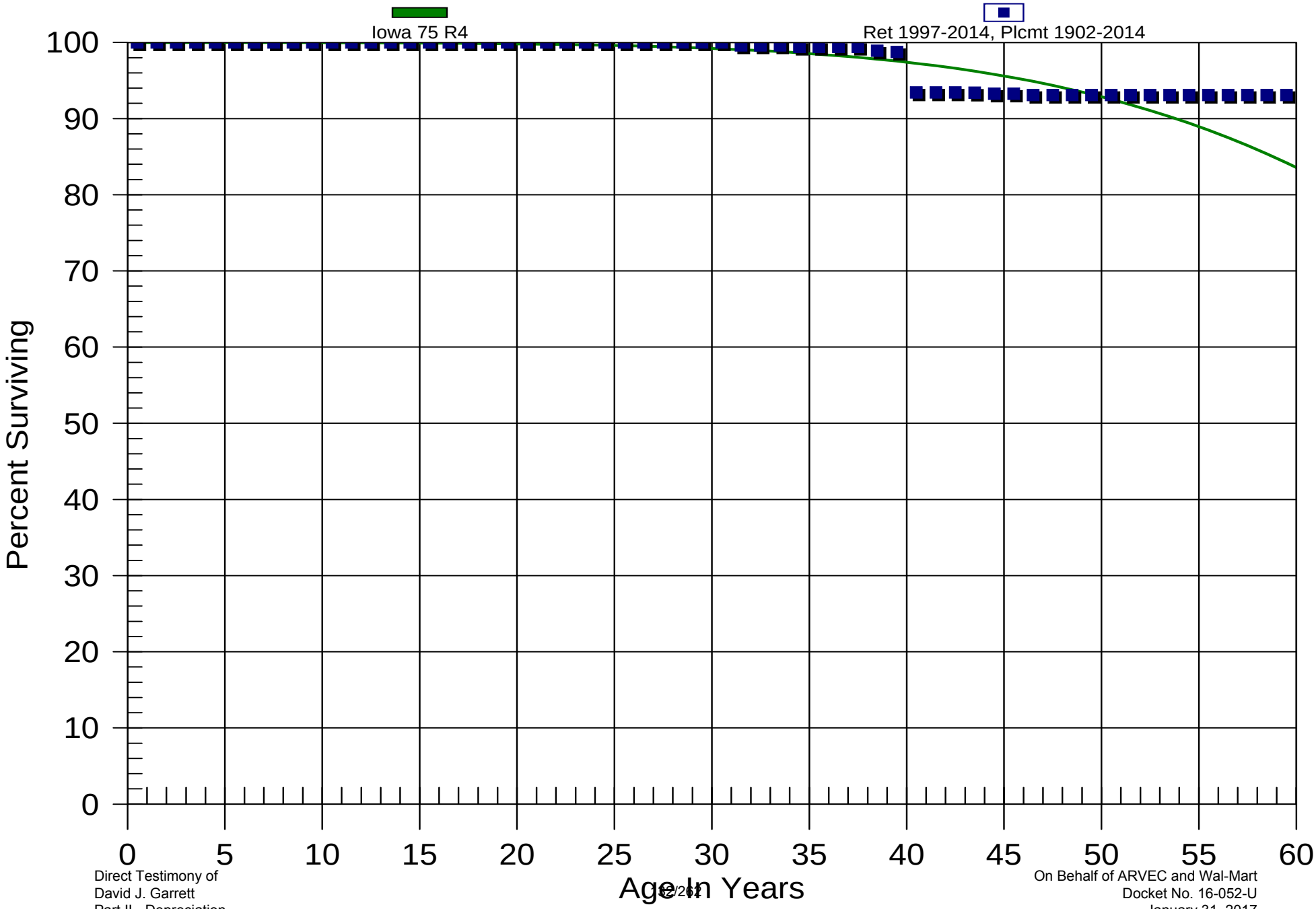
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$447,756,938.00	$20.00	0.00000	100.00
0.5 - 1.5	$347,573,501.00	$15,533.00	0.00004	100.00
1.5 - 2.5	$313,663,628.00	$210,730.00	0.00067	100.00
2.5 - 3.5	$255,052,937.00	$56,040.00	0.00022	99.93
3.5 - 4.5	$211,680,410.00	$42,024.00	0.00020	99.91
4.5 - 5.5	$177,234,458.00	$34,676.00	0.00020	99.89
5.5 - 6.5	$148,144,231.00	$46,948.00	0.00032	99.87
6.5 - 7.5	$126,597,729.00	$339,705.00	0.00268	99.84
7.5 - 8.5	$135,304,170.00	$163,098.00	0.00121	99.57
8.5 - 9.5	$203,244,547.00	$393,150.00	0.00193	99.45
9.5 - 10.5	$172,895,802.00	$14,176,989.00	0.08200	99.26
10.5 - 11.5	$64,060,007.00	$1,042,954.00	0.01628	91.12
11.5 - 12.5	$59,267,031.00	$1,516,284.00	0.02558	89.63
12.5 - 13.5	$65,111,425.00	$274,149.00	0.00421	87.34
13.5 - 14.5	$66,066,686.00	$264,187.00	0.00400	86.97
14.5 - 15.5	$62,729,667.00	$71,669.00	0.00114	86.62
15.5 - 16.5	$63,429,213.00	$87,064.00	0.00137	86.53
16.5 - 17.5	$64,257,353.00	$216,168.00	0.00336	86.41
17.5 - 18.5	$66,564,677.00	$65,773.00	0.00099	86.12
18.5 - 19.5	$57,938,665.00	$61,592.00	0.00106	86.03
19.5 - 20.5	$47,855,705.00	$15,503.00	0.00032	85.94
20.5 - 21.5	$60,618,245.00	$106,374.00	0.00175	85.91
21.5 - 22.5	$64,804,326.00	$24,309.00	0.00038	85.76
22.5 - 23.5	$64,894,241.00	$151,336.00	0.00233	85.73
23.5 - 24.5	$66,054,533.00	$105,716.00	0.00160	85.53
24.5 - 25.5	$70,051,472.00	$93,503.00	0.00133	85.39
25.5 - 26.5	$62,947,900.00	$176,836.00	0.00281	85.28
26.5 - 27.5	$56,565,724.00	$276,594.00	0.00489	85.04
27.5 - 28.5	$56,683,183.00	$156,665.00	0.00276	84.62
28.5 - 29.5	$55,235,446.00	$242,039.00	0.00438	84.39
29.5 - 30.5	$53,320,261.00	$561,169.00	0.01052	84.02
30.5 - 31.5	$58,168,155.00	$279,557.00	0.00481	83.13
31.5 - 32.5	$55,478,052.00	$416,958.00	0.00752	82.73
32.5 - 33.5	$60,559,872.00	$127,037.00	0.00210	82.11
33.5 - 34.5	$64,102,371.00	$29,317.00	0.00046	81.94
34.5 - 35.5	$63,417,415.00	$74,036.00	0.00117	81.90
35.5 - 36.5	$61,897,879.00	$290,169.00	0.00469	81.81

OGE
Electric Division
353.00 Station Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$63,185,960.00	$1,208,087.00	0.01912	81.42
37.5 - 38.5	$42,023,246.00	$1,340,826.00	0.03191	79.87
38.5 - 39.5	$46,364,982.00	$191,045.00	0.00412	77.32
39.5 - 40.5	$56,272,218.00	$359,889.00	0.00640	77.00
40.5 - 41.5	$50,830,466.00	$113,167.00	0.00223	76.51
41.5 - 42.5	$47,776,239.00	$17,921.00	0.00038	76.34
42.5 - 43.5	$38,932,431.00	$630,525.00	0.01620	76.31
43.5 - 44.5	$37,884,756.00	$14,438.00	0.00038	75.07
44.5 - 45.5	$36,106,520.00	$577,753.00	0.01600	75.04
45.5 - 46.5	$34,876,078.00	$24,449.00	0.00070	73.84
46.5 - 47.5	$31,629,042.00	$397,200.00	0.01256	73.79
47.5 - 48.5	$32,501,175.00	$133,313.00	0.00410	72.87
48.5 - 49.5	$26,223,175.00	$491,840.00	0.01876	72.57
49.5 - 50.5	$25,304,759.00	$300,306.00	0.01187	71.21
50.5 - 51.5	$21,394,754.00	$534,347.00	0.02498	70.36
51.5 - 52.5	$20,473,892.00	$73,586.00	0.00359	68.60
52.5 - 53.5	$20,043,339.00	$58,762.00	0.00293	68.36
53.5 - 54.5	$19,423,230.00	$41,115.00	0.00212	68.16
54.5 - 55.5	$18,713,301.00	$133,332.00	0.00712	68.01
55.5 - 56.5	$17,579,829.00	$334,269.00	0.01901	67.53

OGE

Electric Division
354.00 Towers and Fixtures
Original And Smooth Survivor Curves



OGE
Electric Division
354.00 Towers and Fixtures
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2013

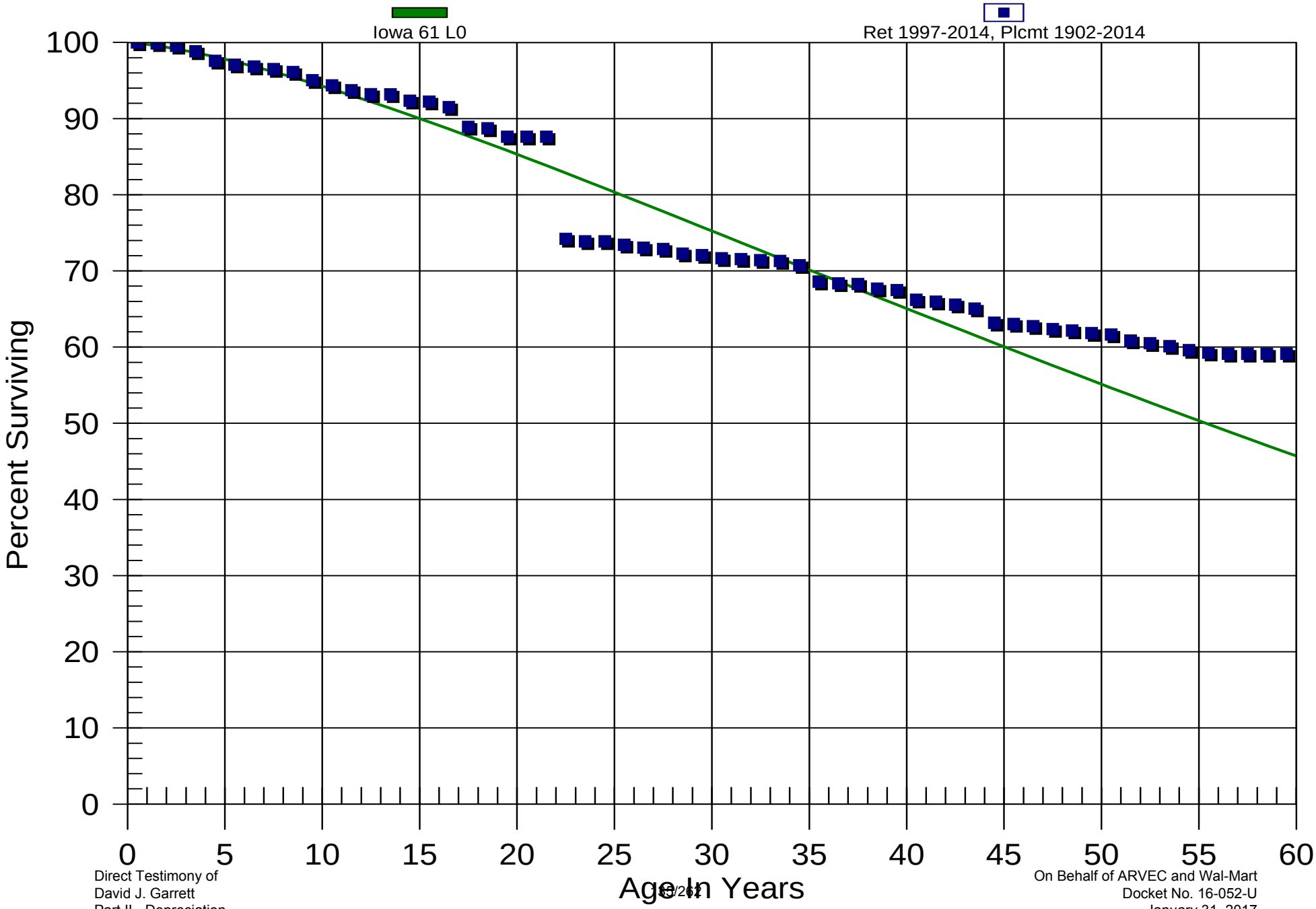
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$110,678,088.00	$0.00	0.00000	100.00
0.5 - 1.5	$114,182,896.00	$0.00	0.00000	100.00
1.5 - 2.5	$114,583,086.00	$0.00	0.00000	100.00
2.5 - 3.5	$114,291,755.00	$4,955.00	0.00004	100.00
3.5 - 4.5	$113,694,289.00	$0.00	0.00000	100.00
4.5 - 5.5	$9,310,535.00	$0.00	0.00000	100.00
5.5 - 6.5	$9,399,277.00	$0.00	0.00000	100.00
6.5 - 7.5	$8,211,179.00	$0.00	0.00000	100.00
7.5 - 8.5	$7,938,878.00	$0.00	0.00000	100.00
8.5 - 9.5	$7,935,291.00	$0.00	0.00000	100.00
9.5 - 10.5	$6,537,101.00	$0.00	0.00000	100.00
10.5 - 11.5	$13,387,380.00	$0.00	0.00000	100.00
11.5 - 12.5	$12,880,632.00	$0.00	0.00000	100.00
12.5 - 13.5	$8,682,578.00	$0.00	0.00000	100.00
13.5 - 14.5	$8,682,123.00	$0.00	0.00000	100.00
14.5 - 15.5	$8,362,622.00	$0.00	0.00000	100.00
15.5 - 16.5	$8,362,622.00	$0.00	0.00000	100.00
16.5 - 17.5	$16,155,220.00	$0.00	0.00000	100.00
17.5 - 18.5	$15,843,417.00	$0.00	0.00000	100.00
18.5 - 19.5	$15,843,417.00	$0.00	0.00000	100.00
19.5 - 20.5	$15,843,417.00	$0.00	0.00000	100.00
20.5 - 21.5	$19,875,907.00	$0.00	0.00000	100.00
21.5 - 22.5	$19,667,174.00	$0.00	0.00000	100.00
22.5 - 23.5	$19,875,907.00	$0.00	0.00000	100.00
23.5 - 24.5	$21,281,364.00	$0.00	0.00000	100.00
24.5 - 25.5	$24,847,201.00	$0.00	0.00000	100.00
25.5 - 26.5	$28,000,541.00	$0.00	0.00000	100.00
26.5 - 27.5	$28,154,374.00	$0.00	0.00000	100.00
27.5 - 28.5	$28,161,062.00	$0.00	0.00000	100.00
28.5 - 29.5	$20,110,243.00	$0.00	0.00000	100.00
29.5 - 30.5	$19,917,468.00	$0.00	0.00000	100.00
30.5 - 31.5	$35,194,255.00	$141,000.00	0.00401	100.00
31.5 - 32.5	$35,059,943.00	$0.00	0.00000	99.60
32.5 - 33.5	$35,059,943.00	$0.00	0.00000	99.60
33.5 - 34.5	$35,059,943.00	$71,656.00	0.00204	99.60
34.5 - 35.5	$27,310,601.00	$0.00	0.00000	99.39
35.5 - 36.5	$27,444,369.00	$0.00	0.00000	99.39

OGE
Electric Division
354.00 Towers and Fixtures
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2013

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$73,149,804.00	$0.00	0.00000	99.39
37.5 - 38.5	$73,445,018.00	$356,968.00	0.00486	99.39
38.5 - 39.5	$24,719,427.00	$42,332.00	0.00171	98.91
39.5 - 40.5	$27,898,886.00	$1,499,746.00	0.05376	98.74
40.5 - 41.5	$26,190,407.00	$0.00	0.00000	93.43
41.5 - 42.5	$25,449,736.00	$0.00	0.00000	93.43
42.5 - 43.5	$21,139,508.00	$6,657.00	0.00031	93.43
43.5 - 44.5	$18,075,136.00	$25,365.00	0.00140	93.40
44.5 - 45.5	$18,049,771.00	$0.00	0.00000	93.27
45.5 - 46.5	$18,043,083.00	$33,442.00	0.00185	93.27
46.5 - 47.5	$18,009,641.00	$0.00	0.00000	93.10
47.5 - 48.5	$18,001,764.00	$0.00	0.00000	93.10
48.5 - 49.5	$2,802,038.00	$0.00	0.00000	93.10
49.5 - 50.5	$2,802,038.00	$0.00	0.00000	93.10
50.5 - 51.5	$2,802,038.00	$0.00	0.00000	93.10
51.5 - 52.5	$2,802,038.00	$0.00	0.00000	93.10
52.5 - 53.5	$2,802,038.00	$0.00	0.00000	93.10
53.5 - 54.5	$2,668,270.00	$0.00	0.00000	93.10
54.5 - 55.5	$2,503,501.00	$0.00	0.00000	93.10
55.5 - 56.5	$1,821,285.00	$0.00	0.00000	93.10

OGE

Electric Division
355.00 Poles and Fixtures
Original And Smooth Survivor Curves



OGE
Electric Division
355.00 Poles and Fixtures
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

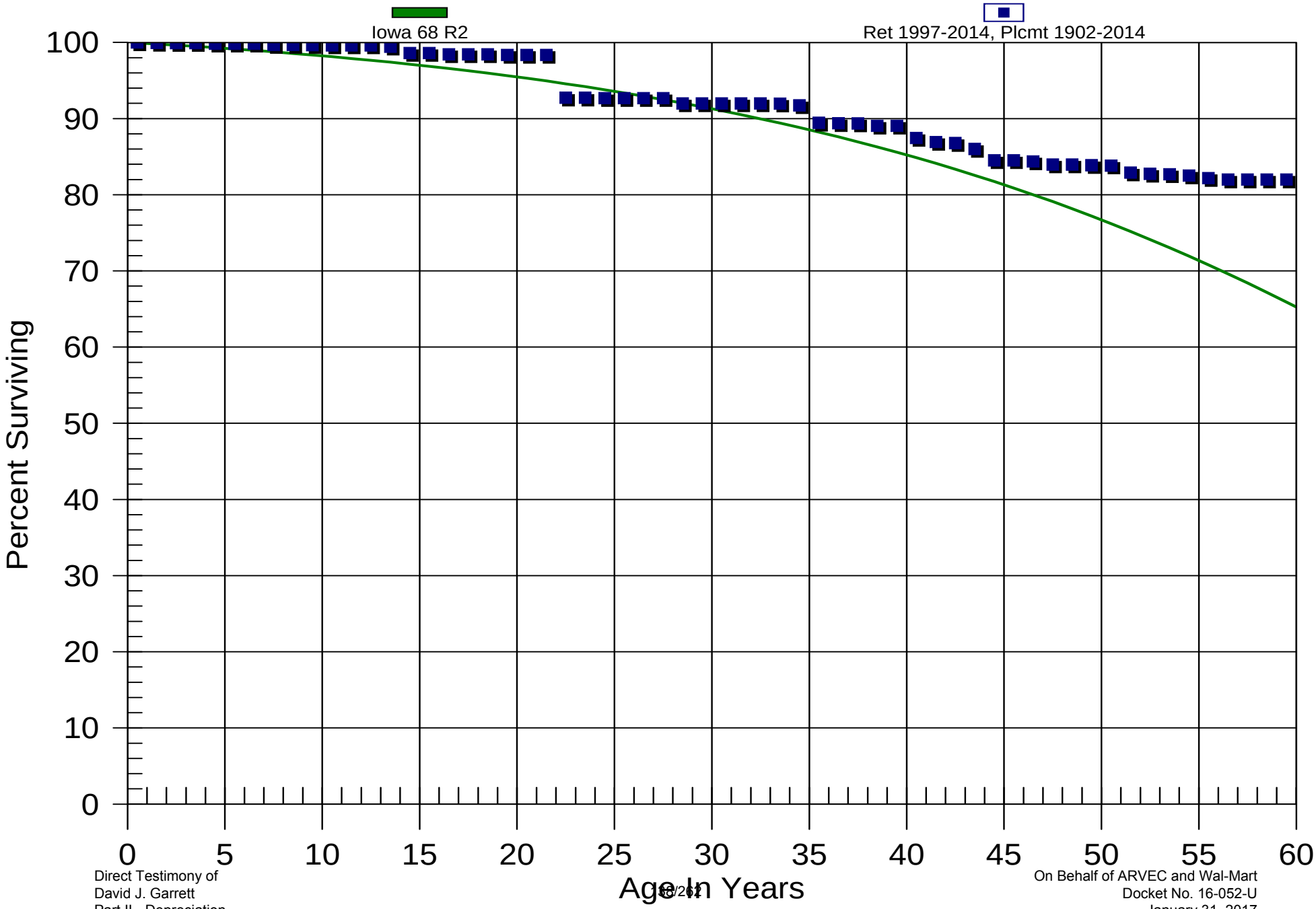
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$754,878,208.00	$59,791.00	0.00008	100.00
0.5 - 1.5	$478,788,977.00	$534,385.00	0.00112	99.99
1.5 - 2.5	$332,013,058.00	$1,129,983.00	0.00340	99.88
2.5 - 3.5	$197,925,778.00	$1,409,504.00	0.00712	99.54
3.5 - 4.5	$168,342,772.00	$2,128,118.00	0.01264	98.83
4.5 - 5.5	$145,294,099.00	$729,198.00	0.00502	97.58
5.5 - 6.5	$114,997,839.00	$301,049.00	0.00262	97.09
6.5 - 7.5	$95,960,557.00	$333,797.00	0.00348	96.84
7.5 - 8.5	$85,213,103.00	$341,169.00	0.00400	96.50
8.5 - 9.5	$70,958,584.00	$795,595.00	0.01121	96.12
9.5 - 10.5	$62,115,759.00	$444,068.00	0.00715	95.04
10.5 - 11.5	$57,129,601.00	$388,661.00	0.00680	94.36
11.5 - 12.5	$51,350,271.00	$282,739.00	0.00551	93.72
12.5 - 13.5	$29,039,441.00	$7,374.00	0.00025	93.20
13.5 - 14.5	$23,882,888.00	$214,014.00	0.00896	93.18
14.5 - 15.5	$20,835,360.00	$26,765.00	0.00128	92.34
15.5 - 16.5	$11,552,787.00	$93,072.00	0.00806	92.22
16.5 - 17.5	$11,930,850.00	$334,323.00	0.02802	91.48
17.5 - 18.5	$8,233,712.00	$18,888.00	0.00229	88.92
18.5 - 19.5	$7,902,352.00	$99,061.00	0.01254	88.71
19.5 - 20.5	$13,089,549.00	$0.00	0.00000	87.60
20.5 - 21.5	$13,684,059.00	$0.00	0.00000	87.60
21.5 - 22.5	$11,159,534.00	$1,707,386.00	0.15300	87.60
22.5 - 23.5	$12,009,228.00	$51,203.00	0.00426	74.20
23.5 - 24.5	$16,374,262.00	$0.00	0.00000	73.88
24.5 - 25.5	$21,695,716.00	$134,836.00	0.00621	73.88
25.5 - 26.5	$24,965,621.00	$123,140.00	0.00493	73.42
26.5 - 27.5	$27,042,964.00	$70,318.00	0.00260	73.06
27.5 - 28.5	$30,132,973.00	$241,984.00	0.00803	72.87
28.5 - 29.5	$34,939,764.00	$104,369.00	0.00299	72.28
29.5 - 30.5	$37,286,468.00	$212,588.00	0.00570	72.07
30.5 - 31.5	$36,868,195.00	$47,693.00	0.00129	71.66
31.5 - 32.5	$41,035,361.00	$80,104.00	0.00195	71.57
32.5 - 33.5	$42,592,360.00	$78,382.00	0.00184	71.43
33.5 - 34.5	$43,823,366.00	$339,640.00	0.00775	71.29
34.5 - 35.5	$45,305,626.00	$1,370,356.00	0.03025	70.74
35.5 - 36.5	$51,064,841.00	$175,409.00	0.00344	68.60

OGE
Electric Division
355.00 Poles and Fixtures
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$155,020,001.00	$190,869.00	0.00123	68.37
37.5 - 38.5	$113,417,217.00	$1,025,033.00	0.00904	68.28
38.5 - 39.5	$49,730,058.00	$131,126.00	0.00264	67.67
39.5 - 40.5	$103,229,616.00	$1,973,032.00	0.01911	67.49
40.5 - 41.5	$95,554,997.00	$331,299.00	0.00347	66.20
41.5 - 42.5	$91,090,336.00	$542,497.00	0.00596	65.97
42.5 - 43.5	$71,456,188.00	$560,155.00	0.00784	65.57
43.5 - 44.5	$67,200,566.00	$1,934,810.00	0.02879	65.06
44.5 - 45.5	$64,010,472.00	$149,238.00	0.00233	63.19
45.5 - 46.5	$62,310,102.00	$283,162.00	0.00454	63.04
46.5 - 47.5	$58,493,881.00	$363,381.00	0.00621	62.75
47.5 - 48.5	$56,202,217.00	$179,663.00	0.00320	62.36
48.5 - 49.5	$53,941,473.00	$286,709.00	0.00532	62.16
49.5 - 50.5	$51,396,736.00	$158,754.00	0.00309	61.83
50.5 - 51.5	$49,922,491.00	$626,419.00	0.01255	61.64
51.5 - 52.5	$47,671,464.00	$288,087.00	0.00604	60.87
52.5 - 53.5	$44,962,337.00	$279,926.00	0.00623	60.50
53.5 - 54.5	$37,481,054.00	$336,966.00	0.00899	60.12
54.5 - 55.5	$36,455,714.00	$190,586.00	0.00523	59.58
55.5 - 56.5	$36,042,440.00	$92,468.00	0.00257	59.27

OGE

Electric Division
356.00 Overhead Conductors and Devices
Original And Smooth Survivor Curves



OGE
Electric Division
356.00 Overhead Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

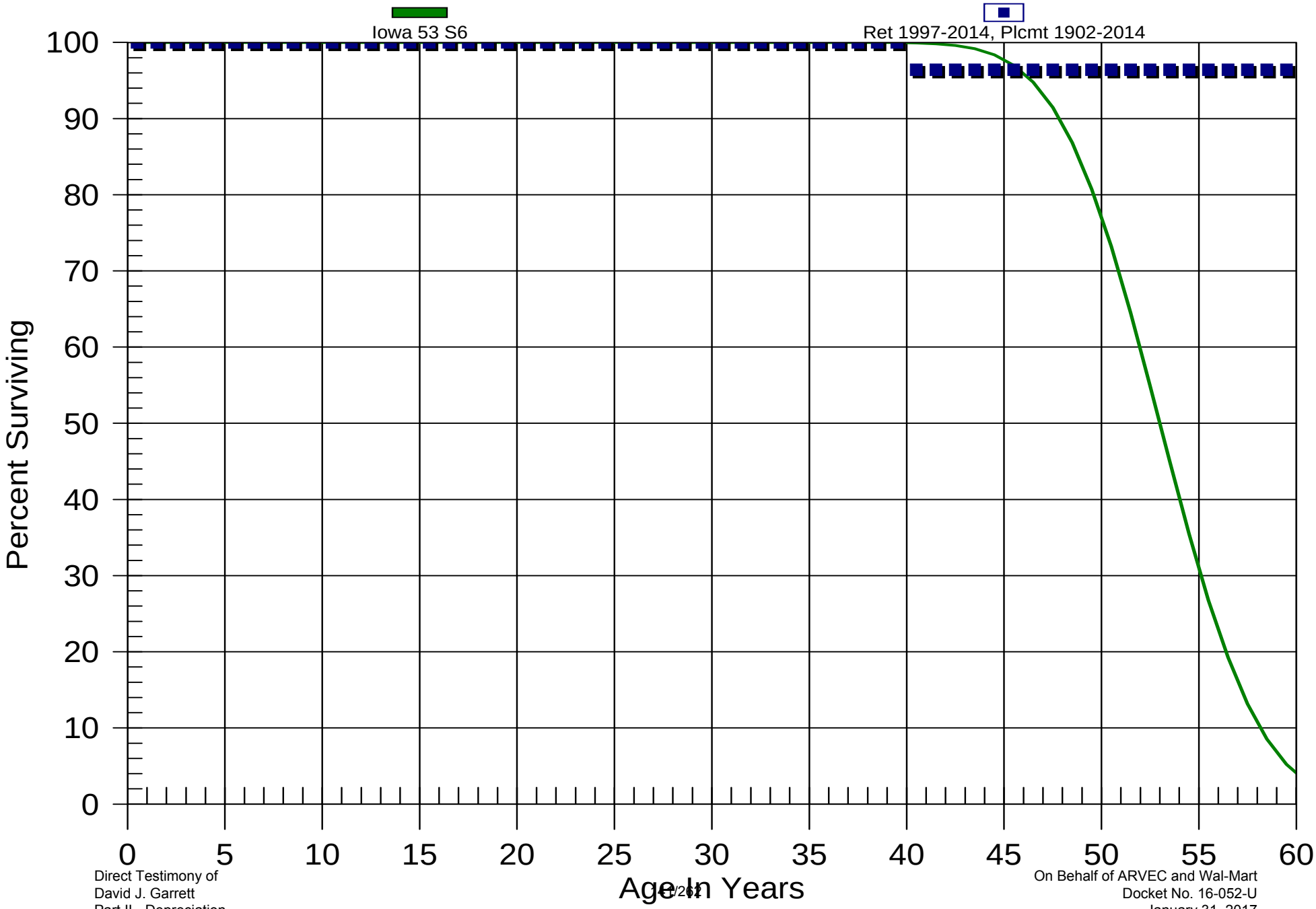
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$464,360,238.00	$0.00	0.00000	100.00
0.5 - 1.5	$340,767,269.00	$259,006.00	0.00076	100.00
1.5 - 2.5	$262,901,898.00	$33,783.00	0.00013	99.92
2.5 - 3.5	$186,255,577.00	$26,930.00	0.00014	99.91
3.5 - 4.5	$170,471,183.00	$124,817.00	0.00073	99.90
4.5 - 5.5	$94,908,137.00	$2,500.00	0.00003	99.82
5.5 - 6.5	$84,313,955.00	$0.00	0.00000	99.82
6.5 - 7.5	$72,091,843.00	$125,314.00	0.00174	99.82
7.5 - 8.5	$63,584,138.00	$0.00	0.00000	99.65
8.5 - 9.5	$54,764,170.00	$18,564.00	0.00034	99.65
9.5 - 10.5	$52,289,546.00	$950.00	0.00002	99.61
10.5 - 11.5	$50,096,971.00	$14.00	0.00000	99.61
11.5 - 12.5	$45,538,394.00	$0.00	0.00000	99.61
12.5 - 13.5	$14,408,454.00	$24,830.00	0.00172	99.61
13.5 - 14.5	$12,767,820.00	$106,566.00	0.00835	99.44
14.5 - 15.5	$9,803,303.00	$2,050.00	0.00021	98.61
15.5 - 16.5	$9,487,713.00	$15,336.00	0.00162	98.59
16.5 - 17.5	$20,027,377.00	$0.00	0.00000	98.43
17.5 - 18.5	$17,691,202.00	$0.00	0.00000	98.43
18.5 - 19.5	$15,463,035.00	$10,815.00	0.00070	98.43
19.5 - 20.5	$22,001,912.00	$279.00	0.00001	98.36
20.5 - 21.5	$24,674,552.00	$0.00	0.00000	98.36
21.5 - 22.5	$23,019,680.00	$1,313,809.00	0.05707	98.36
22.5 - 23.5	$24,101,838.00	$3,665.00	0.00015	92.75
23.5 - 24.5	$30,119,768.00	$21,603.00	0.00072	92.73
24.5 - 25.5	$33,672,256.00	$550.00	0.00002	92.67
25.5 - 26.5	$40,094,465.00	$0.00	0.00000	92.66
26.5 - 27.5	$41,747,280.00	$0.00	0.00000	92.66
27.5 - 28.5	$44,734,158.00	$325,723.00	0.00728	92.66
28.5 - 29.5	$46,290,264.00	$60.00	0.00000	91.99
29.5 - 30.5	$53,862,717.00	$0.00	0.00000	91.99
30.5 - 31.5	$58,886,511.00	$0.00	0.00000	91.99
31.5 - 32.5	$60,785,686.00	$0.00	0.00000	91.99
32.5 - 33.5	$62,331,408.00	$12,472.00	0.00020	91.99
33.5 - 34.5	$63,095,045.00	$170,246.00	0.00270	91.97
34.5 - 35.5	$53,817,829.00	$1,348,640.00	0.02506	91.72
35.5 - 36.5	$55,421,208.00	$28,901.00	0.00052	89.42

OGE
Electric Division
356.00 Overhead Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$155,685,374.00	$30,539.00	0.00020	89.38
37.5 - 38.5	$166,195,873.00	$550,676.00	0.00331	89.36
38.5 - 39.5	$86,686,583.00	$1,380.00	0.00002	89.06
39.5 - 40.5	$84,662,838.00	$1,526,611.00	0.01803	89.06
40.5 - 41.5	$78,954,937.00	$490,634.00	0.00621	87.46
41.5 - 42.5	$74,459,053.00	$107,306.00	0.00144	86.91
42.5 - 43.5	$56,042,725.00	$510,917.00	0.00912	86.79
43.5 - 44.5	$47,795,076.00	$822,712.00	0.01721	86.00
44.5 - 45.5	$45,622,523.00	$6,950.00	0.00015	84.52
45.5 - 46.5	$44,444,504.00	$75,854.00	0.00171	84.50
46.5 - 47.5	$43,096,006.00	$207,106.00	0.00481	84.36
47.5 - 48.5	$40,938,898.00	$675.00	0.00002	83.95
48.5 - 49.5	$32,770,668.00	$28,846.00	0.00088	83.95
49.5 - 50.5	$31,971,642.00	$24,488.00	0.00077	83.88
50.5 - 51.5	$31,087,292.00	$340,451.00	0.01095	83.81
51.5 - 52.5	$29,747,175.00	$52,919.00	0.00178	82.90
52.5 - 53.5	$27,736,410.00	$24,193.00	0.00087	82.75
53.5 - 54.5	$23,175,255.00	$42,574.00	0.00184	82.68
54.5 - 55.5	$22,652,284.00	$96,155.00	0.00424	82.53
55.5 - 56.5	$22,168,717.00	$46,095.00	0.00208	82.17

OGE

Electric Division
358.00 Underground Conductors and Devices
Original And Smooth Survivor Curves



OGE
Electric Division
358.00 Underground Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1959 TO 2013

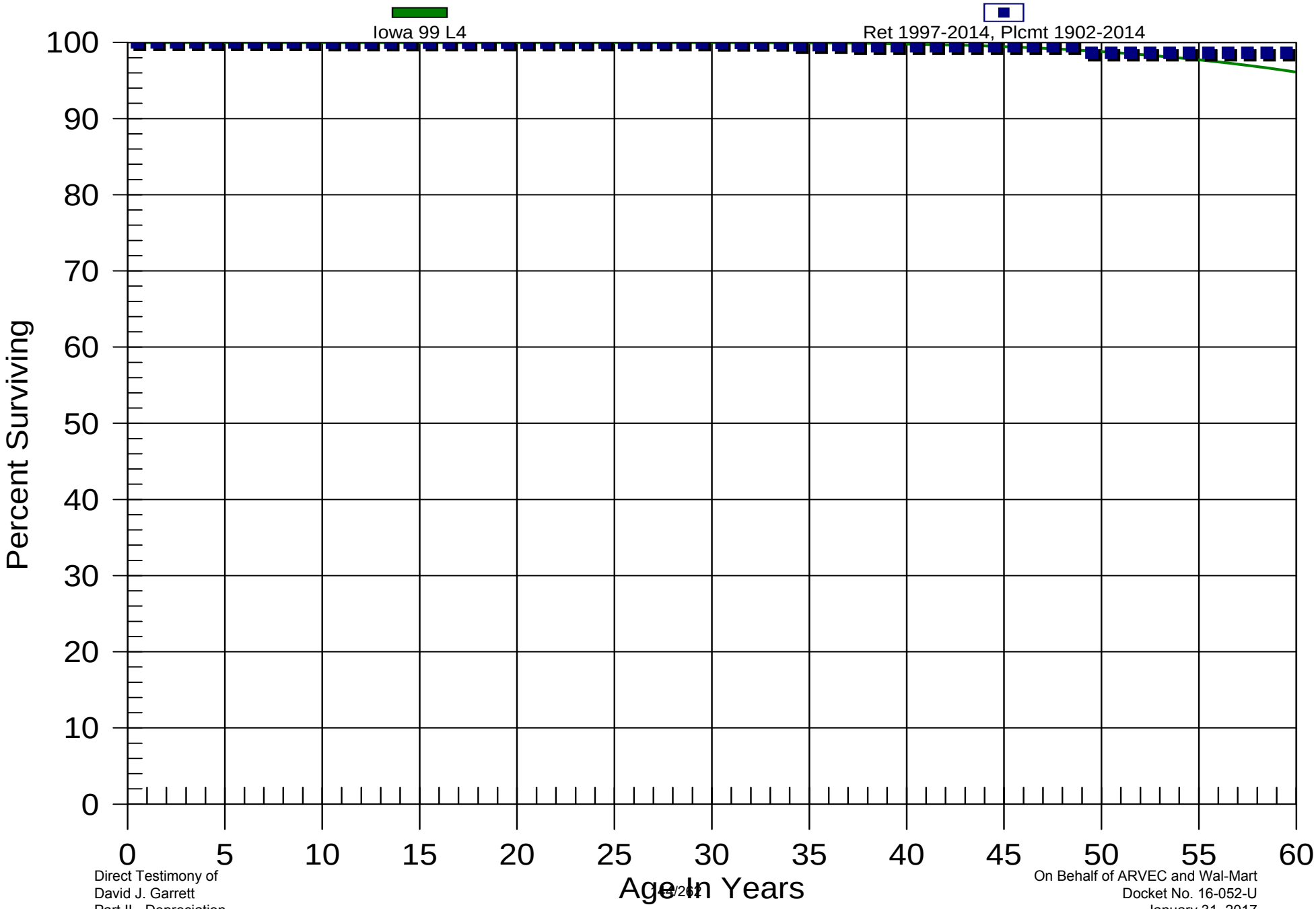
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$86,650.00	$0.00	0.00000	100.00
0.5 - 1.5	$86,650.00	$0.00	0.00000	100.00
1.5 - 2.5	$86,650.00	$0.00	0.00000	100.00
2.5 - 3.5	$86,650.00	$0.00	0.00000	100.00
3.5 - 4.5	$86,650.00	$0.00	0.00000	100.00
4.5 - 5.5	$86,650.00	$0.00	0.00000	100.00
5.5 - 6.5	$86,650.00	$0.00	0.00000	100.00
6.5 - 7.5	$86,650.00	$0.00	0.00000	100.00
7.5 - 8.5	$86,650.00	$0.00	0.00000	100.00
8.5 - 9.5	$1,142.00	$0.00	0.00000	100.00
9.5 - 10.5	$1,142.00	$0.00	0.00000	100.00
10.5 - 11.5	$1,142.00	$0.00	0.00000	100.00
11.5 - 12.5	$1,142.00	$0.00	0.00000	100.00
12.5 - 13.5	$1,142.00	$0.00	0.00000	100.00
13.5 - 14.5	$1,142.00	$0.00	0.00000	100.00
14.5 - 15.5	$1,142.00	$0.00	0.00000	100.00
15.5 - 16.5	$1,142.00	$0.00	0.00000	100.00
16.5 - 17.5	$0.00	$0.00	0.00000	100.00
17.5 - 18.5	$0.00	$0.00	0.00000	100.00
18.5 - 19.5	$0.00	$0.00	0.00000	100.00
19.5 - 20.5	$0.00	$0.00	0.00000	100.00
20.5 - 21.5	$0.00	$0.00	0.00000	100.00
21.5 - 22.5	$0.00	$0.00	0.00000	100.00
22.5 - 23.5	$0.00	$0.00	0.00000	100.00
23.5 - 24.5	$0.00	$0.00	0.00000	100.00
24.5 - 25.5	$0.00	$0.00	0.00000	100.00
25.5 - 26.5	$0.00	$0.00	0.00000	100.00
26.5 - 27.5	$0.00	$0.00	0.00000	100.00
27.5 - 28.5	$0.00	$0.00	0.00000	100.00
28.5 - 29.5	$0.00	$0.00	0.00000	100.00
29.5 - 30.5	($109,352.00)	$0.00	0.00000	100.00
30.5 - 31.5	$0.00	$0.00	0.00000	100.00
31.5 - 32.5	$109,352.00	$0.00	0.00000	100.00
32.5 - 33.5	$109,352.00	$0.00	0.00000	100.00
33.5 - 34.5	$109,352.00	$0.00	0.00000	100.00
34.5 - 35.5	$109,352.00	$0.00	0.00000	100.00
35.5 - 36.5	$109,352.00	$0.00	0.00000	100.00

OGE
Electric Division
358.00 Underground Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1959 TO 2013

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$218,704.00	$0.00	0.00000	100.00
37.5 - 38.5	$222,781.00	$0.00	0.00000	100.00
38.5 - 39.5	$113,429.00	$0.00	0.00000	100.00
39.5 - 40.5	$113,429.00	$4,077.00	0.03594	100.00
40.5 - 41.5	$109,352.00	$0.00	0.00000	96.41
41.5 - 42.5	$109,352.00	$0.00	0.00000	96.41
42.5 - 43.5	$109,352.00	$0.00	0.00000	96.41
43.5 - 44.5	$109,352.00	$0.00	0.00000	96.41
44.5 - 45.5	$109,352.00	$0.00	0.00000	96.41
45.5 - 46.5	$109,352.00	$0.00	0.00000	96.41
46.5 - 47.5	$109,352.00	$0.00	0.00000	96.41
47.5 - 48.5	$109,352.00	$0.00	0.00000	96.41
48.5 - 49.5	$0.00	$0.00	0.00000	96.41
49.5 - 50.5	$0.00	$0.00	0.00000	96.41
50.5 - 51.5	$0.00	$0.00	0.00000	96.41
51.5 - 52.5	$0.00	$0.00	0.00000	96.41
52.5 - 53.5	$0.00	$0.00	0.00000	96.41
53.5 - 54.5	$0.00	$0.00	0.00000	96.41
54.5 - 55.5	$0.00	$0.00	0.00000	96.41

OGE

Electric Division
360.20 Land Rights
Original And Smooth Survivor Curves



OGE
Electric Division
360.20 Land Rights
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

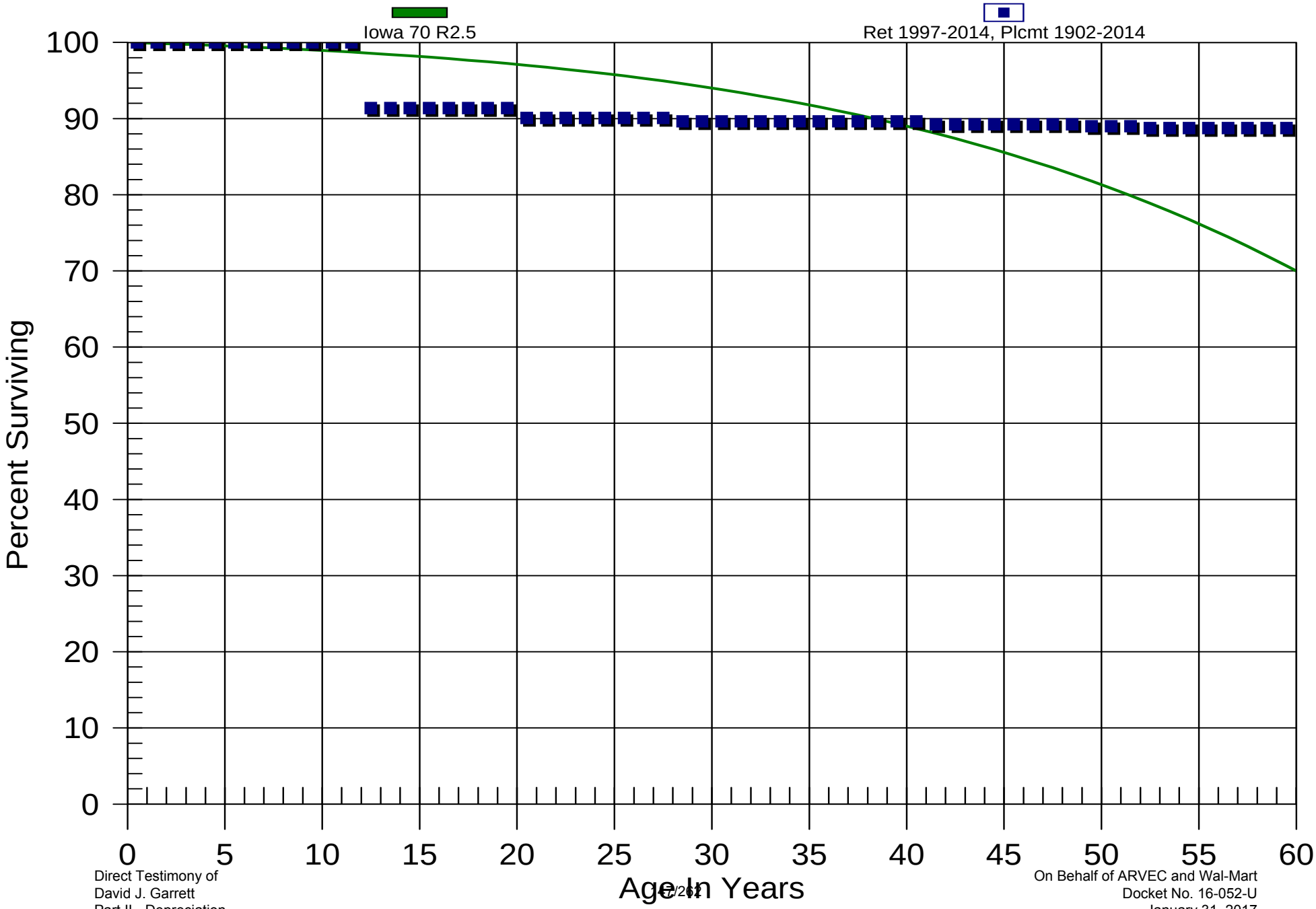
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$3,378,679.00	$0.00	0.00000	100.00
0.5 - 1.5	$3,173,496.00	$0.00	0.00000	100.00
1.5 - 2.5	$2,981,006.00	$0.00	0.00000	100.00
2.5 - 3.5	$2,957,586.00	$0.00	0.00000	100.00
3.5 - 4.5	$2,608,460.00	$0.00	0.00000	100.00
4.5 - 5.5	$2,610,426.00	$0.00	0.00000	100.00
5.5 - 6.5	$2,557,349.00	$0.00	0.00000	100.00
6.5 - 7.5	$2,283,780.00	$0.00	0.00000	100.00
7.5 - 8.5	$1,581,411.00	$0.00	0.00000	100.00
8.5 - 9.5	$1,481,828.00	$0.00	0.00000	100.00
9.5 - 10.5	$1,465,020.00	$536.00	0.00037	100.00
10.5 - 11.5	$943,035.00	$0.00	0.00000	99.96
11.5 - 12.5	$836,208.00	$0.00	0.00000	99.96
12.5 - 13.5	$789,219.00	$0.00	0.00000	99.96
13.5 - 14.5	$743,766.00	$0.00	0.00000	99.96
14.5 - 15.5	$757,014.00	$0.00	0.00000	99.96
15.5 - 16.5	$782,632.00	$0.00	0.00000	99.96
16.5 - 17.5	$783,174.00	$0.00	0.00000	99.96
17.5 - 18.5	$785,484.00	$0.00	0.00000	99.96
18.5 - 19.5	$755,604.00	$0.00	0.00000	99.96
19.5 - 20.5	$726,790.00	$0.00	0.00000	99.96
20.5 - 21.5	$699,170.00	$0.00	0.00000	99.96
21.5 - 22.5	$672,296.00	$0.00	0.00000	99.96
22.5 - 23.5	$647,674.00	$0.00	0.00000	99.96
23.5 - 24.5	$622,844.00	$0.00	0.00000	99.96
24.5 - 25.5	$602,354.00	$0.00	0.00000	99.96
25.5 - 26.5	$578,151.00	$0.00	0.00000	99.96
26.5 - 27.5	$558,536.00	$0.00	0.00000	99.96
27.5 - 28.5	$537,386.00	$0.00	0.00000	99.96
28.5 - 29.5	$528,477.00	$0.00	0.00000	99.96
29.5 - 30.5	$509,533.00	$155.00	0.00030	99.96
30.5 - 31.5	$491,795.00	$0.00	0.00000	99.93
31.5 - 32.5	$475,059.00	$0.00	0.00000	99.93
32.5 - 33.5	$460,177.00	$0.00	0.00000	99.93
33.5 - 34.5	$444,807.00	$1,373.00	0.00309	99.93
34.5 - 35.5	$427,782.00	$0.00	0.00000	99.62
35.5 - 36.5	$412,524.00	$0.00	0.00000	99.62

OGE
Electric Division
360.20 Land Rights
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$397,647.00	$521.00	0.00131	99.62
37.5 - 38.5	$1,748,870.00	$0.00	0.00000	99.49
38.5 - 39.5	$2,074,367.00	$0.00	0.00000	99.49
39.5 - 40.5	$2,060,659.00	$0.00	0.00000	99.49
40.5 - 41.5	$682,021.00	$0.00	0.00000	99.49
41.5 - 42.5	$654,675.00	$0.00	0.00000	99.49
42.5 - 43.5	$624,409.00	$0.00	0.00000	99.49
43.5 - 44.5	$595,712.00	$0.00	0.00000	99.49
44.5 - 45.5	$563,407.00	$0.00	0.00000	99.49
45.5 - 46.5	$540,163.00	$59.00	0.00011	99.49
46.5 - 47.5	$512,779.00	$0.00	0.00000	99.48
47.5 - 48.5	$491,288.00	$0.00	0.00000	99.48
48.5 - 49.5	$469,490.00	$4,033.00	0.00859	99.48
49.5 - 50.5	$444,327.00	$0.00	0.00000	98.63
50.5 - 51.5	$422,800.00	$0.00	0.00000	98.63
51.5 - 52.5	$403,160.00	$0.00	0.00000	98.63
52.5 - 53.5	$385,149.00	$0.00	0.00000	98.63
53.5 - 54.5	$368,039.00	$0.00	0.00000	98.63
54.5 - 55.5	$351,671.00	$0.00	0.00000	98.63
55.5 - 56.5	$335,662.00	$3.00	0.00001	98.63

OGE

Electric Division
361.00 Structures and Improvements
Original And Smooth Survivor Curves



OGE
Electric Division
361.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

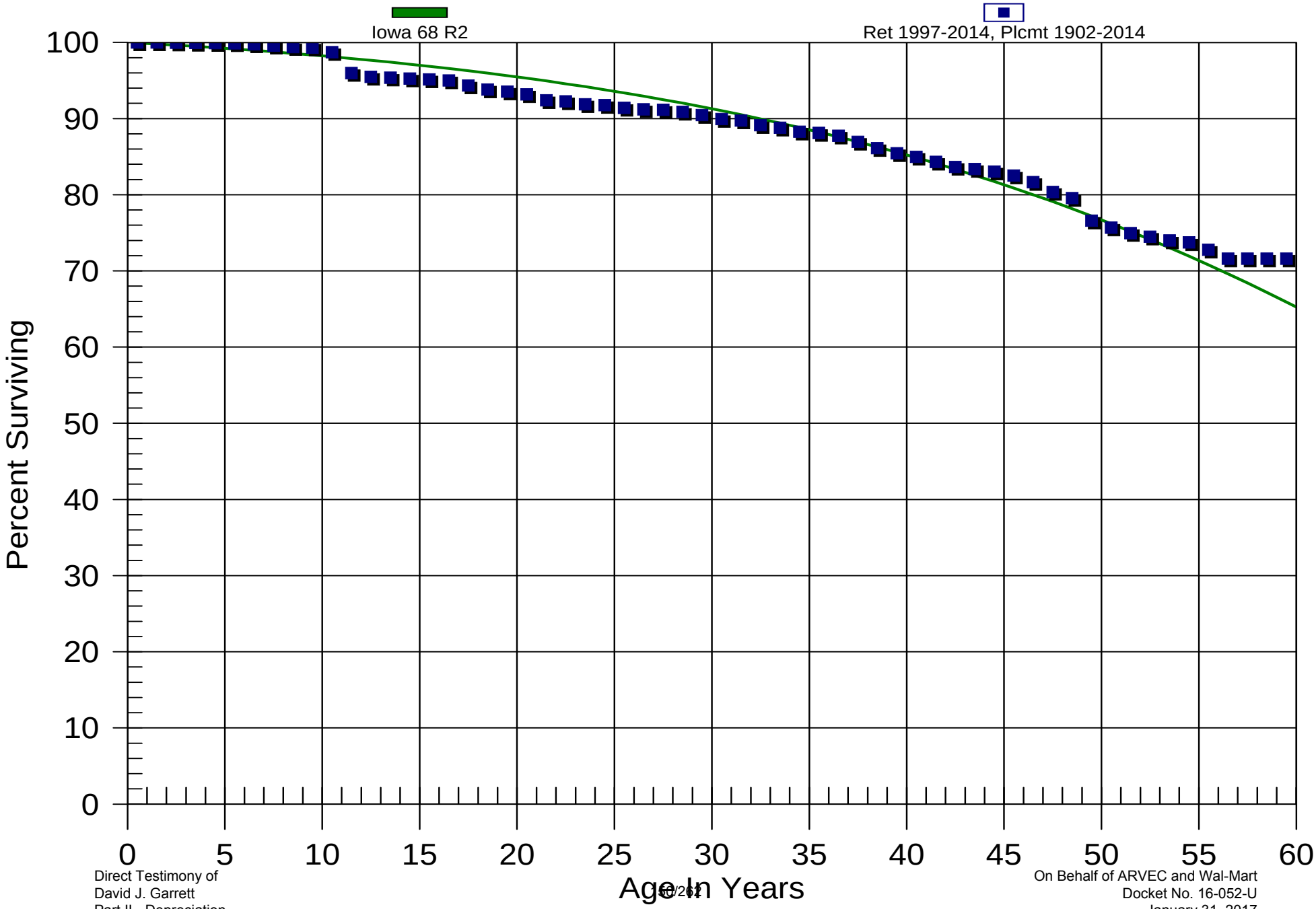
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$4,931,164.00	$0.00	0.00000	100.00
0.5 - 1.5	$4,362,548.00	$0.00	0.00000	100.00
1.5 - 2.5	$4,340,024.00	$0.00	0.00000	100.00
2.5 - 3.5	$4,213,579.00	$0.00	0.00000	100.00
3.5 - 4.5	$3,886,707.00	$0.00	0.00000	100.00
4.5 - 5.5	$3,607,406.00	$0.00	0.00000	100.00
5.5 - 6.5	$3,238,485.00	$0.00	0.00000	100.00
6.5 - 7.5	$2,326,112.00	$0.00	0.00000	100.00
7.5 - 8.5	$1,858,445.00	$0.00	0.00000	100.00
8.5 - 9.5	$650,358.00	$0.00	0.00000	100.00
9.5 - 10.5	$543,013.00	$0.00	0.00000	100.00
10.5 - 11.5	$500,410.00	$0.00	0.00000	100.00
11.5 - 12.5	$436,976.00	$37,629.00	0.08611	100.00
12.5 - 13.5	$390,861.00	$0.00	0.00000	91.39
13.5 - 14.5	$383,122.00	$0.00	0.00000	91.39
14.5 - 15.5	$361,623.00	$0.00	0.00000	91.39
15.5 - 16.5	$315,012.00	$0.00	0.00000	91.39
16.5 - 17.5	$256,912.00	$0.00	0.00000	91.39
17.5 - 18.5	$313,578.00	$0.00	0.00000	91.39
18.5 - 19.5	$367,909.00	$0.00	0.00000	91.39
19.5 - 20.5	$268,932.00	$3,856.00	0.01434	91.39
20.5 - 21.5	$239,312.00	$0.00	0.00000	90.08
21.5 - 22.5	$239,312.00	$0.00	0.00000	90.08
22.5 - 23.5	$258,044.00	$0.00	0.00000	90.08
23.5 - 24.5	$397,805.00	$0.00	0.00000	90.08
24.5 - 25.5	$405,831.00	$0.00	0.00000	90.08
25.5 - 26.5	$473,360.00	$0.00	0.00000	90.08
26.5 - 27.5	$452,166.00	$0.00	0.00000	90.08
27.5 - 28.5	$483,539.00	$2,400.00	0.00496	90.08
28.5 - 29.5	$556,033.00	$0.00	0.00000	89.63
29.5 - 30.5	$555,599.00	$0.00	0.00000	89.63
30.5 - 31.5	$612,988.00	$0.00	0.00000	89.63
31.5 - 32.5	$651,416.00	$0.00	0.00000	89.63
32.5 - 33.5	$660,913.00	$0.00	0.00000	89.63
33.5 - 34.5	$661,776.00	$0.00	0.00000	89.63
34.5 - 35.5	$665,564.00	$0.00	0.00000	89.63
35.5 - 36.5	$600,875.00	$0.00	0.00000	89.63

OGE
Electric Division
361.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$605,336.00	$0.00	0.00000	89.63
37.5 - 38.5	$415,421.00	$0.00	0.00000	89.63
38.5 - 39.5	$901,567.00	$0.00	0.00000	89.63
39.5 - 40.5	$1,120,568.00	$0.00	0.00000	89.63
40.5 - 41.5	$1,084,490.00	$4,621.00	0.00426	89.63
41.5 - 42.5	$941,859.00	$0.00	0.00000	89.25
42.5 - 43.5	$904,720.00	$0.00	0.00000	89.25
43.5 - 44.5	$824,818.00	$0.00	0.00000	89.25
44.5 - 45.5	$817,047.00	$0.00	0.00000	89.25
45.5 - 46.5	$771,617.00	$0.00	0.00000	89.25
46.5 - 47.5	$689,794.00	$0.00	0.00000	89.25
47.5 - 48.5	$653,662.00	$0.00	0.00000	89.25
48.5 - 49.5	$595,443.00	$1,770.00	0.00297	89.25
49.5 - 50.5	$579,784.00	$0.00	0.00000	88.98
50.5 - 51.5	$574,266.00	$0.00	0.00000	88.98
51.5 - 52.5	$569,750.00	$1,539.00	0.00270	88.98
52.5 - 53.5	$562,217.00	$0.00	0.00000	88.74
53.5 - 54.5	$551,996.00	$0.00	0.00000	88.74
54.5 - 55.5	$511,424.00	$0.00	0.00000	88.74
55.5 - 56.5	$466,445.00	$0.00	0.00000	88.74

OGE

Electric Division
362.00 Station Equipment
Original And Smooth Survivor Curves



OGE
Electric Division
362.00 Station Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

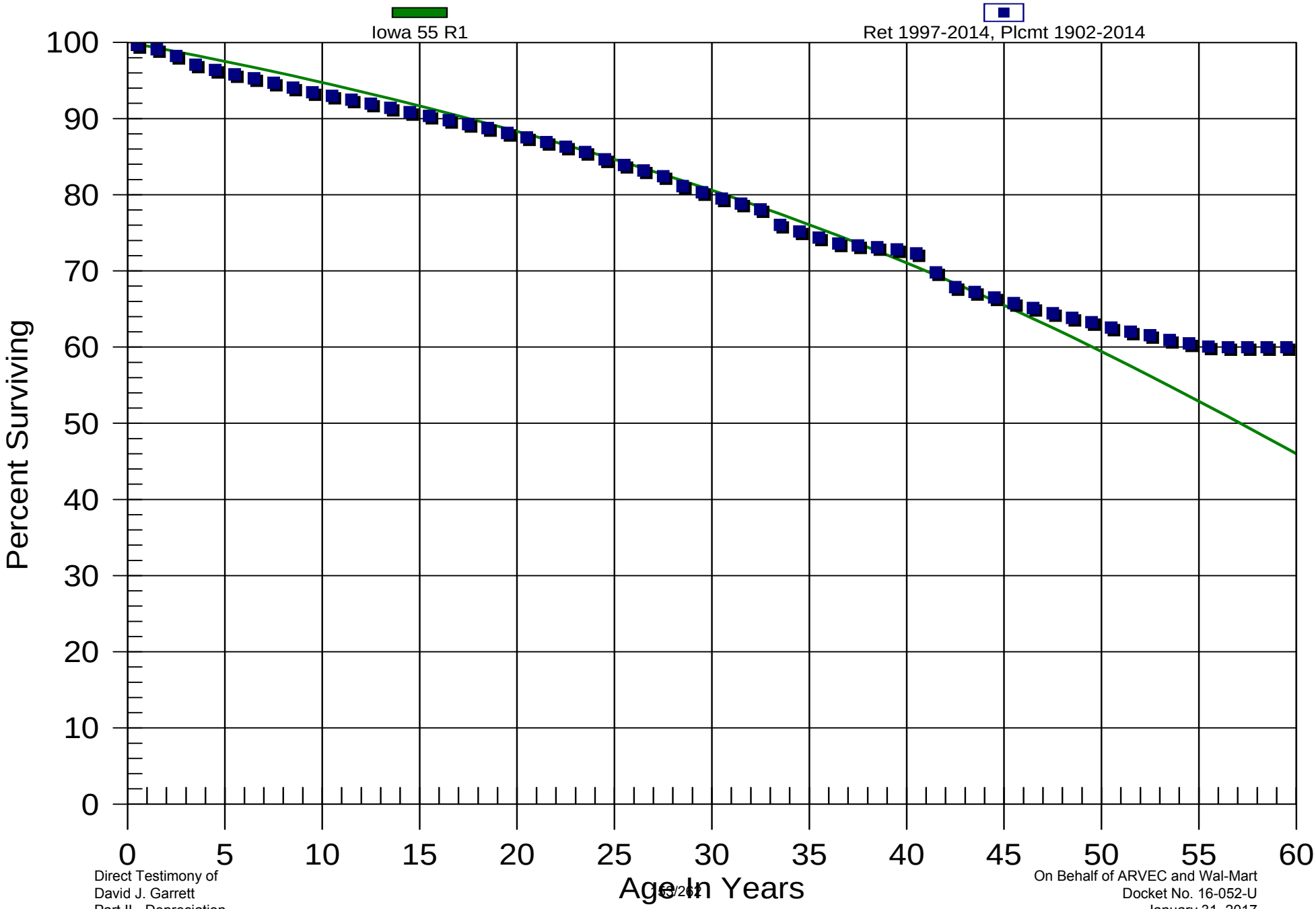
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$429,338,525.00	$20,007.00	0.00005	100.00
0.5 - 1.5	$400,572,361.00	$91,397.00	0.00023	100.00
1.5 - 2.5	$373,071,571.00	$54,876.00	0.00015	99.97
2.5 - 3.5	$316,449,673.00	$104,339.00	0.00033	99.96
3.5 - 4.5	$284,178,173.00	$56,062.00	0.00020	99.92
4.5 - 5.5	$266,843,629.00	$69,437.00	0.00026	99.91
5.5 - 6.5	$242,812,037.00	$335,706.00	0.00138	99.88
6.5 - 7.5	$213,160,108.00	$353,585.00	0.00166	99.74
7.5 - 8.5	$199,521,355.00	$382,344.00	0.00192	99.58
8.5 - 9.5	$200,200,987.00	$106,033.00	0.00053	99.38
9.5 - 10.5	$178,695,747.00	$1,091,977.00	0.00611	99.33
10.5 - 11.5	$162,681,100.00	$4,546,545.00	0.02795	98.73
11.5 - 12.5	$136,084,076.00	$704,942.00	0.00518	95.97
12.5 - 13.5	$129,691,474.00	$137,730.00	0.00106	95.47
13.5 - 14.5	$122,723,047.00	$133,968.00	0.00109	95.37
14.5 - 15.5	$116,051,252.00	$148,165.00	0.00128	95.26
15.5 - 16.5	$103,068,173.00	$137,704.00	0.00134	95.14
16.5 - 17.5	$97,273,621.00	$693,579.00	0.00713	95.01
17.5 - 18.5	$97,985,428.00	$549,737.00	0.00561	94.34
18.5 - 19.5	$98,171,961.00	$279,618.00	0.00285	93.81
19.5 - 20.5	$96,376,602.00	$370,589.00	0.00385	93.54
20.5 - 21.5	$91,828,833.00	$770,709.00	0.00839	93.18
21.5 - 22.5	$87,609,569.00	$120,837.00	0.00138	92.40
22.5 - 23.5	$85,125,685.00	$371,443.00	0.00436	92.27
23.5 - 24.5	$83,845,649.00	$105,239.00	0.00126	91.87
24.5 - 25.5	$77,768,899.00	$296,662.00	0.00381	91.75
25.5 - 26.5	$71,065,146.00	$142,039.00	0.00200	91.40
26.5 - 27.5	$60,397,995.00	$42,494.00	0.00070	91.22
27.5 - 28.5	$63,670,785.00	$186,592.00	0.00293	91.16
28.5 - 29.5	$66,359,343.00	$309,783.00	0.00467	90.89
29.5 - 30.5	$67,726,476.00	$392,464.00	0.00579	90.47
30.5 - 31.5	$68,120,815.00	$156,890.00	0.00230	89.94
31.5 - 32.5	$70,564,201.00	$475,124.00	0.00673	89.73
32.5 - 33.5	$69,830,654.00	$251,592.00	0.00360	89.13
33.5 - 34.5	$70,216,052.00	$415,342.00	0.00592	88.81
34.5 - 35.5	$67,156,127.00	$123,864.00	0.00184	88.28
35.5 - 36.5	$66,114,549.00	$272,636.00	0.00412	88.12

OGE
Electric Division
362.00 Station Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$61,620,335.00	$562,789.00	0.00913	87.76
37.5 - 38.5	$58,272,775.00	$559,483.00	0.00960	86.96
38.5 - 39.5	$71,820,786.00	$550,138.00	0.00766	86.12
39.5 - 40.5	$77,837,089.00	$438,699.00	0.00564	85.46
40.5 - 41.5	$70,739,213.00	$549,765.00	0.00777	84.98
41.5 - 42.5	$62,761,553.00	$495,419.00	0.00789	84.32
42.5 - 43.5	$57,549,079.00	$183,569.00	0.00319	83.65
43.5 - 44.5	$49,796,684.00	$197,213.00	0.00396	83.39
44.5 - 45.5	$46,047,730.00	$292,636.00	0.00636	83.06
45.5 - 46.5	$41,871,736.00	$444,590.00	0.01062	82.53
46.5 - 47.5	$38,081,266.00	$608,164.00	0.01597	81.65
47.5 - 48.5	$29,213,180.00	$286,350.00	0.00980	80.35
48.5 - 49.5	$26,138,373.00	$972,270.00	0.03720	79.56
49.5 - 50.5	$22,909,436.00	$279,574.00	0.01220	76.60
50.5 - 51.5	$21,165,955.00	$198,906.00	0.00940	75.67
51.5 - 52.5	$19,196,604.00	$116,459.00	0.00607	74.96
52.5 - 53.5	$17,997,831.00	$124,401.00	0.00691	74.50
53.5 - 54.5	$17,082,857.00	$55,698.00	0.00326	73.99
54.5 - 55.5	$14,958,659.00	$200,009.00	0.01337	73.74
55.5 - 56.5	$12,358,435.00	$194,498.00	0.01574	72.76

OGE

Electric Division
364.00 Poles, Towers, and Fixtures
Original And Smooth Survivor Curves



OGE
Electric Division
364.00 Poles, Towers, and Fixtures
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

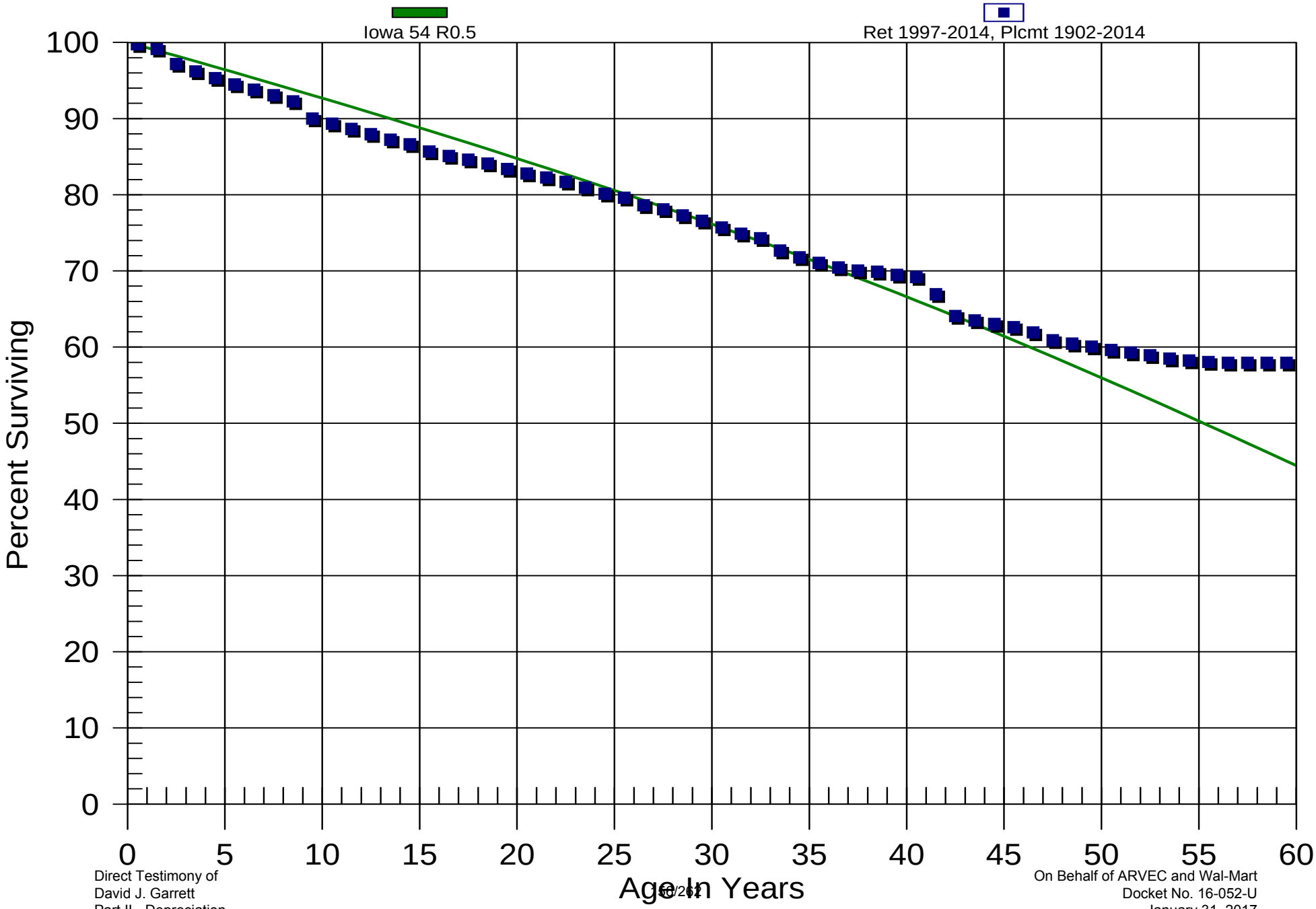
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$368,086,236.00	$1,233,965.00	0.00335	100.00
0.5 - 1.5	$346,630,127.00	$2,006,224.00	0.00579	99.66
1.5 - 2.5	$307,912,101.00	$2,707,013.00	0.00879	99.09
2.5 - 3.5	$277,595,845.00	$3,225,118.00	0.01162	98.22
3.5 - 4.5	$259,145,973.00	$1,818,859.00	0.00702	97.08
4.5 - 5.5	$247,860,677.00	$1,479,575.00	0.00597	96.39
5.5 - 6.5	$237,147,463.00	$1,350,289.00	0.00569	95.82
6.5 - 7.5	$214,205,259.00	$1,276,924.00	0.00596	95.27
7.5 - 8.5	$202,194,779.00	$1,378,367.00	0.00682	94.71
8.5 - 9.5	$192,126,094.00	$1,228,112.00	0.00639	94.06
9.5 - 10.5	$185,828,576.00	$953,157.00	0.00513	93.46
10.5 - 11.5	$180,438,656.00	$963,536.00	0.00534	92.98
11.5 - 12.5	$179,587,347.00	$996,664.00	0.00555	92.48
12.5 - 13.5	$162,697,074.00	$982,655.00	0.00604	91.97
13.5 - 14.5	$156,542,791.00	$976,049.00	0.00624	91.41
14.5 - 15.5	$157,330,317.00	$862,393.00	0.00548	90.84
15.5 - 16.5	$156,433,963.00	$970,150.00	0.00620	90.35
16.5 - 17.5	$158,078,671.00	$920,370.00	0.00582	89.79
17.5 - 18.5	$148,898,408.00	$865,180.00	0.00581	89.26
18.5 - 19.5	$144,095,188.00	$1,013,764.00	0.00704	88.74
19.5 - 20.5	$139,646,331.00	$920,720.00	0.00659	88.12
20.5 - 21.5	$131,883,260.00	$922,300.00	0.00699	87.54
21.5 - 22.5	$124,547,437.00	$880,973.00	0.00707	86.93
22.5 - 23.5	$117,867,316.00	$950,796.00	0.00807	86.31
23.5 - 24.5	$109,480,926.00	$1,239,177.00	0.01132	85.62
24.5 - 25.5	$104,562,670.00	$925,369.00	0.00885	84.65
25.5 - 26.5	$98,126,501.00	$847,919.00	0.00864	83.90
26.5 - 27.5	$92,582,712.00	$822,924.00	0.00889	83.17
27.5 - 28.5	$84,987,287.00	$1,340,001.00	0.01577	82.43
28.5 - 29.5	$77,598,417.00	$779,900.00	0.01005	81.13
29.5 - 30.5	$69,704,735.00	$714,796.00	0.01025	80.32
30.5 - 31.5	$61,985,312.00	$521,650.00	0.00842	79.49
31.5 - 32.5	$55,095,059.00	$517,444.00	0.00939	78.83
32.5 - 33.5	$48,343,209.00	$1,268,082.00	0.02623	78.09
33.5 - 34.5	$43,023,507.00	$489,676.00	0.01138	76.04
34.5 - 35.5	$39,696,685.00	$425,701.00	0.01072	75.17
35.5 - 36.5	$37,299,776.00	$382,808.00	0.01026	74.37

OGE
Electric Division
364.00 Poles, Towers, and Fixtures
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$109,411,652.00	$378,946.00	0.00346	73.60
37.5 - 38.5	$246,548,095.00	$779,516.00	0.00316	73.35
38.5 - 39.5	$258,037,886.00	$977,272.00	0.00379	73.12
39.5 - 40.5	$184,410,038.00	$1,380,063.00	0.00748	72.84
40.5 - 41.5	$40,808,300.00	$1,399,623.00	0.03430	72.29
41.5 - 42.5	$36,585,162.00	$1,010,904.00	0.02763	69.81
42.5 - 43.5	$32,708,398.00	$307,377.00	0.00940	67.88
43.5 - 44.5	$30,285,738.00	$328,029.00	0.01083	67.25
44.5 - 45.5	$27,945,143.00	$317,090.00	0.01135	66.52
45.5 - 46.5	$26,664,337.00	$257,657.00	0.00966	65.76
46.5 - 47.5	$24,803,826.00	$262,028.00	0.01056	65.13
47.5 - 48.5	$23,114,538.00	$222,636.00	0.00963	64.44
48.5 - 49.5	$21,374,265.00	$180,989.00	0.00847	63.82
49.5 - 50.5	$19,645,315.00	$222,172.00	0.01131	63.28
50.5 - 51.5	$17,880,420.00	$149,553.00	0.00836	62.56
51.5 - 52.5	$15,956,789.00	$125,881.00	0.00789	62.04
52.5 - 53.5	$14,678,917.00	$147,937.00	0.01008	61.55
53.5 - 54.5	$13,526,327.00	$101,498.00	0.00750	60.93
54.5 - 55.5	$12,622,558.00	$88,192.00	0.00699	60.47
55.5 - 56.5	$11,948,773.00	$11,971.00	0.00100	60.05

OGE

Electric Division
365.00 Overhead Conductors and Devices
Original And Smooth Survivor Curves



OGE
Electric Division
365.00 Overhead Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

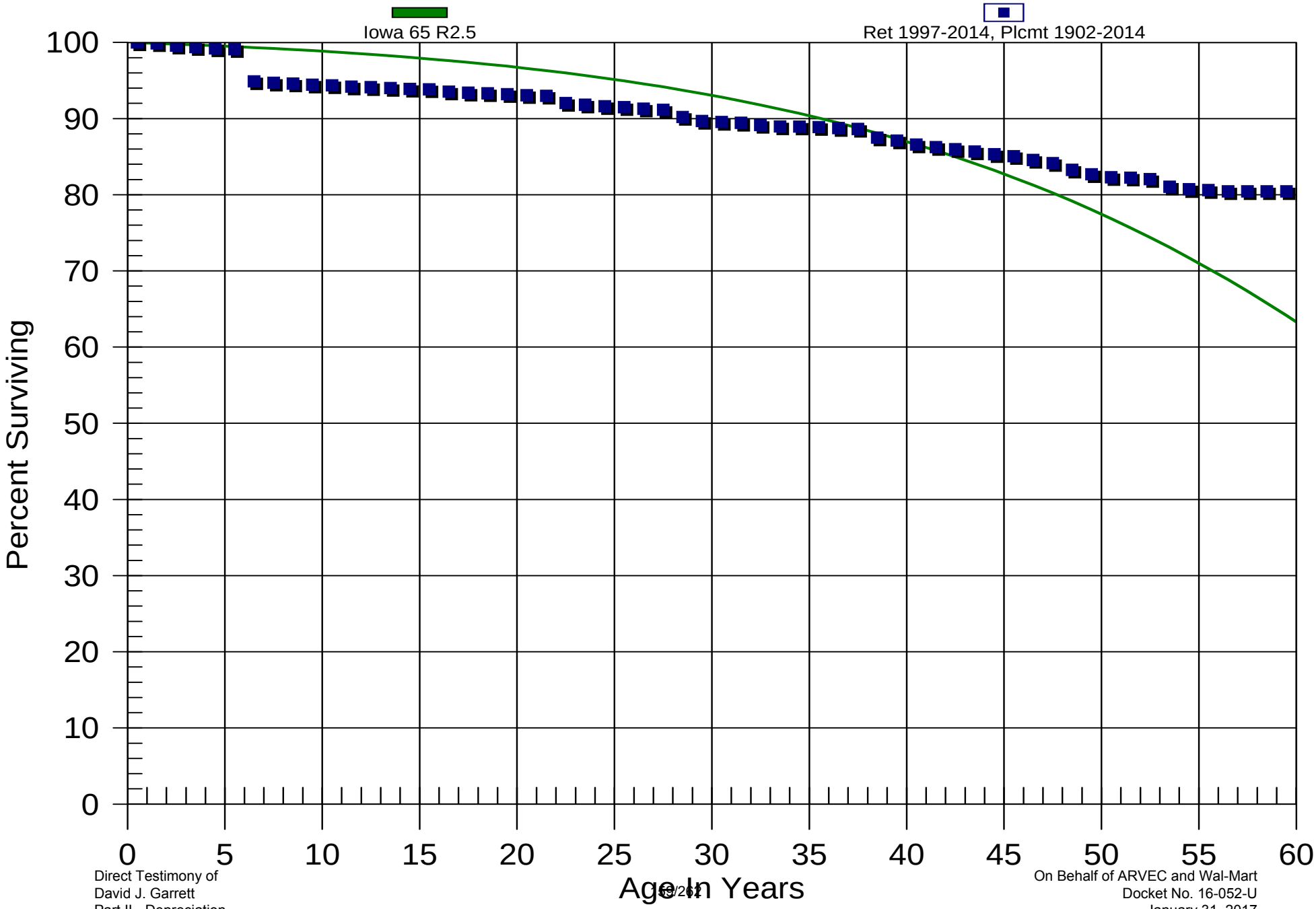
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$250,896,487.00	$576,848.00	0.00230	100.00
0.5 - 1.5	$225,067,632.00	$1,375,155.00	0.00611	99.77
1.5 - 2.5	$195,224,920.00	$3,951,896.00	0.02024	99.16
2.5 - 3.5	$170,480,644.00	$1,706,396.00	0.01001	97.15
3.5 - 4.5	$162,352,782.00	$1,487,446.00	0.00916	96.18
4.5 - 5.5	$159,902,832.00	$1,366,680.00	0.00855	95.30
5.5 - 6.5	$156,623,159.00	$1,155,871.00	0.00738	94.49
6.5 - 7.5	$145,406,798.00	$1,133,869.00	0.00780	93.79
7.5 - 8.5	$142,809,894.00	$1,203,450.00	0.00843	93.06
8.5 - 9.5	$139,295,796.00	$3,450,994.00	0.02477	92.27
9.5 - 10.5	$134,595,534.00	$987,479.00	0.00734	89.99
10.5 - 11.5	$129,973,241.00	$1,017,951.00	0.00783	89.33
11.5 - 12.5	$132,282,299.00	$1,032,173.00	0.00780	88.63
12.5 - 13.5	$129,882,763.00	$1,056,444.00	0.00813	87.93
13.5 - 14.5	$129,677,190.00	$890,567.00	0.00687	87.22
14.5 - 15.5	$132,379,215.00	$1,440,771.00	0.01088	86.62
15.5 - 16.5	$132,638,878.00	$900,286.00	0.00679	85.68
16.5 - 17.5	$134,622,786.00	$817,132.00	0.00607	85.10
17.5 - 18.5	$136,182,814.00	$771,375.00	0.00566	84.58
18.5 - 19.5	$131,511,892.00	$1,124,769.00	0.00855	84.10
19.5 - 20.5	$125,355,159.00	$875,405.00	0.00698	83.38
20.5 - 21.5	$117,988,716.00	$764,336.00	0.00648	82.80
21.5 - 22.5	$108,791,164.00	$766,469.00	0.00705	82.26
22.5 - 23.5	$100,924,085.00	$919,142.00	0.00911	81.68
23.5 - 24.5	$92,325,924.00	$915,320.00	0.00991	80.94
24.5 - 25.5	$86,570,241.00	$576,133.00	0.00666	80.14
25.5 - 26.5	$81,223,499.00	$1,004,913.00	0.01237	79.60
26.5 - 27.5	$76,281,819.00	$509,890.00	0.00668	78.62
27.5 - 28.5	$70,293,556.00	$738,470.00	0.01051	78.09
28.5 - 29.5	$65,469,308.00	$591,180.00	0.00903	77.27
29.5 - 30.5	$59,500,199.00	$673,055.00	0.01131	76.58
30.5 - 31.5	$52,304,144.00	$575,419.00	0.01100	75.71
31.5 - 32.5	$46,904,157.00	$365,779.00	0.00780	74.88
32.5 - 33.5	$41,928,803.00	$925,207.00	0.02207	74.29
33.5 - 34.5	$36,799,391.00	$438,373.00	0.01191	72.65
34.5 - 35.5	$34,757,381.00	$351,443.00	0.01011	71.79
35.5 - 36.5	$32,838,044.00	$278,195.00	0.00847	71.06

OGE
Electric Division
365.00 Overhead Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$50,997,389.00	$290,325.00	0.00569	70.46
37.5 - 38.5	$249,872,311.00	$567,886.00	0.00227	70.06
38.5 - 39.5	$270,917,949.00	$1,632,821.00	0.00603	69.90
39.5 - 40.5	$247,931,079.00	$964,134.00	0.00389	69.48
40.5 - 41.5	$45,867,565.00	$1,516,279.00	0.03306	69.21
41.5 - 42.5	$42,000,439.00	$1,786,410.00	0.04253	66.92
42.5 - 43.5	$37,939,774.00	$347,602.00	0.00916	64.07
43.5 - 44.5	$35,541,595.00	$255,913.00	0.00720	63.49
44.5 - 45.5	$33,239,389.00	$225,667.00	0.00679	63.03
45.5 - 46.5	$31,566,456.00	$344,143.00	0.01090	62.60
46.5 - 47.5	$29,599,841.00	$487,500.00	0.01647	61.92
47.5 - 48.5	$27,533,619.00	$202,777.00	0.00736	60.90
48.5 - 49.5	$25,894,811.00	$161,971.00	0.00625	60.45
49.5 - 50.5	$24,126,867.00	$183,931.00	0.00762	60.07
50.5 - 51.5	$22,358,454.00	$118,471.00	0.00530	59.61
51.5 - 52.5	$20,706,464.00	$129,603.00	0.00626	59.30
52.5 - 53.5	$19,378,408.00	$146,023.00	0.00754	58.93
53.5 - 54.5	$18,124,600.00	$73,738.00	0.00407	58.48
54.5 - 55.5	$17,338,620.00	$64,079.00	0.00370	58.25
55.5 - 56.5	$16,617,553.00	$31,381.00	0.00189	58.03

OGE

Electric Division
366.00 Underground Conduit
Original And Smooth Survivor Curves



OGE
Electric Division
366.00 Underground Conduit
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

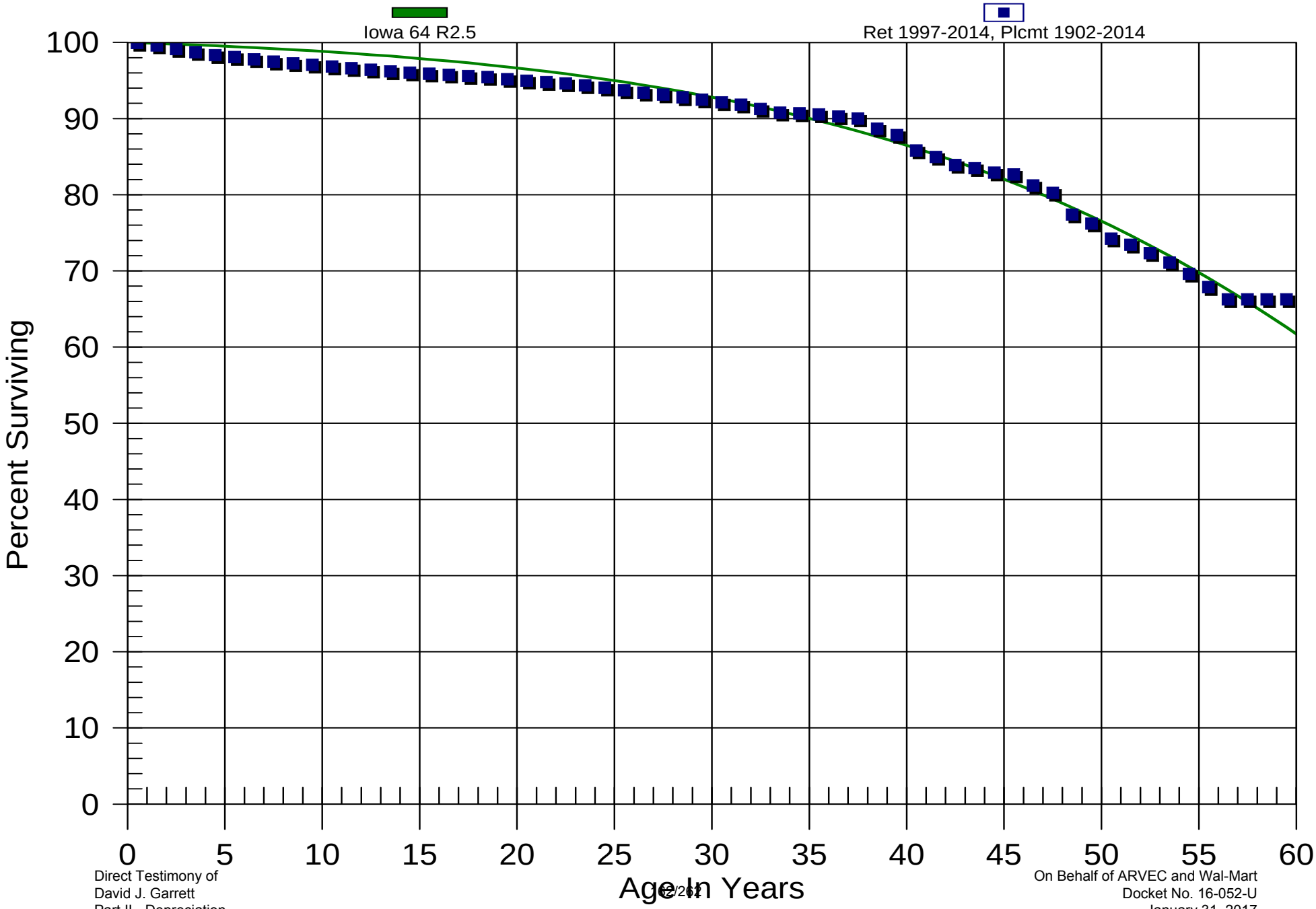
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$138,287,828.00	$28,933.00	0.00021	100.00
0.5 - 1.5	$126,250,554.00	$143,942.00	0.00114	99.98
1.5 - 2.5	$116,316,087.00	$340,006.00	0.00292	99.87
2.5 - 3.5	$100,861,744.00	$200,787.00	0.00199	99.57
3.5 - 4.5	$91,710,949.00	$147,671.00	0.00161	99.37
4.5 - 5.5	$88,067,716.00	$106,058.00	0.00120	99.21
5.5 - 6.5	$80,134,043.00	$3,402,125.00	0.04246	99.10
6.5 - 7.5	$66,300,140.00	$137,481.00	0.00207	94.89
7.5 - 8.5	$59,156,909.00	$65,482.00	0.00111	94.69
8.5 - 9.5	$48,227,752.00	$65,282.00	0.00135	94.59
9.5 - 10.5	$43,018,181.00	$46,001.00	0.00107	94.46
10.5 - 11.5	$34,225,651.00	$52,713.00	0.00154	94.36
11.5 - 12.5	$37,577,012.00	$42,345.00	0.00113	94.21
12.5 - 13.5	$37,954,778.00	$41,131.00	0.00108	94.11
13.5 - 14.5	$33,180,932.00	$35,124.00	0.00106	94.00
14.5 - 15.5	$39,655,854.00	$25,442.00	0.00064	93.90
15.5 - 16.5	$39,568,126.00	$128,215.00	0.00324	93.84
16.5 - 17.5	$36,657,197.00	$58,961.00	0.00161	93.54
17.5 - 18.5	$39,108,150.00	$35,672.00	0.00091	93.39
18.5 - 19.5	$35,971,732.00	$39,944.00	0.00111	93.30
19.5 - 20.5	$33,180,768.00	$47,877.00	0.00144	93.20
20.5 - 21.5	$31,042,104.00	$32,453.00	0.00105	93.07
21.5 - 22.5	$29,900,212.00	$301,996.00	0.01010	92.97
22.5 - 23.5	$28,613,961.00	$67,569.00	0.00236	92.03
23.5 - 24.5	$20,637,445.00	$44,022.00	0.00213	91.81
24.5 - 25.5	$22,746,004.00	$29,062.00	0.00128	91.62
25.5 - 26.5	$25,074,284.00	$57,779.00	0.00230	91.50
26.5 - 27.5	$24,064,856.00	$32,268.00	0.00134	91.29
27.5 - 28.5	$26,316,752.00	$273,173.00	0.01038	91.17
28.5 - 29.5	$26,254,108.00	$151,872.00	0.00578	90.22
29.5 - 30.5	$20,677,126.00	$32,940.00	0.00159	89.70
30.5 - 31.5	$20,138,684.00	$24,330.00	0.00121	89.56
31.5 - 32.5	$19,631,724.00	$62,015.00	0.00316	89.45
32.5 - 33.5	$16,028,183.00	$34,377.00	0.00214	89.16
33.5 - 34.5	$66,203,963.00	$33,335.00	0.00050	88.97
34.5 - 35.5	$65,951,254.00	$41,756.00	0.00063	88.93
35.5 - 36.5	$64,919,129.00	$91,600.00	0.00141	88.87

OGE
Electric Division
366.00 Underground Conduit
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$64,577,221.00	$89,008.00	0.00138	88.75
37.5 - 38.5	$12,999,678.00	$165,845.00	0.01276	88.62
38.5 - 39.5	$13,830,549.00	$59,547.00	0.00431	87.49
39.5 - 40.5	$13,664,844.00	$85,203.00	0.00624	87.12
40.5 - 41.5	$11,861,538.00	$44,197.00	0.00373	86.57
41.5 - 42.5	$11,325,261.00	$36,895.00	0.00326	86.25
42.5 - 43.5	$4,746,476.00	$16,909.00	0.00356	85.97
43.5 - 44.5	$1,095,892.00	$4,375.00	0.00399	85.66
44.5 - 45.5	$1,087,296.00	$3,430.00	0.00315	85.32
45.5 - 46.5	$1,083,866.00	$6,053.00	0.00558	85.05
46.5 - 47.5	$1,077,813.00	$5,328.00	0.00494	84.58
47.5 - 48.5	$1,072,485.00	$11,568.00	0.01079	84.16
48.5 - 49.5	$1,055,138.00	$7,192.00	0.00682	83.25
49.5 - 50.5	$1,047,946.00	$4,979.00	0.00475	82.69
50.5 - 51.5	$1,039,408.00	$689.00	0.00066	82.29
51.5 - 52.5	$1,038,719.00	$2,431.00	0.00234	82.24
52.5 - 53.5	$1,036,288.00	$12,566.00	0.01213	82.05
53.5 - 54.5	$1,023,722.00	$4,328.00	0.00423	81.05
54.5 - 55.5	$1,019,394.00	$1,145.00	0.00112	80.71
55.5 - 56.5	$1,018,249.00	$2,358.00	0.00232	80.62

OGE

Electric Division
367.00 Underground Conductors and Devices
Original And Smooth Survivor Curves



OGE
Electric Division
367.00 Underground Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

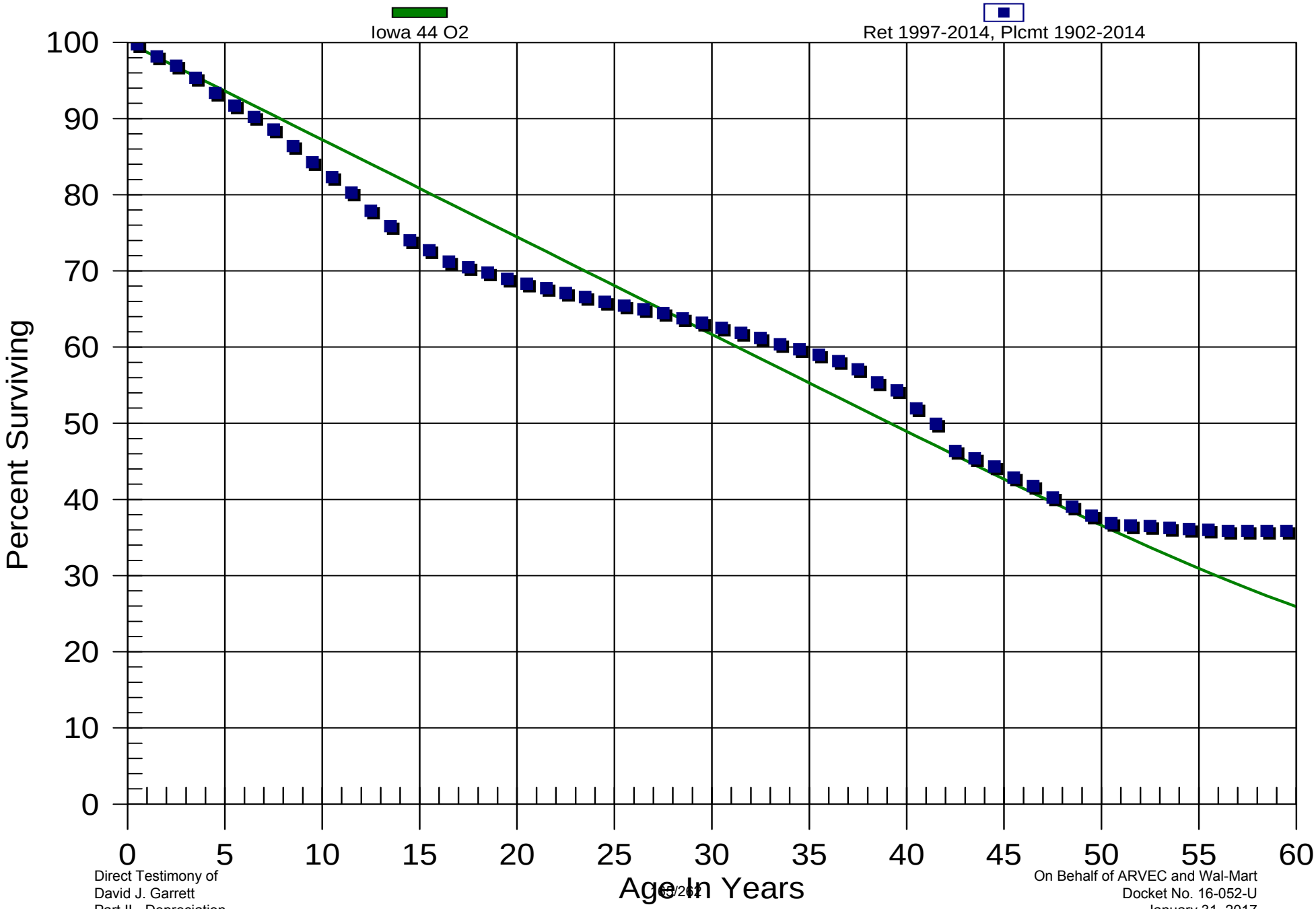
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$478,099,754.00	$357,125.00	0.00075	100.00
0.5 - 1.5	$443,369,869.00	$1,399,896.00	0.00316	99.93
1.5 - 2.5	$410,192,412.00	$2,029,872.00	0.00495	99.61
2.5 - 3.5	$368,438,136.00	$1,496,366.00	0.00406	99.12
3.5 - 4.5	$354,712,193.00	$1,425,996.00	0.00402	98.71
4.5 - 5.5	$343,666,901.00	$810,821.00	0.00236	98.32
5.5 - 6.5	$324,108,516.00	$1,007,880.00	0.00311	98.09
6.5 - 7.5	$289,409,864.00	$942,385.00	0.00326	97.78
7.5 - 8.5	$265,449,038.00	$577,567.00	0.00218	97.46
8.5 - 9.5	$230,779,578.00	$467,881.00	0.00203	97.25
9.5 - 10.5	$215,618,692.00	$493,819.00	0.00229	97.05
10.5 - 11.5	$184,619,423.00	$444,609.00	0.00241	96.83
11.5 - 12.5	$192,555,919.00	$389,648.00	0.00202	96.60
12.5 - 13.5	$190,387,283.00	$401,392.00	0.00211	96.40
13.5 - 14.5	$175,998,402.00	$316,657.00	0.00180	96.20
14.5 - 15.5	$184,878,506.00	$244,382.00	0.00132	96.03
15.5 - 16.5	$175,311,034.00	$294,264.00	0.00168	95.90
16.5 - 17.5	$168,212,824.00	$276,651.00	0.00164	95.74
17.5 - 18.5	$167,930,407.00	$219,424.00	0.00131	95.58
18.5 - 19.5	$149,659,355.00	$442,253.00	0.00296	95.46
19.5 - 20.5	$133,659,655.00	$282,787.00	0.00212	95.17
20.5 - 21.5	$116,938,765.00	$220,245.00	0.00188	94.97
21.5 - 22.5	$106,599,535.00	$212,634.00	0.00199	94.79
22.5 - 23.5	$97,246,637.00	$234,511.00	0.00241	94.60
23.5 - 24.5	$75,037,905.00	$261,900.00	0.00349	94.38
24.5 - 25.5	$73,142,235.00	$268,180.00	0.00367	94.05
25.5 - 26.5	$75,354,743.00	$244,542.00	0.00325	93.70
26.5 - 27.5	$65,374,171.00	$165,346.00	0.00253	93.40
27.5 - 28.5	$67,710,923.00	$264,791.00	0.00391	93.16
28.5 - 29.5	$68,778,071.00	$236,036.00	0.00343	92.80
29.5 - 30.5	$48,560,312.00	$183,246.00	0.00377	92.48
30.5 - 31.5	$46,557,520.00	$162,733.00	0.00350	92.13
31.5 - 32.5	$45,087,690.00	$264,904.00	0.00588	91.81
32.5 - 33.5	$38,811,160.00	$214,286.00	0.00552	91.27
33.5 - 34.5	$238,205,635.00	$247,274.00	0.00104	90.76
34.5 - 35.5	$238,162,665.00	$353,192.00	0.00148	90.67
35.5 - 36.5	$235,743,040.00	$666,756.00	0.00283	90.54

OGE
Electric Division
367.00 Underground Conductors and Devices
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$234,974,912.00	$724,753.00	0.00308	90.28
37.5 - 38.5	$37,269,224.00	$553,448.00	0.01485	90.00
38.5 - 39.5	$39,098,146.00	$363,528.00	0.00930	88.66
39.5 - 40.5	$38,687,960.00	$898,061.00	0.02321	87.84
40.5 - 41.5	$32,561,488.00	$324,640.00	0.00997	85.80
41.5 - 42.5	$31,122,182.00	$379,783.00	0.01220	84.95
42.5 - 43.5	$13,845,406.00	$71,898.00	0.00519	83.91
43.5 - 44.5	$3,147,216.00	$21,561.00	0.00685	83.47
44.5 - 45.5	$3,081,793.00	$8,967.00	0.00291	82.90
45.5 - 46.5	$3,037,188.00	$52,762.00	0.01737	82.66
46.5 - 47.5	$2,942,730.00	$35,873.00	0.01219	81.22
47.5 - 48.5	$2,861,435.00	$100,964.00	0.03528	80.23
48.5 - 49.5	$2,717,530.00	$42,349.00	0.01558	77.40
49.5 - 50.5	$2,646,196.00	$68,205.00	0.02577	76.20
50.5 - 51.5	$2,541,577.00	$26,832.00	0.01056	74.23
51.5 - 52.5	$2,478,790.00	$37,857.00	0.01527	73.45
52.5 - 53.5	$2,405,865.00	$40,996.00	0.01704	72.33
53.5 - 54.5	$2,333,577.00	$48,977.00	0.02099	71.10
54.5 - 55.5	$2,254,080.00	$55,689.00	0.02471	69.60
55.5 - 56.5	$2,171,390.00	$52,032.00	0.02396	67.88

OGE

Electric Division
368.00 Line Transformers
Original And Smooth Survivor Curves



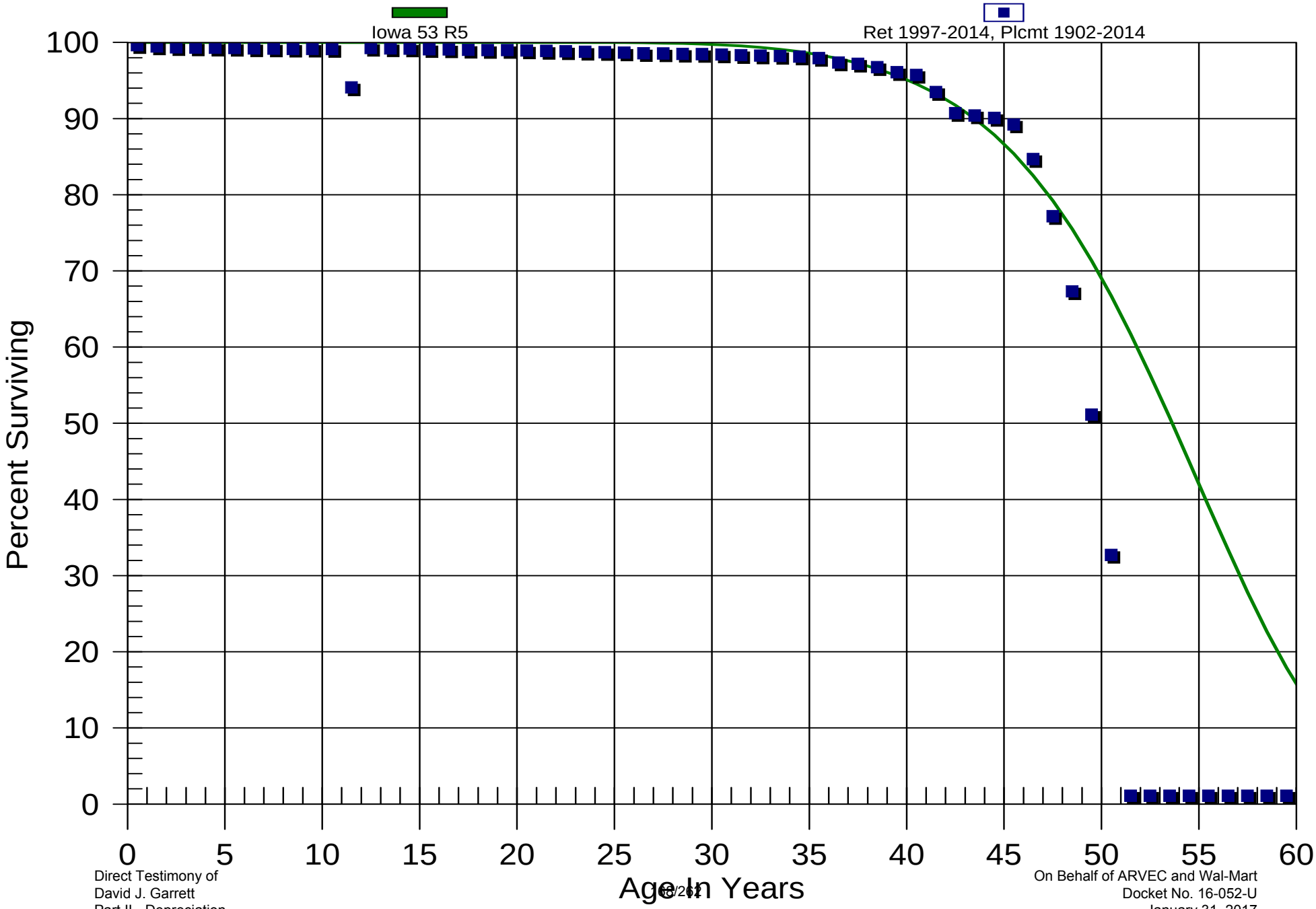
OGE
Electric Division
368.00 Line Transformers
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$309,091,941.00	$844,370.00	0.00273	100.00
0.5 - 1.5	$280,547,064.00	$4,403,113.00	0.01569	99.73
1.5 - 2.5	$249,852,300.00	$3,108,162.00	0.01244	98.16
2.5 - 3.5	$218,914,516.00	$3,611,840.00	0.01650	96.94
3.5 - 4.5	$182,785,000.00	$3,754,943.00	0.02054	95.34
4.5 - 5.5	$162,539,151.00	$2,916,267.00	0.01794	93.38
5.5 - 6.5	$139,651,962.00	$2,278,607.00	0.01632	91.71
6.5 - 7.5	$120,896,820.00	$2,213,747.00	0.01831	90.21
7.5 - 8.5	$101,145,145.00	$2,488,978.00	0.02461	88.56
8.5 - 9.5	$84,213,157.00	$2,058,532.00	0.02444	86.38
9.5 - 10.5	$71,191,443.00	$1,633,406.00	0.02294	84.27
10.5 - 11.5	$59,817,882.00	$1,493,786.00	0.02497	82.33
11.5 - 12.5	$51,541,649.00	$1,525,476.00	0.02960	80.28
12.5 - 13.5	$56,898,871.00	$1,492,852.00	0.02624	77.90
13.5 - 14.5	$65,927,052.00	$1,609,160.00	0.02441	75.86
14.5 - 15.5	$60,118,062.00	$1,048,788.00	0.01745	74.01
15.5 - 16.5	$60,536,355.00	$1,242,537.00	0.02053	72.72
16.5 - 17.5	$78,027,483.00	$813,465.00	0.01043	71.22
17.5 - 18.5	$72,293,840.00	$718,429.00	0.00994	70.48
18.5 - 19.5	$79,313,353.00	$931,368.00	0.01174	69.78
19.5 - 20.5	$93,032,213.00	$865,312.00	0.00930	68.96
20.5 - 21.5	$100,425,443.00	$856,808.00	0.00853	68.32
21.5 - 22.5	$100,371,568.00	$951,242.00	0.00948	67.74
22.5 - 23.5	$112,630,373.00	$904,674.00	0.00803	67.09
23.5 - 24.5	$115,934,224.00	$1,066,763.00	0.00920	66.56
24.5 - 25.5	$123,793,428.00	$951,287.00	0.00768	65.94
25.5 - 26.5	$127,077,579.00	$930,216.00	0.00732	65.44
26.5 - 27.5	$126,732,299.00	$958,187.00	0.00756	64.96
27.5 - 28.5	$127,413,495.00	$1,346,583.00	0.01057	64.47
28.5 - 29.5	$130,577,736.00	$1,204,736.00	0.00923	63.79
29.5 - 30.5	$129,871,119.00	$1,368,109.00	0.01053	63.20
30.5 - 31.5	$117,607,625.00	$1,244,052.00	0.01058	62.53
31.5 - 32.5	$102,816,194.00	$1,118,684.00	0.01088	61.87
32.5 - 33.5	$102,645,730.00	$1,397,703.00	0.01362	61.20
33.5 - 34.5	$93,383,259.00	$998,855.00	0.01070	60.36
34.5 - 35.5	$70,131,708.00	$874,486.00	0.01247	59.72
35.5 - 36.5	$69,292,149.00	$951,701.00	0.01373	58.97

OGE
Electric Division
368.00 Line Transformers
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$64,815,054.00	$1,208,237.00	0.01864	58.16
37.5 - 38.5	$58,001,820.00	$1,749,815.00	0.03017	57.08
38.5 - 39.5	$66,762,281.00	$1,275,071.00	0.01910	55.36
39.5 - 40.5	$65,737,604.00	$2,828,194.00	0.04302	54.30
40.5 - 41.5	$44,106,191.00	$1,728,320.00	0.03919	51.96
41.5 - 42.5	$39,256,665.00	$2,802,869.00	0.07140	49.93
42.5 - 43.5	$31,205,798.00	$652,221.00	0.02090	46.36
43.5 - 44.5	$27,978,029.00	$660,815.00	0.02362	45.39
44.5 - 45.5	$27,131,731.00	$886,125.00	0.03266	44.32
45.5 - 46.5	$25,410,259.00	$655,522.00	0.02580	42.87
46.5 - 47.5	$21,137,373.00	$770,168.00	0.03644	41.77
47.5 - 48.5	$20,158,610.00	$603,549.00	0.02994	40.25
48.5 - 49.5	$19,081,177.00	$573,316.00	0.03005	39.04
49.5 - 50.5	$17,117,123.00	$442,207.00	0.02583	37.87
50.5 - 51.5	$16,283,313.00	$132,522.00	0.00814	36.89
51.5 - 52.5	$15,983,518.00	$41,191.00	0.00258	36.59
52.5 - 53.5	$15,430,668.00	$106,243.00	0.00689	36.50
53.5 - 54.5	$15,215,428.00	$51,126.00	0.00336	36.24
54.5 - 55.5	$14,973,052.00	$54,059.00	0.00361	36.12
55.5 - 56.5	$14,860,278.00	$51,203.00	0.00345	35.99

OGE
Electric Division
369.00 Services
Original And Smooth Survivor Curves



OGE
Electric Division
369.00 Services

Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$140,948,287.00	$516,638.00	0.00367	100.00
0.5 - 1.5	$138,646,173.00	$259,941.00	0.00187	99.63
1.5 - 2.5	$137,801,728.00	$115,738.00	0.00084	99.45
2.5 - 3.5	$123,162,273.00	$64,831.00	0.00053	99.36
3.5 - 4.5	$122,199,936.00	$33,853.00	0.00028	99.31
4.5 - 5.5	$125,490,879.00	$38,505.00	0.00031	99.28
5.5 - 6.5	$116,595,191.00	$35,602.00	0.00031	99.25
6.5 - 7.5	$105,641,113.00	$34,096.00	0.00032	99.22
7.5 - 8.5	$96,712,085.00	$24,034.00	0.00025	99.19
8.5 - 9.5	$88,959,901.00	$21,095.00	0.00024	99.17
9.5 - 10.5	$81,458,431.00	$18,028.00	0.00022	99.14
10.5 - 11.5	$82,170,206.00	$4,180,515.00	0.05088	99.12
11.5 - 12.5	$74,468,531.00	($4,102,172.00)	-0.05509	94.08
12.5 - 13.5	$76,138,300.00	$30,602.00	0.00040	99.26
13.5 - 14.5	$69,796,128.00	$29,366.00	0.00042	99.22
14.5 - 15.5	$68,910,125.00	$52,886.00	0.00077	99.18
15.5 - 16.5	$74,054,636.00	$29,018.00	0.00039	99.10
16.5 - 17.5	$74,003,593.00	$24,697.00	0.00033	99.06
17.5 - 18.5	$72,116,998.00	$21,236.00	0.00029	99.03
18.5 - 19.5	$70,158,972.00	$17,472.00	0.00025	99.00
19.5 - 20.5	$68,053,232.00	$22,221.00	0.00033	98.98
20.5 - 21.5	$65,200,035.00	$36,660.00	0.00056	98.94
21.5 - 22.5	$64,736,112.00	$39,822.00	0.00062	98.89
22.5 - 23.5	$62,660,548.00	$35,130.00	0.00056	98.83
23.5 - 24.5	$60,991,200.00	$42,254.00	0.00069	98.77
24.5 - 25.5	$58,896,496.00	$32,432.00	0.00055	98.70
25.5 - 26.5	$58,676,282.00	$37,952.00	0.00065	98.65
26.5 - 27.5	$58,007,699.00	$30,315.00	0.00052	98.59
27.5 - 28.5	$55,361,719.00	$22,936.00	0.00041	98.53
28.5 - 29.5	$50,942,475.00	$21,642.00	0.00042	98.49
29.5 - 30.5	$45,501,826.00	$14,629.00	0.00032	98.45
30.5 - 31.5	$39,755,102.00	$41,142.00	0.00103	98.42
31.5 - 32.5	$93,341,848.00	$44,803.00	0.00048	98.32
32.5 - 33.5	$88,975,759.00	$50,893.00	0.00057	98.27
33.5 - 34.5	$84,760,433.00	$80,059.00	0.00094	98.21
34.5 - 35.5	$21,849,033.00	$43,810.00	0.00201	98.12
35.5 - 36.5	$18,346,397.00	$108,212.00	0.00590	97.93

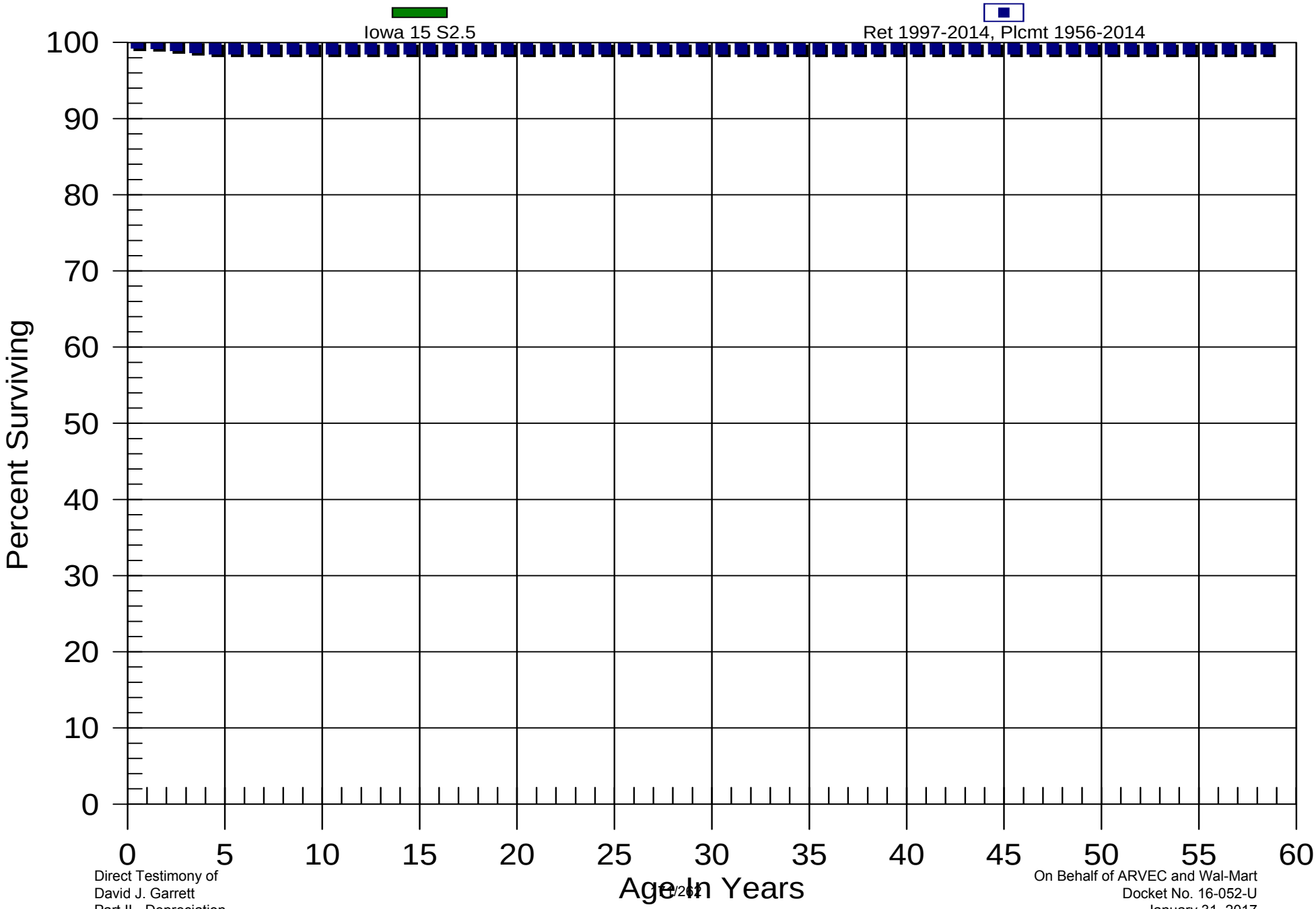
OGE
Electric Division
369.00 Services

Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$15,659,386.00	$24,460.00	0.00156	97.35
37.5 - 38.5	$55,480,672.00	$261,001.00	0.00470	97.20
38.5 - 39.5	$53,146,423.00	$354,019.00	0.00666	96.74
39.5 - 40.5	$51,169,442.00	$191,272.00	0.00374	96.09
40.5 - 41.5	$7,681,351.00	$181,861.00	0.02368	95.73
41.5 - 42.5	$5,996,761.00	$176,835.00	0.02949	93.47
42.5 - 43.5	$4,326,162.00	$14,983.00	0.00346	90.71
43.5 - 44.5	$3,279,217.00	$11,762.00	0.00359	90.40
44.5 - 45.5	$2,451,726.00	$23,564.00	0.00961	90.07
45.5 - 46.5	$1,783,855.00	$90,489.00	0.05073	89.21
46.5 - 47.5	$1,223,963.00	$108,650.00	0.08877	84.68
47.5 - 48.5	$742,301.00	$94,667.00	0.12753	77.17
48.5 - 49.5	$380,793.00	$91,715.00	0.24085	67.32
49.5 - 50.5	$150,075.00	$54,008.00	0.35987	51.11
50.5 - 51.5	$23,560.00	$22,763.00	0.96617	32.72
51.5 - 52.5	$115.00	$0.00	0.00000	1.11
52.5 - 53.5	$0.00	$0.00	0.00000	1.11
53.5 - 54.5	$0.00	$0.00	0.00000	1.11
54.5 - 55.5	$0.00	$0.00	0.00000	1.11
55.5 - 56.5	$0.00	$0.00	0.00000	1.11

OGE

Electric Division
370.00 Meters - Smart Meters
Original And Smooth Survivor Curves

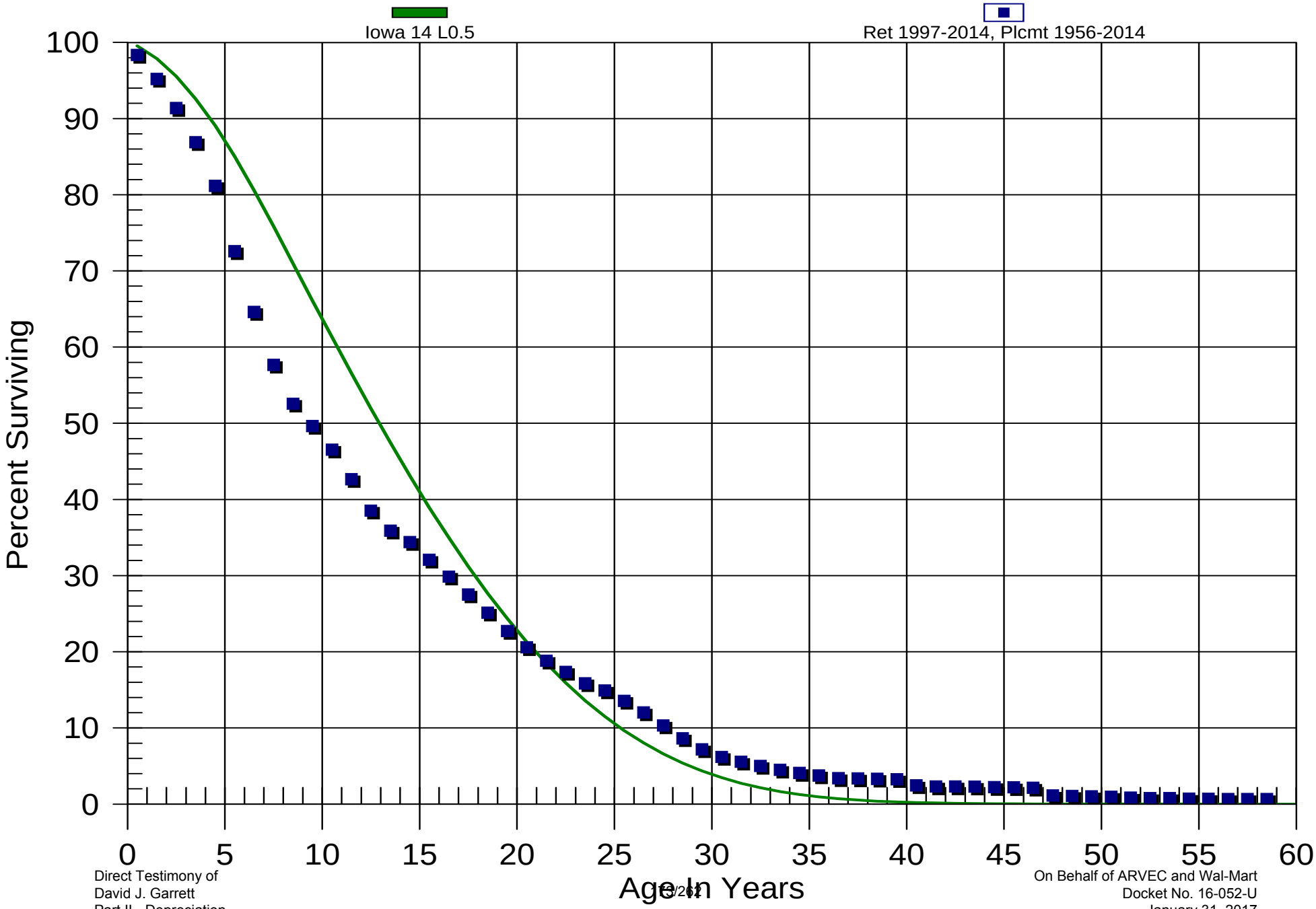


OGE
Electric Division
370.00 Meters - Smart Meters
Observed Life Table
Retirement Expr. 2010 TO 2014
Placement Years 2008 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$116,124,748.00	$2,761.00	0.00002	100.00
0.5 - 1.5	$110,993,570.00	$85,569.00	0.00077	100.00
1.5 - 2.5	$103,807,020.00	$282,614.00	0.00272	99.92
2.5 - 3.5	$65,405,614.00	$160,556.00	0.00245	99.65
3.5 - 4.5	$26,785,474.00	$50,546.00	0.00189	99.40
4.5 - 5.5	$2,110,804.00	$0.00	0.00000	99.22
5.5 - 6.5	$2,110,804.00	$0.00	0.00000	99.22

OGE

Electric Division
370.10 Meters - Metering Equipment
Original And Smooth Survivor Curves



OGE
Electric Division
370.10 Meters - Metering Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

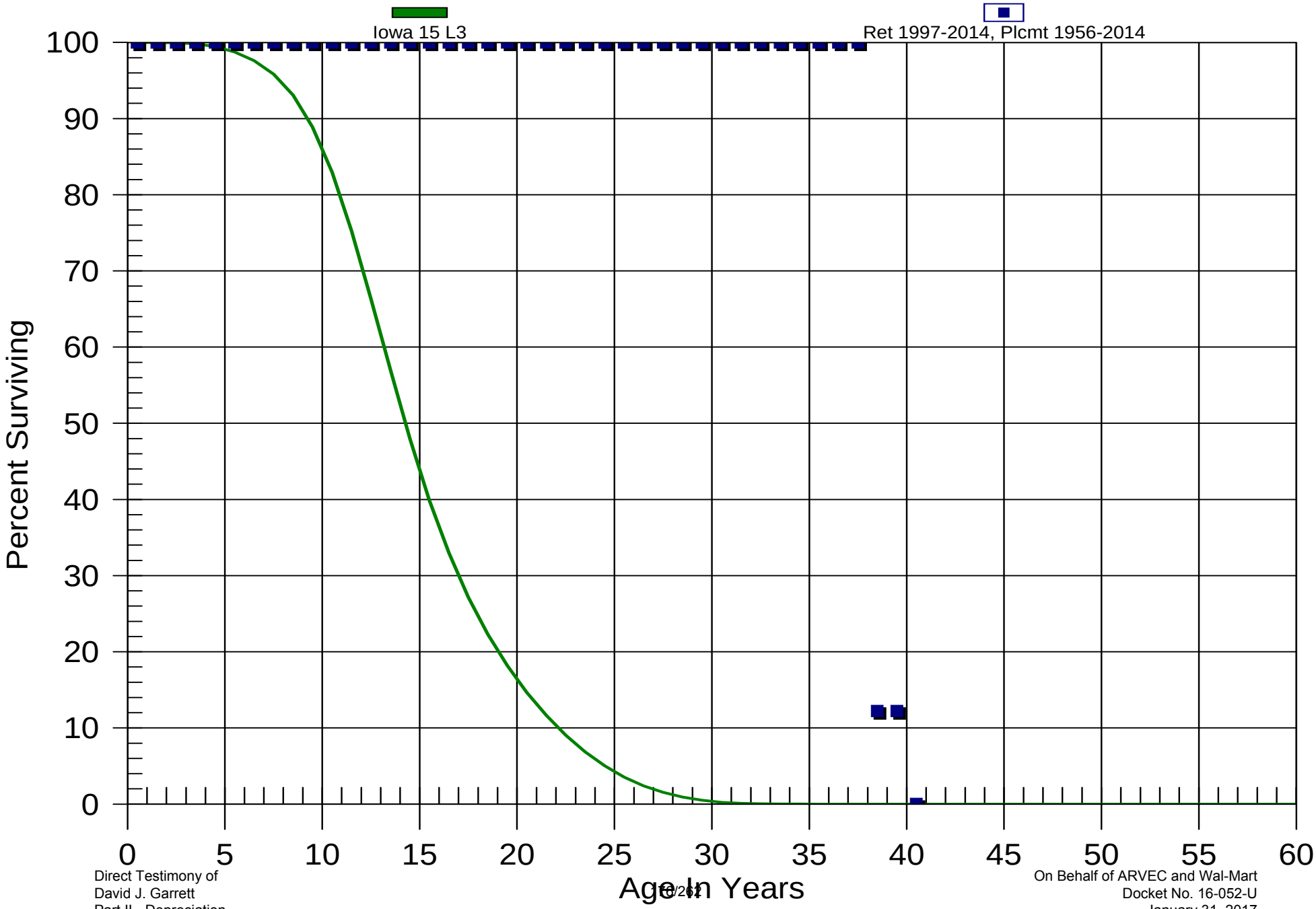
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$65,915,170.00	$1,081,773.00	0.01641	100.00
0.5 - 1.5	$57,548,380.00	$1,850,917.00	0.03216	98.36
1.5 - 2.5	$52,366,545.00	$2,106,583.00	0.04023	95.20
2.5 - 3.5	$48,508,044.00	$2,379,466.00	0.04905	91.37
3.5 - 4.5	$43,451,074.00	$2,864,458.00	0.06592	86.88
4.5 - 5.5	$41,320,579.00	$4,369,789.00	0.10575	81.16
5.5 - 6.5	$37,539,444.00	$4,122,334.00	0.10981	72.57
6.5 - 7.5	$33,071,539.00	$3,559,256.00	0.10762	64.60
7.5 - 8.5	$31,117,594.00	$2,754,257.00	0.08851	57.65
8.5 - 9.5	$29,851,051.00	$1,655,367.00	0.05545	52.55
9.5 - 10.5	$28,692,695.00	$1,792,361.00	0.06247	49.63
10.5 - 11.5	$26,991,391.00	$2,253,280.00	0.08348	46.53
11.5 - 12.5	$23,294,863.00	$2,255,043.00	0.09680	42.65
12.5 - 13.5	$22,154,596.00	$1,504,373.00	0.06790	38.52
13.5 - 14.5	$22,328,822.00	$943,276.00	0.04224	35.90
14.5 - 15.5	$25,732,527.00	$1,738,902.00	0.06758	34.39
15.5 - 16.5	$28,227,033.00	$1,953,476.00	0.06921	32.06
16.5 - 17.5	$29,637,111.00	$2,309,767.00	0.07793	29.85
17.5 - 18.5	$29,706,355.00	$2,574,222.00	0.08666	27.52
18.5 - 19.5	$28,472,730.00	$2,727,348.00	0.09579	25.13
19.5 - 20.5	$26,834,896.00	$2,524,134.00	0.09406	22.73
20.5 - 21.5	$25,259,606.00	$2,174,966.00	0.08610	20.59
21.5 - 22.5	$23,928,666.00	$1,858,221.00	0.07766	18.82
22.5 - 23.5	$22,566,666.00	$1,969,076.00	0.08726	17.36
23.5 - 24.5	$21,119,204.00	$1,230,188.00	0.05825	15.84
24.5 - 25.5	$20,450,493.00	$1,868,699.00	0.09138	14.92
25.5 - 26.5	$20,281,368.00	$2,287,471.00	0.11279	13.55
26.5 - 27.5	$18,951,293.00	$2,715,525.00	0.14329	12.03
27.5 - 28.5	$17,036,121.00	$2,771,831.00	0.16270	10.30
28.5 - 29.5	$14,551,287.00	$2,435,844.00	0.16740	8.63
29.5 - 30.5	$12,246,852.00	$1,696,981.00	0.13856	7.18
30.5 - 31.5	$10,662,853.00	$1,090,848.00	0.10230	6.19
31.5 - 32.5	$9,449,866.00	$966,558.00	0.10228	5.55
32.5 - 33.5	$8,555,126.00	$831,672.00	0.09721	4.99
33.5 - 34.5	$7,772,841.00	$714,883.00	0.09197	4.50
34.5 - 35.5	$7,042,025.00	$585,804.00	0.08319	4.09
35.5 - 36.5	$6,220,525.00	$576,697.00	0.09271	3.75

OGE
Electric Division
370.10 Meters - Metering Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$54,166,660.00	$771,733.00	0.01425	3.40
37.5 - 38.5	$59,084,200.00	$870,658.00	0.01474	3.35
38.5 - 39.5	$65,697,696.00	$766,911.00	0.01167	3.30
39.5 - 40.5	$17,101,470.00	$4,266,608.00	0.24949	3.26
40.5 - 41.5	$7,972,504.00	$420,115.00	0.05270	2.45
41.5 - 42.5	$7,366,706.00	$26,901.00	0.00365	2.32
42.5 - 43.5	$7,135,834.00	$71,898.00	0.01008	2.31
43.5 - 44.5	$6,855,180.00	$159,455.00	0.02326	2.29
44.5 - 45.5	$6,491,836.00	$75,072.00	0.01156	2.24
45.5 - 46.5	$6,192,754.00	$142,494.00	0.02301	2.21
46.5 - 47.5	$5,801,235.00	$2,819,897.00	0.48609	2.16
47.5 - 48.5	$2,730,799.00	$135,287.00	0.04954	1.11
48.5 - 49.5	$2,381,352.00	$83,730.00	0.03516	1.05
49.5 - 50.5	$2,105,482.00	$133,000.00	0.06317	1.02
50.5 - 51.5	$1,775,297.00	$195,976.00	0.11039	0.95
51.5 - 52.5	$1,399,398.00	$89,122.00	0.06369	0.85
52.5 - 53.5	$1,133,970.00	$24,510.00	0.02161	0.79
53.5 - 54.5	$923,636.00	$88,499.00	0.09582	0.78
54.5 - 55.5	$654,476.00	$24,069.00	0.03678	0.70
55.5 - 56.5	$514,788.00	$21,043.00	0.04088	0.68

OGE

Electric Division
371.00 Installations on Customer Premises
Original And Smooth Survivor Curves



OGE
Electric Division
371.00 Installations on Customer Premises
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2013

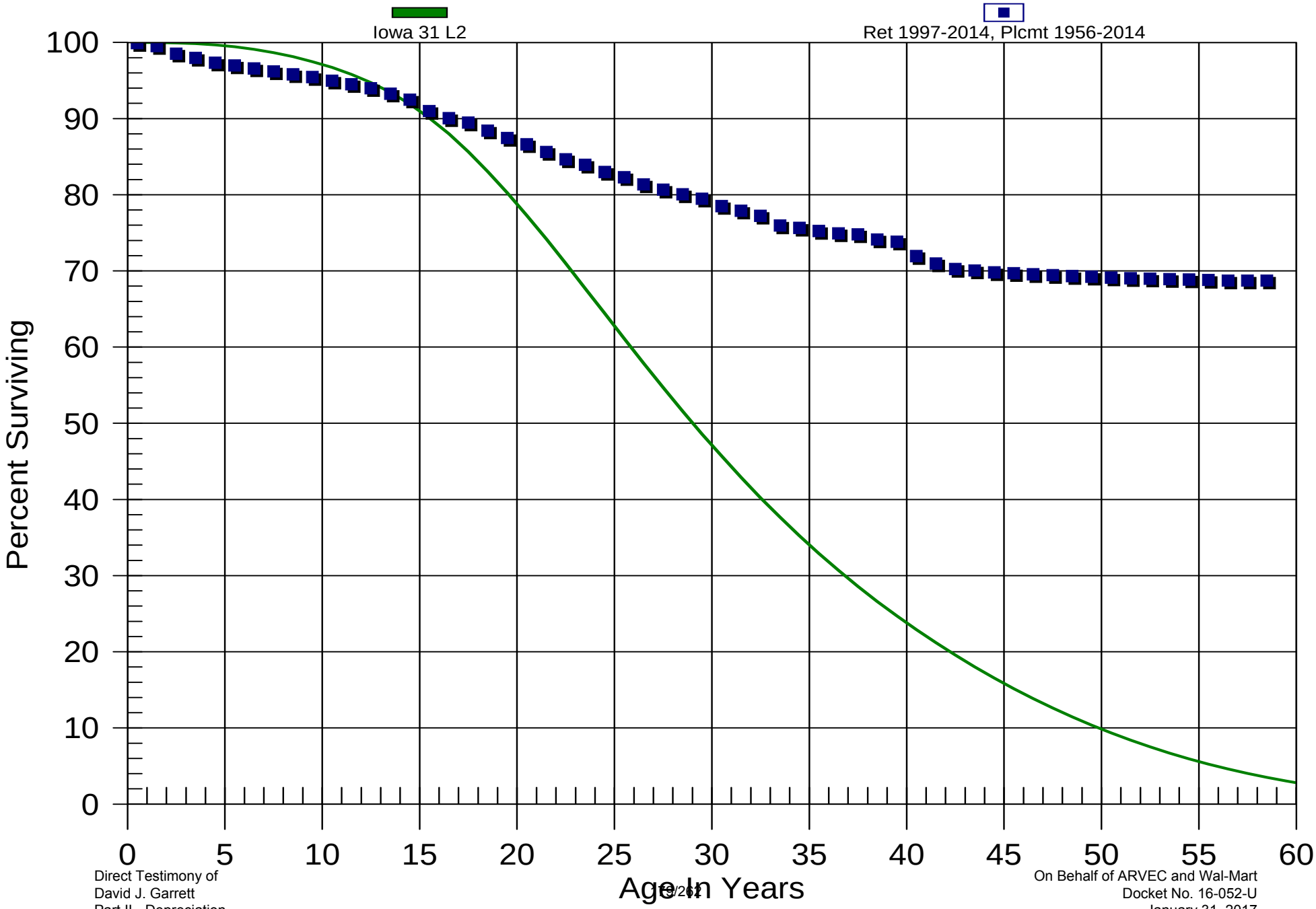
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$39,383,981.00	$0.00	0.00000	100.00
0.5 - 1.5	$39,236,245.00	$0.00	0.00000	100.00
1.5 - 2.5	$15,049,249.00	$0.00	0.00000	100.00
2.5 - 3.5	$909,773.00	$0.00	0.00000	100.00
3.5 - 4.5	$152,853.00	$0.00	0.00000	100.00
4.5 - 5.5	$0.00	$0.00	0.00000	100.00
5.5 - 6.5	$0.00	$0.00	0.00000	100.00
6.5 - 7.5	$0.00	$0.00	0.00000	100.00
7.5 - 8.5	$0.00	$0.00	0.00000	100.00
8.5 - 9.5	$0.00	$0.00	0.00000	100.00
9.5 - 10.5	$0.00	$0.00	0.00000	100.00
10.5 - 11.5	$0.00	$0.00	0.00000	100.00
11.5 - 12.5	$0.00	$0.00	0.00000	100.00
12.5 - 13.5	$0.00	$0.00	0.00000	100.00
13.5 - 14.5	$0.00	$0.00	0.00000	100.00
14.5 - 15.5	$0.00	$0.00	0.00000	100.00
15.5 - 16.5	$0.00	$0.00	0.00000	100.00
16.5 - 17.5	$0.00	$0.00	0.00000	100.00
17.5 - 18.5	$0.00	$0.00	0.00000	100.00
18.5 - 19.5	$0.00	$0.00	0.00000	100.00
19.5 - 20.5	$0.00	$0.00	0.00000	100.00
20.5 - 21.5	$0.00	$0.00	0.00000	100.00
21.5 - 22.5	$0.00	$0.00	0.00000	100.00
22.5 - 23.5	$0.00	$0.00	0.00000	100.00
23.5 - 24.5	$0.00	$0.00	0.00000	100.00
24.5 - 25.5	$0.00	$0.00	0.00000	100.00
25.5 - 26.5	$0.00	$0.00	0.00000	100.00
26.5 - 27.5	$0.00	$0.00	0.00000	100.00
27.5 - 28.5	$0.00	$0.00	0.00000	100.00
28.5 - 29.5	$0.00	$0.00	0.00000	100.00
29.5 - 30.5	$0.00	$0.00	0.00000	100.00
30.5 - 31.5	$0.00	$0.00	0.00000	100.00
31.5 - 32.5	$0.00	$0.00	0.00000	100.00
32.5 - 33.5	$0.00	$0.00	0.00000	100.00
33.5 - 34.5	$0.00	$0.00	0.00000	100.00
34.5 - 35.5	$0.00	$0.00	0.00000	100.00
35.5 - 36.5	$0.00	$0.00	0.00000	100.00

OGE
Electric Division
371.00 Installations on Customer Premises
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2013

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$0.00	$0.00	0.00000	100.00
37.5 - 38.5	$9,611,793.00	$8,436,113.00	0.87768	100.00
38.5 - 39.5	$5,495,262.00	$0.00	0.00000	12.23
39.5 - 40.5	$5,495,262.00	$5,485,640.00	0.99825	12.23

OGE

Electric Division
373.00 Street Lighting and Signal Systems
Original And Smooth Survivor Curves



OGE
Electric Division
373.00 Street Lighting and Signal Systems
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

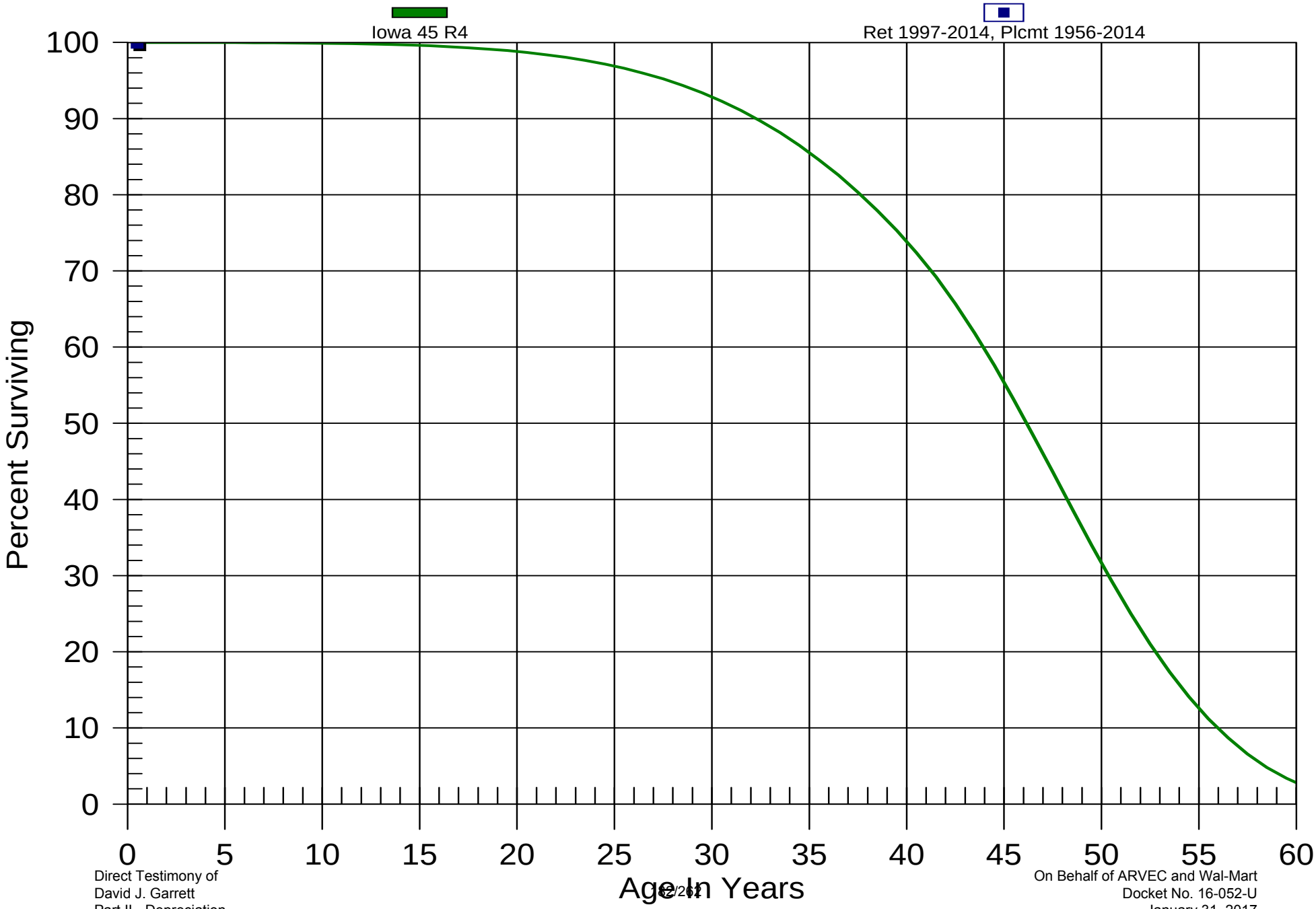
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$163,332,348.00	$136,993.00	0.00084	100.00
0.5 - 1.5	$155,018,173.00	$632,656.00	0.00408	99.92
1.5 - 2.5	$144,207,160.00	$1,428,241.00	0.00990	99.51
2.5 - 3.5	$139,001,139.00	$774,723.00	0.00557	98.52
3.5 - 4.5	$134,022,521.00	$869,609.00	0.00649	97.97
4.5 - 5.5	$128,028,878.00	$472,901.00	0.00369	97.34
5.5 - 6.5	$119,514,429.00	$499,428.00	0.00418	96.98
6.5 - 7.5	$109,052,147.00	$444,143.00	0.00407	96.57
7.5 - 8.5	$98,249,690.00	$379,160.00	0.00386	96.18
8.5 - 9.5	$87,575,286.00	$342,997.00	0.00392	95.81
9.5 - 10.5	$78,727,839.00	$374,786.00	0.00476	95.43
10.5 - 11.5	$69,485,021.00	$352,164.00	0.00507	94.98
11.5 - 12.5	$65,461,128.00	$358,124.00	0.00547	94.50
12.5 - 13.5	$60,268,673.00	$461,280.00	0.00765	93.98
13.5 - 14.5	$55,583,744.00	$459,406.00	0.00827	93.26
14.5 - 15.5	$53,786,956.00	$876,328.00	0.01629	92.49
15.5 - 16.5	$47,233,249.00	$480,650.00	0.01018	90.98
16.5 - 17.5	$42,337,567.00	$282,360.00	0.00667	90.06
17.5 - 18.5	$37,604,555.00	$441,241.00	0.01173	89.46
18.5 - 19.5	$33,040,208.00	$357,440.00	0.01082	88.41
19.5 - 20.5	$30,671,100.00	$292,223.00	0.00953	87.45
20.5 - 21.5	$27,399,929.00	$319,257.00	0.01165	86.62
21.5 - 22.5	$25,323,573.00	$285,556.00	0.01128	85.61
22.5 - 23.5	$22,937,572.00	$192,611.00	0.00840	84.64
23.5 - 24.5	$20,397,007.00	$232,121.00	0.01138	83.93
24.5 - 25.5	$19,130,529.00	$158,628.00	0.00829	82.98
25.5 - 26.5	$18,299,811.00	$208,760.00	0.01141	82.29
26.5 - 27.5	$17,936,725.00	$152,866.00	0.00852	81.35
27.5 - 28.5	$17,463,557.00	$128,361.00	0.00735	80.66
28.5 - 29.5	$16,078,339.00	$121,008.00	0.00753	80.06
29.5 - 30.5	$12,116,973.00	$144,452.00	0.01192	79.46
30.5 - 31.5	$10,730,426.00	$83,412.00	0.00777	78.51
31.5 - 32.5	$9,060,102.00	$80,077.00	0.00884	77.90
32.5 - 33.5	$7,319,913.00	$120,507.00	0.01646	77.22
33.5 - 34.5	$18,111,141.00	$72,734.00	0.00402	75.94
34.5 - 35.5	$17,510,431.00	$93,270.00	0.00533	75.64
35.5 - 36.5	$16,592,771.00	$65,614.00	0.00395	75.24

OGE
Electric Division
373.00 Street Lighting and Signal Systems
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$38,197,478.00	$71,267.00	0.00187	74.94
37.5 - 38.5	$22,542,760.00	$200,809.00	0.00891	74.80
38.5 - 39.5	$37,701,326.00	$153,246.00	0.00406	74.13
39.5 - 40.5	$15,441,059.00	$392,941.00	0.02545	73.83
40.5 - 41.5	$18,520,027.00	$252,127.00	0.01361	71.95
41.5 - 42.5	$17,841,513.00	$178,871.00	0.01003	70.97
42.5 - 43.5	$16,437,714.00	$46,573.00	0.00283	70.26
43.5 - 44.5	$15,698,166.00	$53,845.00	0.00343	70.06
44.5 - 45.5	$15,547,340.00	$26,506.00	0.00170	69.82
45.5 - 46.5	$15,497,299.00	$31,017.00	0.00200	69.70
46.5 - 47.5	$15,445,210.00	$25,539.00	0.00165	69.56
47.5 - 48.5	$15,393,491.00	$27,763.00	0.00180	69.45
48.5 - 49.5	$15,333,046.00	$21,601.00	0.00141	69.32
49.5 - 50.5	$15,286,906.00	$26,497.00	0.00173	69.23
50.5 - 51.5	$15,222,804.00	$13,873.00	0.00091	69.11
51.5 - 52.5	$15,151,303.00	$12,199.00	0.00081	69.04
52.5 - 53.5	$15,109,739.00	$16,432.00	0.00109	68.99
53.5 - 54.5	$15,036,155.00	$12,329.00	0.00082	68.91
54.5 - 55.5	$14,990,998.00	$11,604.00	0.00077	68.86
55.5 - 56.5	$14,937,781.00	$14,044.00	0.00094	68.80

OGE

Electric Division
389.20 Land Rights
Original And Smooth Survivor Curves

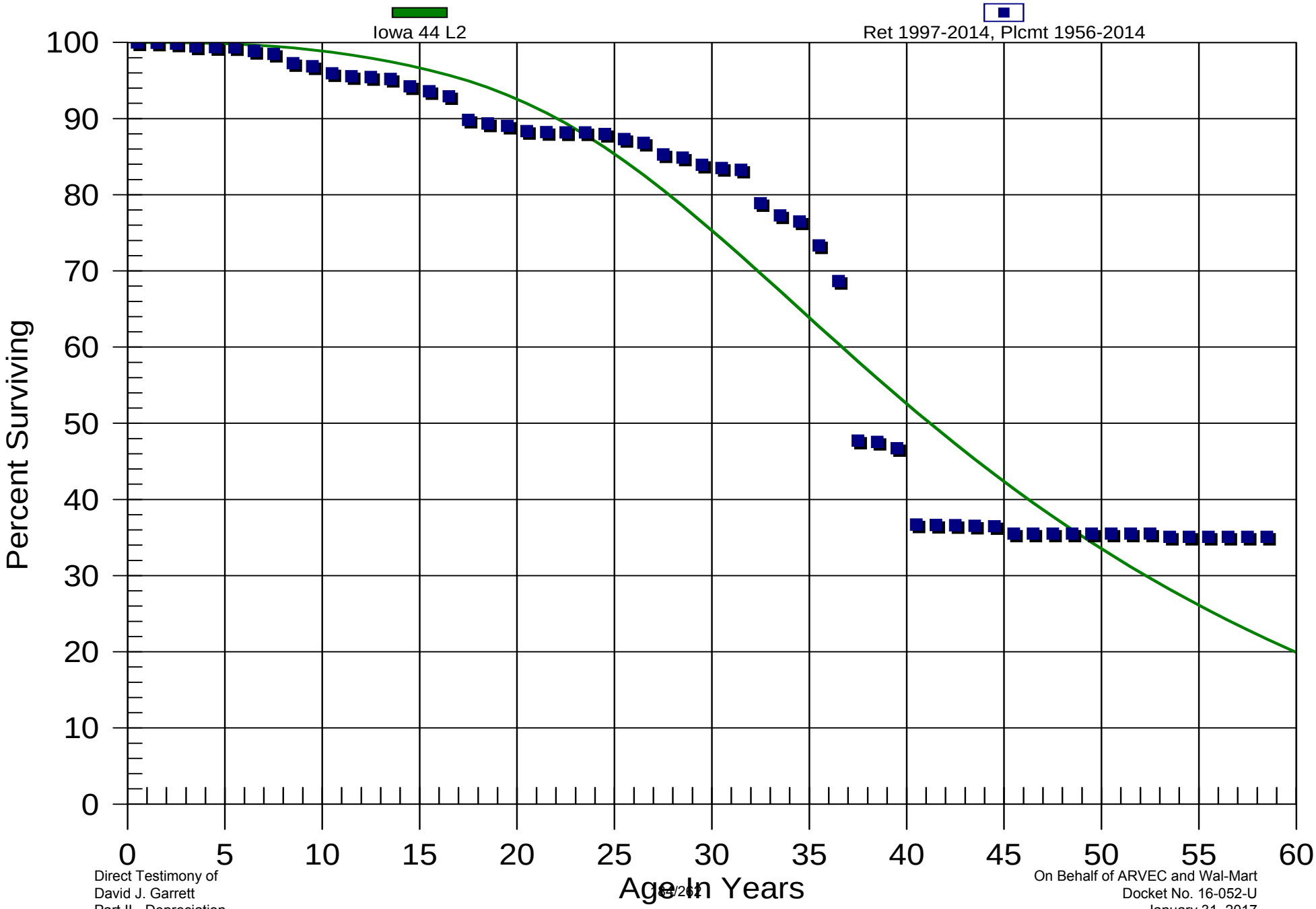


OGE
Electric Division
389.20 Land Rights
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1969 TO 1998

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$8,576.00	$0.00	0.00000	100.00

OGE

Electric Division
390.00 Structures and Improvements
Original And Smooth Survivor Curves



OGE
Electric Division
390.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1956 TO 2014

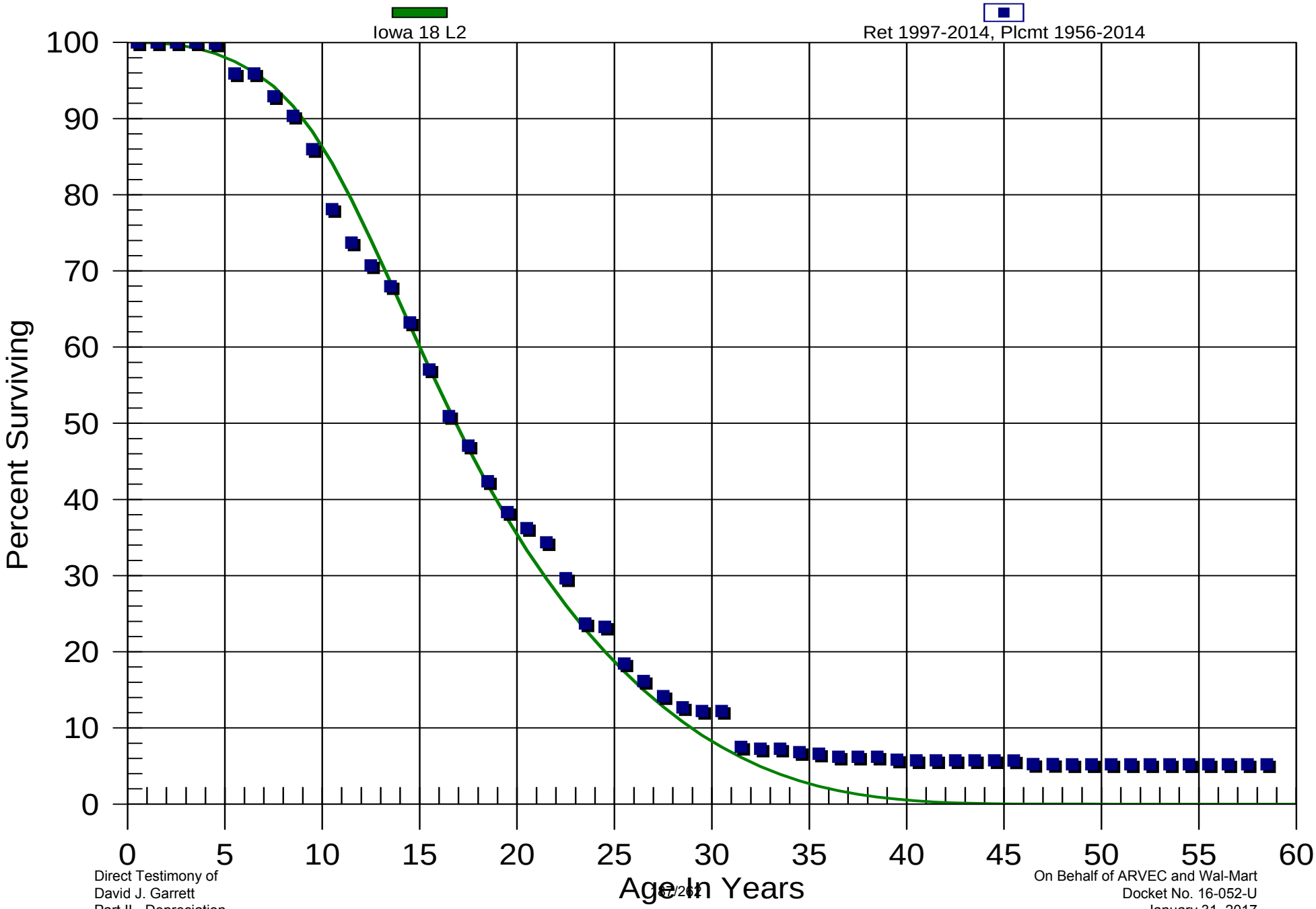
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$96,991,150.00	$0.00	0.00000	100.00
0.5 - 1.5	$94,380,888.00	$28,651.00	0.00030	100.00
1.5 - 2.5	$91,122,076.00	$107,983.00	0.00119	99.97
2.5 - 3.5	$72,806,292.00	$279,888.00	0.00384	99.85
3.5 - 4.5	$55,363,622.00	$49,081.00	0.00089	99.47
4.5 - 5.5	$54,987,256.00	$17,563.00	0.00032	99.38
5.5 - 6.5	$53,752,328.00	$246,081.00	0.00458	99.35
6.5 - 7.5	$59,854,238.00	$246,215.00	0.00411	98.89
7.5 - 8.5	$55,208,727.00	$682,853.00	0.01237	98.49
8.5 - 9.5	$57,302,775.00	$233,558.00	0.00408	97.27
9.5 - 10.5	$61,635,177.00	$582,254.00	0.00945	96.87
10.5 - 11.5	$76,408,394.00	$317,707.00	0.00416	95.96
11.5 - 12.5	$73,780,951.00	$92,681.00	0.00126	95.56
12.5 - 13.5	$77,459,939.00	$190,709.00	0.00246	95.44
13.5 - 14.5	$77,861,755.00	$786,317.00	0.01010	95.20
14.5 - 15.5	$76,842,050.00	$526,048.00	0.00685	94.24
15.5 - 16.5	$76,775,758.00	$553,629.00	0.00721	93.60
16.5 - 17.5	$75,558,901.00	$2,511,381.00	0.03324	92.92
17.5 - 18.5	$59,408,506.00	$318,393.00	0.00536	89.83
18.5 - 19.5	$56,899,411.00	$185,533.00	0.00326	89.35
19.5 - 20.5	$54,634,543.00	$429,660.00	0.00786	89.06
20.5 - 21.5	$53,289,256.00	$85,724.00	0.00161	88.36
21.5 - 22.5	$45,970,910.00	$5,973.00	0.00013	88.22
22.5 - 23.5	$45,840,045.00	$3,649.00	0.00008	88.21
23.5 - 24.5	$43,977,236.00	$117,427.00	0.00267	88.20
24.5 - 25.5	$36,628,432.00	$278,346.00	0.00760	87.96
25.5 - 26.5	$36,591,027.00	$201,137.00	0.00550	87.29
26.5 - 27.5	$30,623,474.00	$537,968.00	0.01757	86.81
27.5 - 28.5	$23,898,771.00	$114,500.00	0.00479	85.29
28.5 - 29.5	$7,967,711.00	$88,703.00	0.01113	84.88
29.5 - 30.5	$7,254,727.00	$35,875.00	0.00495	83.94
30.5 - 31.5	$6,873,164.00	$20,646.00	0.00300	83.52
31.5 - 32.5	$6,150,398.00	$323,052.00	0.05253	83.27
32.5 - 33.5	$5,716,242.00	$116,232.00	0.02033	78.90
33.5 - 34.5	$5,491,900.00	$57,022.00	0.01038	77.29
34.5 - 35.5	$4,683,859.00	$191,358.00	0.04085	76.49
35.5 - 36.5	$5,328,636.00	$340,972.00	0.06399	73.36

OGE
Electric Division
390.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1956 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$1,017,659.00	$310,428.00	0.30504	68.67
37.5 - 38.5	$9,270,424.00	$31,323.00	0.00338	47.72
38.5 - 39.5	$11,592,952.00	$203,445.00	0.01755	47.56
39.5 - 40.5	$10,666,300.00	$2,291,599.00	0.21484	46.73
40.5 - 41.5	$7,717,722.00	$12,203.00	0.00158	36.69
41.5 - 42.5	$7,302,479.00	$4,616.00	0.00063	36.63
42.5 - 43.5	$6,929,998.00	$12,000.00	0.00173	36.61
43.5 - 44.5	$6,724,527.00	$10,966.00	0.00163	36.54
44.5 - 45.5	$6,618,554.00	$175,062.00	0.02645	36.48
45.5 - 46.5	$6,321,374.00	$0.00	0.00000	35.52
46.5 - 47.5	$6,287,546.00	$1,782.00	0.00028	35.52
47.5 - 48.5	$6,218,172.00	$0.00	0.00000	35.51
48.5 - 49.5	$5,901,177.00	$0.00	0.00000	35.51
49.5 - 50.5	$5,855,760.00	$139.00	0.00002	35.51
50.5 - 51.5	$5,809,976.00	$658.00	0.00011	35.51
51.5 - 52.5	$5,786,447.00	$401.00	0.00007	35.50
52.5 - 53.5	$5,691,018.00	$63,887.00	0.01123	35.50
53.5 - 54.5	$8,632,453.00	$0.00	0.00000	35.10
54.5 - 55.5	$5,082,685.00	$0.00	0.00000	35.10
55.5 - 56.5	$0.00	$0.00	0.00000	35.10
56.5 - 57.5	$0.00	$0.00	0.00000	35.10
57.5 - 58.5	$0.00	$0.00	0.00000	35.10

OGE

Electric Division
396.00 Power Operated Equipment
Original And Smooth Survivor Curves



OGE
Electric Division
396.00 Power Operated Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
0.0 - 0.5	$7,993,857.00	$0.00	0.00000	100.00
0.5 - 1.5	$8,191,487.00	$0.00	0.00000	100.00
1.5 - 2.5	$8,172,182.00	$0.00	0.00000	100.00
2.5 - 3.5	$7,366,409.00	$0.00	0.00000	100.00
3.5 - 4.5	$7,179,861.00	$10,435.00	0.00145	100.00
4.5 - 5.5	$6,489,460.00	$256,821.00	0.03958	99.85
5.5 - 6.5	$6,409,792.00	$0.00	0.00000	95.90
6.5 - 7.5	$6,122,784.00	$189,773.00	0.03099	95.90
7.5 - 8.5	$4,740,705.00	$132,186.00	0.02788	92.93
8.5 - 9.5	$3,015,495.00	$145,834.00	0.04836	90.34
9.5 - 10.5	$3,174,045.00	$290,406.00	0.09149	85.97
10.5 - 11.5	$3,132,223.00	$176,273.00	0.05628	78.10
11.5 - 12.5	$3,303,014.00	$134,188.00	0.04063	73.71
12.5 - 13.5	$3,558,967.00	$138,002.00	0.03878	70.71
13.5 - 14.5	$4,316,750.00	$301,706.00	0.06989	67.97
14.5 - 15.5	$4,390,573.00	$428,173.00	0.09752	63.22
15.5 - 16.5	$4,021,843.00	$432,515.00	0.10754	57.06
16.5 - 17.5	$3,359,446.00	$254,863.00	0.07586	50.92
17.5 - 18.5	$3,195,389.00	$317,793.00	0.09945	47.06
18.5 - 19.5	$3,010,732.00	$287,150.00	0.09538	42.38
19.5 - 20.5	$2,721,691.00	$150,312.00	0.05523	38.34
20.5 - 21.5	$2,496,048.00	$127,618.00	0.05113	36.22
21.5 - 22.5	$2,140,496.00	$294,935.00	0.13779	34.37
22.5 - 23.5	$1,716,894.00	$342,558.00	0.19952	29.63
23.5 - 24.5	$1,183,468.00	$22,271.00	0.01882	23.72
24.5 - 25.5	$1,204,237.00	$250,000.00	0.20760	23.27
25.5 - 26.5	$1,040,665.00	$128,699.00	0.12367	18.44
26.5 - 27.5	$888,709.00	$109,623.00	0.12335	16.16
27.5 - 28.5	$630,772.00	$65,802.00	0.10432	14.17
28.5 - 29.5	$595,294.00	$21,993.00	0.03694	12.69
29.5 - 30.5	$650,439.00	$0.00	0.00000	12.22
30.5 - 31.5	$608,968.00	$234,261.00	0.38469	12.22
31.5 - 32.5	$355,320.00	$12,248.00	0.03447	7.52
32.5 - 33.5	$301,400.00	$0.00	0.00000	7.26
33.5 - 34.5	$306,194.00	$17,881.00	0.05840	7.26
34.5 - 35.5	$271,344.00	$9,760.00	0.03597	6.84
35.5 - 36.5	$263,214.00	$14,844.00	0.05640	6.59

OGE
Electric Division
396.00 Power Operated Equipment
Observed Life Table
Retirement Expr. 1997 TO 2014
Placement Years 1958 TO 2014

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
36.5 - 37.5	$233,518.00	$0.00	0.00000	6.22
37.5 - 38.5	$289,765.00	$0.00	0.00000	6.22
38.5 - 39.5	$263,320.00	$16,820.00	0.06388	6.22
39.5 - 40.5	$233,698.00	$3,289.00	0.01407	5.82
40.5 - 41.5	$213,476.00	$0.00	0.00000	5.74
41.5 - 42.5	$142,720.00	$0.00	0.00000	5.74
42.5 - 43.5	$99,975.00	$0.00	0.00000	5.74
43.5 - 44.5	$95,697.00	$0.00	0.00000	5.74
44.5 - 45.5	$95,697.00	$540.00	0.00564	5.74
45.5 - 46.5	$95,157.00	$7,505.00	0.07887	5.71
46.5 - 47.5	$64,331.00	$0.00	0.00000	5.26
47.5 - 48.5	$64,331.00	$631.00	0.00981	5.26
48.5 - 49.5	$63,248.00	$0.00	0.00000	5.21
49.5 - 50.5	$57,688.00	$0.00	0.00000	5.21
50.5 - 51.5	$57,324.00	$0.00	0.00000	5.21
51.5 - 52.5	$54,469.00	$0.00	0.00000	5.21
52.5 - 53.5	$52,516.00	$0.00	0.00000	5.21
53.5 - 54.5	$67,695.00	$0.00	0.00000	5.21
54.5 - 55.5	$46,900.00	$0.00	0.00000	5.21
55.5 - 56.5	$2.00	$0.00	0.00000	5.21

OGE
Electric Division
302.00 Franchises and Consents

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1987	10,889.00	0.00	0.00	0.00	0.00
1988	1,394.00	0.00	0.00	0.00	0.00
1989	6,732.00	0.00	0.00	0.00	0.00
1990	21,803.00	25.00	872.12	0.50	436.06
1991	286,934.00	25.00	11,477.36	1.50	17,216.04
1992	46,897.00	25.00	1,875.88	2.50	4,689.70
1993	44,831.00	25.00	1,793.24	3.50	6,276.34
1994	14,856.00	25.00	594.24	4.50	2,674.08
1995	3,359.00	25.00	134.36	5.50	738.98
1997	1,094,213.00	25.00	43,768.52	7.50	328,263.90
1998	49,337.00	25.00	1,973.48	8.50	16,774.58
1999	53,374.00	25.00	2,134.96	9.50	20,282.12
2000	53,088.00	25.00	2,123.52	10.50	22,296.96
2001	67,702.00	25.00	2,708.08	11.50	31,142.92
2002	40,943.00	25.00	1,637.72	12.50	20,471.50
2003	18,662.00	25.00	746.48	13.50	10,077.48
2004	2,993.00	25.00	119.72	14.50	1,735.94
2005	21,105.00	25.00	844.20	15.50	13,085.10
2006	258,936.00	25.00	10,357.44	16.50	170,897.76
2008	181,661.00	25.00	7,266.44	18.50	134,429.14
2009	108,260.00	25.00	4,330.40	19.50	84,442.80
2010	28,132.00	25.00	1,125.28	20.50	23,068.24
2011	58,161.00	25.00	2,326.44	21.50	50,018.46
2012	29,499.00	25.00	1,179.96	22.50	26,549.10
2013	76,608.00	25.00	3,064.32	23.50	72,011.52
2014	12,202.00	25.00	488.08	24.50	11,957.96

OGE
Electric Division
302.00 Franchises and Consents

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	2,592,571.00	22.12	102,942.24	10.39	1,069,536.68

Composite Average Remaining Life ... 10.3 Years

OGE
Electric Division
341.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2001	440,870.00	41.85	10,534.47	28.35	298,654.87
2011	87,993.00	34.64	2,540.50	31.14	79,101.24
Total	528,863.00	40.45	13,074.97	28.89	377,756.10

Centennial Wind Farm

Interim Survivor Curve: Iowa 45 S4
Probable Retirement Year: 2036

2006	2,189,200.00	29.93	73,143.56	21.43	1,567,479.74
2012	35,191.00	24.00	1,466.56	21.50	31,524.60
2013	107,696.00	23.00	4,682.93	21.50	100,671.60
Total	2,332,087.00	29.41	79,293.05	21.44	1,699,675.94

OU Spirit Wind Farm

Interim Survivor Curve: Iowa 45 S4
Probable Retirement Year: 2039

2009	5,081,452.00	29.93	169,776.85	24.43	4,147,679.30
2013	128,381.00	25.99	4,940.09	24.49	120,970.87
Total	5,209,833.00	29.82	174,716.94	24.43	4,268,650.17

Crossroads Wind Farm

Interim Survivor Curve: Iowa 45 S4
Probable Retirement Year: 2042

2011	11,548,732.00	30.90	373,758.19	27.40	10,240,578.34
2013	25,822.00	28.95	891.87	27.45	24,484.20
2014	12,100.00	27.97	432.62	27.47	11,883.69
Total	11,586,654.00	30.89	375,082.68	27.40	10,276,946.23

OGE

Electric Division

341.00 Structures and Improvements

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2014

Based Upon Broad Group/Remaining Life Procedure and Technique

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Account Total	61,041,665.00	36.39	1,677,418.55	28.44	47,701,712.15

Composite Average Remaining Life ... 28.44 Years

OGE
Electric Division
344.00 Generators

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	47,944.00	28.47	1,684.06	19.39	32,657.75
2007	368,300.00	26.76	13,763.06	19.55	269,130.96
2010	57,736.00	24.11	2,394.32	19.76	47,310.99
2011	2,865,613.00	23.21	123,451.47	19.82	2,446,647.45
2014	2,500,093.00	20.46	122,198.21	19.97	2,440,514.98
Total	34,372,148.00	30.11	1,141,717.26	19.11	21,815,913.67

Tinker

Interim Survivor Curve: Iowa 45 R2.5
Probable Retirement Year: 2025

1971	699.00	42.89	16.30	7.85	127.87
1974	116,238.00	41.90	2,774.10	8.30	23,032.94
1986	70,064.00	35.43	1,977.61	9.57	18,925.89
1990	5,790.00	32.50	178.13	9.81	1,747.09
2003	1,715,943.00	21.38	80,241.65	10.25	822,243.83
2004	334,288.00	20.46	16,339.15	10.27	167,760.66
2006	27,178.00	18.59	1,462.11	10.30	15,064.46
2007	22,172.00	17.64	1,256.67	10.32	12,967.87
2009	43,801.00	15.74	2,783.18	10.35	28,800.46
2010	76,125.00	14.78	5,151.40	10.36	53,372.28
2012	901,716.00	12.84	70,203.89	10.38	728,943.54
Total	3,314,014.00	18.17	182,384.17	10.27	1,872,986.88

Centennial Wind Farm

Interim Survivor Curve: Iowa 45 R2.5
Probable Retirement Year: 2036

2006	44,129,916.00	28.47	1,550,085.61	20.34	31,525,849.85
2007	142,638,988.00	27.62	5,164,220.38	20.43	105,486,386.55

OGE
Electric Division
344.00 Generators

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	6,023.00	25.01	240.86	20.66	4,975.71
2011	188,428.00	24.11	7,814.12	20.72	161,943.69
2012	209,503.00	23.21	9,025.45	20.79	187,606.99
2013	119,737.00	22.30	5,368.75	20.84	111,907.88
2014	198,738.00	21.38	9,293.47	20.90	194,212.24
Total	187,491,333.00	27.79	6,746,048.65	20.41	137,672,882.91

OU Spirit Wind Farm

Interim Survivor Curve: Iowa 45 R2.5
Probable Retirement Year: 2039

2009	243,683,284.00	28.47	8,559,498.56	23.19	198,491,441.97
2011	144,959.00	26.76	5,417.00	23.38	126,670.47
2012	413,833.00	25.89	15,985.38	23.47	375,196.33
2013	91,248.00	25.01	3,649.06	23.55	85,945.77
2014	809,958.00	24.11	33,589.02	23.63	793,657.20
Total	245,143,282.00	28.45	8,618,139.01	23.19	199,872,911.75

Crossroads Wind Farm

Interim Survivor Curve: Iowa 45 R2.5
Probable Retirement Year: 2042

2011	322,410,545.00	29.31	11,001,778.11	25.94	285,406,190.43
2012	37,350,415.00	28.47	1,311,952.21	26.06	34,190,850.06
Total	359,760,960.00	29.22	12,313,730.32	25.95	319,597,040.50

OGE
Electric Division
344.00 Generators

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Account Total	830,845,711.00	28.63	29,023,685.69	23.48	681,507,849.43

Composite Average Remaining Life ... 23.48 Years

OGE
Electric Division
345.00 Accessory Electric Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
			McClain Steam 1		
Interim Survivor Curve: Iowa 45 R2.5					
Probable Retirement Year: 2046					
2001	2,106,381.00	39.15	53,801.73	26.66	1,434,115.00
2009	19,749.00	34.01	580.76	28.77	16,710.50
2013	86,020.00	30.94	2,780.60	29.49	82,011.60
2014	5,670.00	30.13	188.20	29.65	5,579.36
Total	2,217,820.00	38.67	57,351.30	26.82	1,538,416.47
			Centennial Wind Farm		
Interim Survivor Curve: Iowa 45 R2.5					
Probable Retirement Year: 2036					
2011	811,507.00	24.11	33,653.25	20.72	697,446.43
2012	5,542.00	23.21	238.75	20.79	4,962.78
2013	94,735.00	22.30	4,247.71	20.84	88,540.66
Total	911,784.00	23.91	38,139.72	20.74	790,949.87
			OU Spirit Wind Farm		
Interim Survivor Curve: Iowa 45 R2.5					
Probable Retirement Year: 2039					
2013	476,707.00	25.01	19,063.77	23.55	449,006.56
2014	312,287.00	24.11	12,950.56	23.63	306,002.07
Total	788,994.00	24.65	32,014.34	23.58	755,008.63

OGE
Electric Division
345.00 Accessory Electric Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
			Crossroads Wind Farm		
Interim Survivor Curve: Iowa 45 R2.5					
Probable Retirement Year: 2042					
2011	38,207,285.00	29.31	1,303,766.51	25.94	33,822,081.28
2012	5,843,477.00	28.47	205,255.08	26.06	5,349,162.68
Total	44,050,762.00	29.19	1,509,021.60	25.96	39,171,243.96
Account Total	102,952,045.00	33.03	3,116,627.40	26.38	82,212,259.17

Composite Average Remaining Life ... 26.38 Years

OGE
Electric Division
346.00 Miscellaneous Power Plant Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2008	29,065.00	32.89	883.71	26.99	23,850.92
2009	46,726.00	32.29	1,447.18	27.27	39,466.48
2010	49,690.00	31.66	1,569.38	27.54	43,219.89
2011	81,667.00	31.01	2,633.22	27.79	73,185.49
2012	8,061.00	30.34	265.65	28.03	7,447.28
2013	21,864.00	29.65	737.32	28.26	20,837.62
2014	83,117.00	28.94	2,871.78	28.48	81,779.59
Total	4,078,113.00	35.67	114,320.71	25.03	2,862,010.19

Centennial Wind Farm

Interim Survivor Curve: Iowa 40 R2
Probable Retirement Year: 2036

2007	461.00	26.70	17.27	19.76	341.13
2009	3,180.00	25.12	126.60	19.98	2,529.99
2010	68,068.00	24.31	2,800.39	20.09	56,257.36
2011	315,590.00	23.48	13,440.83	20.19	271,329.45
2012	29,877.00	22.64	1,319.66	20.28	26,761.86
Total	417,176.00	23.56	17,704.74	20.18	357,219.79

OU Spirit Wind Farm

Interim Survivor Curve: Iowa 40 R2
Probable Retirement Year: 2039

2010	30,695.00	26.70	1,149.67	22.51	25,881.72
2011	2,407.00	25.92	92.87	22.65	2,103.33
2012	40,008.00	25.12	1,592.72	22.77	36,274.06
2013	10,355.00	24.31	426.02	22.89	9,753.45
Total	83,465.00	25.59	3,261.28	22.69	74,012.57

OGE
Electric Division
346.00 Miscellaneous Power Plant Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
			Crossroads Wind Farm		
Interim Survivor Curve: Iowa 40 R2					
Probable Retirement Year: 2042					
2012	49,264.00	27.46	1,793.73	25.14	45,086.31
2013	5,673.00	26.70	212.48	25.30	5,374.87
2014	3,152.00	25.92	121.62	25.45	3,094.92
Total	58,089.00	27.30	2,127.83	25.17	53,556.10
Account Total	7,621,069.00	33.71	226,054.30	24.36	5,505,871.13

Composite Average Remaining Life ... 24.36 Years

OGE
Electric Division
350.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *96* ***Survivor Curve:*** *L4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	6,299,021.00	96.00	65,614.74	41.08	2,695,125.76
1960	33,768.00	96.00	351.75	42.80	15,053.32
1961	1,165,702.00	96.00	12,142.72	43.67	530,243.90
1962	720,444.00	96.00	7,504.62	44.55	334,312.40
1963	160,140.00	96.00	1,668.12	45.44	75,791.57
1964	174,892.00	96.00	1,821.79	46.33	84,404.62
1965	503,919.00	96.00	5,249.15	47.23	247,935.98
1966	4,195,996.00	96.00	43,708.25	48.14	2,104,286.47
1967	541,017.00	96.00	5,635.59	49.07	276,514.25
1968	471,636.00	96.00	4,912.87	49.99	245,597.32
1969	2,513.00	96.00	26.18	50.92	1,333.00
1970	172,427.00	96.00	1,796.11	51.86	93,147.58
1971	1,513,641.00	96.00	15,767.08	52.81	832,585.65
1972	525,431.00	96.00	5,473.23	53.76	294,219.39
1973	414,473.00	96.00	4,317.42	54.71	236,216.96
1974	544,497.00	96.00	5,671.84	55.67	315,775.91
1976	417,046.00	96.00	4,344.22	57.61	250,283.11
1977	10,788.00	96.00	112.37	58.59	6,583.90
1978	1,025.00	96.00	10.68	59.57	636.02
1980	1,512,564.00	96.00	15,755.86	61.54	969,590.07
1984	764,737.00	96.00	7,966.00	65.51	521,839.61
1986	2,030,734.00	96.00	21,153.46	67.50	1,427,919.23
1988	186,408.00	96.00	1,941.75	69.50	134,952.85
1989	1,562.00	96.00	16.27	70.50	1,147.10
1997	128,718.00	96.00	1,340.81	78.50	105,253.81
1998	43,629.00	96.00	454.47	79.50	36,130.27
2000	79,273.00	96.00	825.76	81.50	67,299.49

OGE
Electric Division
350.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *96* ***Survivor Curve:*** *L4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	37,397.00	96.00	389.55	82.50	32,138.05
2002	675,284.00	96.00	7,034.20	83.50	587,356.49
2003	565,430.00	96.00	5,889.89	84.50	497,696.27
2004	1,156,828.00	96.00	12,050.28	85.50	1,030,300.07
2005	1,574,749.00	96.00	16,403.62	86.50	1,418,914.62
2006	770,938.00	96.00	8,030.60	87.50	702,677.93
2007	116,068.00	96.00	1,209.04	88.50	107,000.20
2008	138,080.00	96.00	1,438.33	89.50	128,730.84
2009	1,213,569.00	96.00	12,641.33	90.50	1,144,041.68
2010	19,187,599.00	96.00	199,870.62	91.50	18,288,181.22
2011	3,114,276.00	96.00	32,440.34	92.50	3,000,734.80
2012	13,965,466.00	96.00	145,473.46	93.50	13,601,782.36
2013	14,174,204.00	96.00	147,647.81	94.50	13,952,732.29
2014	29,056,413.00	96.00	302,670.66	95.50	28,905,077.67
Total	108,362,302.00	96.00	1,128,772.83	84.43	95,301,544.02

Composite Average Remaining Life ... 84.4 Years

OGE
Electric Division
352.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *73* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	121,877.00	73.00	1,669.54	20.91	34,907.13
1959	8,156.00	73.00	111.73	21.64	2,417.36
1963	22,045.00	73.00	301.98	24.65	7,445.12
1964	46,013.00	73.00	630.31	25.44	16,034.05
1967	5,148.00	73.00	70.52	27.84	1,963.45
1968	17,578.00	73.00	240.79	28.66	6,901.67
1969	45,627.00	73.00	625.02	29.50	18,435.65
1972	211,193.00	73.00	2,893.03	32.05	92,711.76
1973	5,073.00	73.00	69.49	32.91	2,287.26
1974	79,521.00	73.00	1,089.32	33.79	36,810.18
1976	332,236.00	73.00	4,551.15	35.57	161,876.84
1977	58,495.00	73.00	801.30	36.47	29,223.66
1978	1,141.00	73.00	15.63	37.38	584.22
1982	14,850.00	73.00	203.42	41.07	8,355.49
1984	9,965.00	73.00	136.51	42.96	5,864.18
1987	48,131.00	73.00	659.32	45.82	30,210.90
1990	40,823.00	73.00	559.22	48.72	27,244.36
1993	20,089.00	73.00	275.19	51.65	14,212.49
1996	13,181.00	73.00	180.56	54.59	9,857.57
1998	1,840.00	73.00	25.21	56.57	1,425.83
2001	4,816.00	73.00	65.97	59.54	3,928.11
2004	6,226.00	73.00	85.29	62.52	5,332.50
2005	34,508.00	73.00	472.71	63.52	30,026.35
2006	2,320,254.00	73.00	31,784.08	64.52	2,050,579.36
2008	65,539.00	73.00	897.79	66.51	59,712.01
2009	293,271.00	73.00	4,017.38	67.51	271,204.63
2010	966,527.00	73.00	13,240.00	68.51	907,019.03

OGE
Electric Division
352.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *73* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2011	625,106.00	73.00	8,563.04	69.50	595,167.88
2012	209,824.00	73.00	2,874.28	70.50	202,645.42
2013	12,898.00	73.00	176.68	71.50	12,633.21
2014	600,961.00	73.00	8,232.29	72.50	596,847.99
Total	6,242,912.00	73.00	85,518.75	61.32	5,243,865.66

Composite Average Remaining Life ... 61.3 Years

OGE
Electric Division
353.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 64 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	17,245,560.00	64.00	269,456.80	27.30	7,356,383.30
1959	1,000,140.00	64.00	15,626.89	27.83	434,884.99
1960	619,901.00	64.00	9,685.77	28.36	274,733.24
1961	610,260.00	64.00	9,535.13	28.90	275,601.66
1962	356,967.00	64.00	5,577.50	29.45	164,259.10
1963	386,515.00	64.00	6,039.18	30.00	181,185.57
1964	3,609,699.00	64.00	56,400.49	30.56	1,723,467.62
1965	424,333.00	64.00	6,630.08	31.12	206,328.61
1966	6,144,687.00	64.00	96,008.93	31.69	3,042,204.27
1967	4,490,284.00	64.00	70,159.37	32.26	2,263,342.70
1968	3,710,980.00	64.00	57,982.97	32.84	1,903,991.74
1969	1,187,575.00	64.00	18,555.51	33.42	620,147.01
1970	2,383,842.00	64.00	37,246.83	34.01	1,266,709.28
1971	720,123.00	64.00	11,251.71	34.60	389,344.55
1972	8,923,395.00	64.00	139,425.42	35.20	4,908,092.14
1973	3,173,111.00	64.00	49,578.93	35.81	1,775,191.94
1974	5,327,950.00	64.00	83,247.65	36.41	3,031,428.96
1975	2,866,808.00	64.00	44,793.03	37.03	1,658,562.67
1976	11,529,868.00	64.00	180,150.80	37.65	6,781,990.69
1977	3,686,382.00	64.00	57,598.63	38.27	2,204,186.19
1978	1,389,021.00	64.00	21,703.04	38.90	844,167.32
1979	1,780,712.00	64.00	27,823.10	39.53	1,099,800.27
1980	2,607,911.00	64.00	40,747.84	40.16	1,636,590.52
1981	1,006,340.00	64.00	15,723.77	40.80	641,599.84
1982	286,881.00	64.00	4,482.43	41.45	185,787.74
1983	320,898.00	64.00	5,013.94	42.10	211,069.62
1984	4,272,462.00	64.00	66,755.96	42.75	2,853,653.27

OGE
Electric Division
353.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **64** ***Survivor Curve:*** **R1**

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	4,889,062.00	64.00	76,390.16	43.40	3,315,604.83
1986	990,500.00	64.00	15,476.27	44.06	681,905.96
1987	1,150,572.00	64.00	17,977.35	44.72	804,022.69
1988	8,883,582.00	64.00	138,803.36	45.39	6,300,237.47
1989	9,763,218.00	64.00	152,547.41	46.06	7,025,925.93
1990	5,597,431.00	64.00	87,458.21	46.73	4,086,811.25
1991	1,565,707.00	64.00	24,463.71	47.40	1,159,625.00
1992	4,146,289.00	64.00	64,784.55	48.08	3,114,753.75
1993	2,809,271.00	64.00	43,894.03	48.76	2,140,130.85
1994	2,941,893.00	64.00	45,966.21	49.44	2,272,503.23
1995	6,532,809.00	64.00	102,073.22	50.12	5,116,145.42
1996	7,138,351.00	64.00	111,534.64	50.81	5,666,832.69
1997	581,319.00	64.00	9,082.94	51.50	467,737.94
1998	1,501,772.00	64.00	23,464.75	52.19	1,224,540.88
1999	1,948,826.00	64.00	30,449.83	52.88	1,610,183.58
2000	2,325,209.00	64.00	36,330.71	53.57	1,946,412.80
2001	1,032,814.00	64.00	16,137.42	54.27	875,836.97
2002	1,437,817.00	64.00	22,465.47	54.97	1,235,014.42
2003	9,331,090.00	64.00	145,795.54	55.68	8,117,666.43
2004	8,007,907.00	64.00	125,121.19	56.39	7,055,016.84
2005	29,929,798.00	64.00	467,644.29	57.09	26,700,042.35
2006	15,313,224.00	64.00	239,264.62	57.81	13,831,406.40
2007	15,631,805.00	64.00	244,242.36	58.52	14,293,880.33
2008	37,477,620.00	64.00	585,576.79	59.24	34,691,370.49
2009	26,473,676.00	64.00	413,643.40	59.96	24,804,036.90
2010	42,591,664.00	64.00	665,482.23	60.69	40,388,990.44
2011	50,950,983.00	64.00	796,094.13	61.42	48,896,788.93

OGE
Electric Division
353.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *64* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	64,048,981.00	64.00	1,000,746.49	62.15	62,199,670.78
2013	42,060,144.00	64.00	657,177.38	62.89	41,329,908.56
2014	108,143,596.00	64.00	1,689,711.89	63.63	107,515,513.26
Total	605,259,535.00	64.00	9,457,002.25	55.71	526,803,222.16

Composite Average Remaining Life ... 55.7 Years

OGE
Electric Division
353.10 Station Equipment - Step Up Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1955	312,370.00	48.00	6,507.56	12.49	81,254.38
1957	278,266.00	48.00	5,797.08	13.32	77,211.88
1958	152,475.00	48.00	3,176.49	13.74	43,660.46
1962	340,000.00	48.00	7,083.17	15.51	109,877.76
1965	118,403.00	48.00	2,466.67	16.91	41,706.89
1968	375,101.00	48.00	7,814.43	18.37	143,520.69
1970	753,439.00	48.00	15,696.29	19.37	304,093.38
1972	728,733.00	48.00	15,181.59	20.41	309,854.37
1974	824,216.00	48.00	17,170.78	21.48	368,766.80
1977	383,447.00	48.00	7,988.30	23.13	184,764.36
1978	1,199,058.00	48.00	24,979.81	23.69	591,891.61
1980	1,652,687.00	48.00	34,430.20	24.85	855,487.02
1984	1,098,313.00	48.00	22,881.00	27.23	623,145.35
1988	940,166.00	48.00	19,586.35	29.73	582,221.22
1991	3,362,877.00	48.00	70,058.34	31.65	2,217,619.77
2000	1,750,755.00	48.00	36,473.23	37.68	1,374,223.27
2001	3,951,505.00	48.00	82,321.15	38.36	3,158,181.65
2006	3,696,179.00	48.00	77,001.98	41.85	3,222,300.82
2007	1,757,110.00	48.00	36,605.62	42.55	1,557,738.31
2008	5,244,694.00	48.00	109,261.97	43.27	4,727,358.65
2009	4,664,518.00	48.00	97,175.25	43.98	4,274,057.25
2010	6,873,503.00	48.00	143,194.72	44.70	6,401,268.71
2011	10,952,034.00	48.00	228,162.18	45.43	10,364,937.69
2012	1,172,589.00	48.00	24,428.38	46.16	1,127,545.70
2013	318,720.00	48.00	6,639.85	46.89	311,350.09
2014	226,779.00	48.00	4,724.45	47.63	225,025.24

OGE
Electric Division
353.10 Station Equipment - Step Up Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: ***48*** ***Survivor Curve:*** ***R1***

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	53,127,937.00	48.00	1,106,806.82	39.10	43,279,063.32

Composite Average Remaining Life ... 39.1 Years

OGE
Electric Division
354.00 Towers and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	1,821,285.00	75.00	24,283.68	22.61	549,146.69
1959	682,216.00	75.00	9,096.17	23.36	212,462.97
1960	164,769.00	75.00	2,196.91	24.11	52,967.83
1961	133,768.00	75.00	1,783.56	24.88	44,371.18
1966	15,199,726.00	75.00	202,662.02	28.85	5,846,711.47
1967	7,877.00	75.00	105.03	29.68	3,116.81
1969	6,688.00	75.00	89.17	31.35	2,795.67
1971	3,057,715.00	75.00	40,769.33	33.07	1,348,074.28
1972	3,126,383.00	75.00	41,684.90	33.93	1,414,537.70
1973	1,405,457.00	75.00	18,739.34	34.81	652,391.31
1974	208,733.00	75.00	2,783.09	35.70	99,354.17
1976	4,032,490.00	75.00	53,766.27	37.49	2,015,928.86
1980	7,744,570.00	75.00	103,260.43	41.17	4,250,734.90
1986	8,050,819.00	75.00	107,343.73	46.84	5,027,991.95
1997	311,803.00	75.00	4,157.35	57.58	239,368.24
2000	319,501.00	75.00	4,259.99	60.55	257,932.75
2001	455.00	75.00	6.07	61.54	373.34
2002	4,198,054.00	75.00	55,973.78	62.53	3,500,241.91
2003	506,748.00	75.00	6,756.61	63.53	429,234.85
2004	1,281,008.00	75.00	17,080.02	64.52	1,102,058.91
2005	1,398,190.00	75.00	18,642.44	65.52	1,221,434.33
2006	3,587.00	75.00	47.83	66.52	3,181.20
2007	272,301.00	75.00	3,630.66	67.51	245,114.86
2008	1,188,098.00	75.00	15,841.23	68.51	1,085,278.95
2009	433,177.00	75.00	5,775.67	69.51	401,452.81
2010	104,383,754.00	75.00	1,391,776.60	70.51	98,128,223.28
2011	592,511.00	75.00	7,900.11	71.50	564,890.19

OGE
Electric Division
354.00 Towers and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	291,331.00	75.00	3,884.39	72.50	281,629.58
2013	178,185.00	75.00	2,375.79	73.50	174,624.49
Total	161,001,199.00	75.00	2,146,672.18	60.17	129,155,625.46

Composite Average Remaining Life ... 60.1 Years

OGE
Electric Division
355.00 Poles and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 61 **Survivor Curve:** L0

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	35,949,972.00	61.00	589,363.60	36.39	21,446,968.37
1959	222,688.00	61.00	3,650.75	36.70	133,972.97
1960	728,422.00	61.00	11,941.75	37.01	441,934.87
1961	7,201,357.00	61.00	118,059.00	37.32	4,406,067.92
1962	2,421,040.00	61.00	39,690.51	37.64	1,493,788.44
1963	1,635,458.00	61.00	26,811.69	37.95	1,017,602.90
1964	1,315,491.00	61.00	21,566.15	38.27	825,435.50
1965	2,233,674.00	61.00	36,618.84	38.60	1,413,393.99
1966	2,081,081.00	61.00	34,117.23	38.92	1,327,971.46
1967	1,858,179.00	61.00	30,462.97	39.25	1,195,728.24
1968	3,542,691.00	61.00	58,078.85	39.58	2,298,925.20
1969	1,551,132.00	61.00	25,429.25	39.92	1,015,062.10
1970	1,235,237.00	61.00	20,250.47	40.25	815,151.79
1971	3,695,467.00	61.00	60,583.46	40.59	2,459,252.65
1972	4,093,165.00	61.00	67,103.32	40.94	2,746,897.27
1973	4,408,565.00	61.00	72,273.99	41.28	2,983,488.68
1974	5,933,479.00	61.00	97,273.42	41.63	4,049,314.81
1975	302,121.00	61.00	4,952.97	41.98	207,922.00
1976	827,009.00	61.00	13,557.98	42.33	573,949.56
1977	5,618,674.00	61.00	92,112.50	42.69	3,932,259.98
1978	821,560.00	61.00	13,468.65	43.05	579,820.80
1979	35,886.00	61.00	588.31	43.41	25,540.18
1980	580,622.00	61.00	9,518.71	43.78	416,714.75
1982	161,716.00	61.00	2,651.17	44.52	118,028.82
1984	3,163,528.00	61.00	51,862.86	45.27	2,348,002.34
1985	1,129,250.00	61.00	18,512.92	45.66	845,207.97
1986	234,030.00	61.00	3,836.69	46.04	176,641.87

OGE
Electric Division
355.00 Poles and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *61* ***Survivor Curve:*** *L0*

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1987	160,433.00	61.00	2,630.14	46.43	122,116.02
1988	504,601.00	61.00	8,272.43	46.82	387,341.59
1989	773,795.00	61.00	12,685.59	47.22	599,032.23
1990	123,727.00	61.00	2,028.38	47.63	96,602.31
1991	29,460.00	61.00	482.97	48.03	23,198.92
1992	23,443.00	61.00	384.32	48.45	18,620.52
1993	48,701.00	61.00	798.40	48.87	39,019.82
1994	931.00	61.00	15.26	49.30	752.46
1995	86,511.00	61.00	1,418.26	49.74	70,540.57
1996	69,996.00	61.00	1,147.51	50.18	57,584.48
1997	2,668,506.00	61.00	43,747.47	50.63	2,215,096.88
1998	3,187,172.00	61.00	52,250.48	51.10	2,669,788.04
1999	8,285,028.00	61.00	135,824.69	51.57	7,004,123.14
2000	2,814,334.00	61.00	46,138.17	52.05	2,401,382.51
2001	4,997,043.00	61.00	81,921.49	52.54	4,304,191.65
2002	25,151,251.00	61.00	412,329.44	53.04	21,871,770.51
2003	5,680,677.00	61.00	93,128.98	53.56	4,987,938.05
2004	5,886,642.00	61.00	96,505.57	54.09	5,219,970.68
2005	8,398,309.00	61.00	137,681.82	54.63	7,521,776.76
2006	11,901,302.00	61.00	195,109.87	55.19	10,768,704.89
2007	11,025,297.00	61.00	180,748.65	55.77	10,080,578.33
2008	18,719,289.00	61.00	306,883.90	56.37	17,297,516.10
2009	23,910,085.00	61.00	391,981.78	56.98	22,337,067.32
2010	20,895,769.00	61.00	342,565.10	57.63	19,741,543.13
2011	28,330,030.00	61.00	464,442.33	58.30	27,075,119.37
2012	132,937,294.00	61.00	2,179,373.12	59.00	128,590,607.74
2013	147,260,983.00	61.00	2,414,195.59	59.75	144,255,153.41

OGE
Electric Division
355.00 Poles and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *61* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	271,974,827.00	61.00	4,458,753.52	60.55	269,994,725.10
Total	828,826,930.00	61.00	13,587,783.23	56.60	769,046,907.98

Composite Average Remaining Life ... 56.6 Years

OGE
Electric Division
356.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 68 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	22,122,622.00	68.00	325,331.91	24.86	8,087,406.81
1959	387,412.00	68.00	5,697.22	25.44	144,918.96
1960	480,397.00	68.00	7,064.65	26.03	183,865.27
1961	4,536,962.00	68.00	66,719.87	26.62	1,776,121.12
1962	1,957,846.00	68.00	28,791.79	27.23	783,887.99
1963	999,666.00	68.00	14,700.94	27.84	409,227.76
1964	859,862.00	68.00	12,645.00	28.46	359,853.86
1965	770,180.00	68.00	11,326.15	29.08	329,419.70
1966	8,167,555.00	68.00	120,110.82	29.72	3,569,891.73
1967	1,950,002.00	68.00	28,676.43	30.36	870,728.10
1968	1,272,644.00	68.00	18,715.31	31.02	580,468.54
1969	1,171,069.00	68.00	17,221.56	31.67	545,460.51
1970	1,349,841.00	68.00	19,850.56	32.34	641,958.40
1971	7,736,732.00	68.00	113,775.20	33.01	3,755,918.15
1972	5,097,575.00	68.00	74,964.16	33.69	2,525,545.36
1973	4,414,294.00	68.00	64,915.94	34.38	2,231,749.25
1974	4,324,378.00	68.00	63,593.65	35.07	2,230,326.99
1975	193,063.00	68.00	2,839.16	35.77	101,568.47
1976	2,873,725.00	68.00	42,260.56	36.48	1,541,685.60
1977	6,780,767.00	68.00	99,716.93	37.20	3,709,107.85
1978	500,642.00	68.00	7,362.37	37.92	279,151.87
1979	205,515.00	68.00	3,022.27	38.64	116,795.20
1980	5,626,446.00	68.00	82,741.66	39.38	3,258,164.60
1984	5,284,419.00	68.00	77,711.86	42.38	3,293,072.89
1985	1,885,557.00	68.00	27,728.71	43.14	1,196,236.78
1986	1,512,231.00	68.00	22,238.64	43.91	976,507.58
1987	194,506.00	68.00	2,860.38	44.69	127,822.23

OGE
Electric Division
356.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **68** ***Survivor Curve:*** **R2**

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1988	641,339.00	68.00	9,431.43	45.47	428,833.37
1989	719,816.00	68.00	10,585.50	46.26	489,648.78
1990	879,376.00	68.00	12,931.97	47.05	608,438.19
1991	3,937.00	68.00	57.90	47.85	2,770.16
1992	7,274.00	68.00	106.97	48.65	5,204.29
1995	79,538.00	68.00	1,169.67	51.09	59,763.45
1996	6,684.00	68.00	98.29	51.92	5,103.40
1997	2,041,048.00	68.00	30,015.34	52.75	1,583,271.54
1998	556,145.00	68.00	8,178.58	53.58	438,243.46
1999	1,753,640.00	68.00	25,788.76	54.42	1,403,504.02
2000	1,074,349.00	68.00	15,799.21	55.27	873,192.78
2001	1,871,302.00	68.00	27,519.08	56.12	1,544,275.50
2002	36,700,481.00	68.00	539,711.69	56.97	30,747,794.38
2003	2,244,012.00	68.00	33,000.10	57.83	1,908,345.66
2004	3,148,407.00	68.00	46,299.99	58.69	2,717,422.57
2005	4,426,062.00	68.00	65,088.99	59.56	3,876,591.46
2006	9,563,754.00	68.00	140,643.11	60.43	8,498,887.37
2007	8,875,921.00	68.00	130,527.94	61.31	8,002,076.49
2008	13,154,973.00	68.00	193,455.03	62.18	12,029,887.13
2009	14,764,885.00	68.00	217,130.15	63.07	13,694,234.44
2010	75,447,726.00	68.00	1,109,522.78	63.96	70,961,095.77
2011	18,408,986.00	68.00	270,719.75	64.85	17,555,920.07
2012	76,629,837.00	68.00	1,126,906.73	65.74	74,087,470.82
2013	78,151,179.00	68.00	1,149,279.35	66.64	76,592,869.23
2014	122,474,210.00	68.00	1,801,087.10	67.55	121,657,765.69

OGE
Electric Division
356.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *68* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	566,280,789.00	68.00	8,327,639.14	59.25	493,399,471.59

Composite Average Remaining Life ... 59.2 Years

OGE
Electric Division
358.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *53* ***Survivor Curve:*** *S6*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1966	109,352.00	53.00	2,063.19	5.47	11,289.80
1998	1,142.00	53.00	21.55	36.50	786.48
Total	110,494.00	53.00	2,084.74	5.79	12,076.29

Composite Average Remaining Life ... 5.79 Years

OGE
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *99* ***Survivor Curve:*** *L4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	335,659.00	98.99	3,390.67	43.87	148,755.45
1959	16,009.00	98.99	161.72	44.74	7,235.45
1960	16,331.00	98.99	164.97	45.62	7,525.75
1961	17,110.00	98.99	172.84	46.50	8,037.70
1962	18,011.00	98.99	181.94	47.40	8,623.35
1963	19,640.00	98.99	198.39	48.30	9,581.82
1964	21,527.00	98.99	217.46	49.20	10,699.71
1965	21,130.00	98.99	213.45	50.12	10,697.55
1966	21,798.00	98.99	220.19	51.04	11,238.60
1967	21,491.00	98.99	217.09	51.97	11,281.79
1968	27,325.00	98.99	276.02	52.90	14,602.35
1969	23,244.00	98.99	234.80	53.84	12,642.41
1970	32,305.00	98.99	326.33	54.79	17,879.72
1971	28,697.00	98.99	289.88	55.74	16,159.00
1972	29,105.00	98.99	294.00	56.70	16,670.47
1973	27,346.00	98.99	276.24	57.66	15,929.08
1974	29,274.00	98.99	295.71	58.63	17,338.45
1975	29,411.00	98.99	297.10	59.61	17,708.55
1976	30,588.00	98.99	308.99	60.58	18,719.03
1977	31,811.00	98.99	321.34	61.56	19,782.53
1978	33,169.00	98.99	335.06	62.55	20,956.68
1979	34,407.00	98.99	347.56	63.53	22,081.86
1980	35,784.00	98.99	361.47	64.52	23,323.26
1981	37,215.00	98.99	375.93	65.51	24,628.79
1982	38,703.00	98.99	390.96	66.51	26,002.05
1983	40,252.00	98.99	406.61	67.50	27,447.45
1984	41,862.00	98.99	422.87	68.50	28,966.75

OGE
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *99* ***Survivor Curve:*** *L4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	43,536.00	98.99	439.78	69.50	30,563.87
1986	45,278.00	98.99	457.38	70.50	32,243.53
1987	47,185.00	98.99	476.64	71.50	34,077.77
1988	54,823.00	98.99	553.80	72.50	40,147.58
1989	50,931.00	98.99	514.48	73.50	37,811.79
1990	52,968.00	98.99	535.06	74.49	39,859.10
1991	55,595.00	98.99	561.59	75.49	42,397.53
1992	57,291.00	98.99	578.73	76.49	44,269.65
1993	59,582.00	98.99	601.87	77.49	46,641.81
1994	61,966.00	98.99	625.95	78.49	49,134.00
1995	64,444.00	98.99	650.98	79.49	51,749.84
1996	67,022.00	98.99	677.02	80.49	54,497.05
1997	36,143.00	98.99	365.10	81.49	29,753.76
1998	39,538.00	98.99	399.39	82.49	32,948.00
1999	16,065.00	98.99	162.28	83.49	13,549.64
2000	30,102.00	98.99	304.08	84.49	25,692.90
2001	112,079.00	98.99	1,132.17	85.49	96,794.72
2002	93,877.00	98.99	948.30	86.49	82,023.24
2003	152,382.00	98.99	1,539.29	87.49	134,680.16
2004	479,275.00	98.99	4,841.41	88.49	428,440.21
2005	133,410.00	98.99	1,347.64	89.49	120,607.38
2006	160,285.00	98.99	1,619.12	90.49	146,522.45
2007	759,415.00	98.99	7,671.25	91.49	701,880.62
2008	332,897.00	98.99	3,362.77	92.49	311,039.01
2009	115,286.00	98.99	1,164.56	93.49	108,880.90
2010	62,204.00	98.99	628.36	94.49	59,376.40
2011	415,742.00	98.99	4,199.63	95.49	401,043.30

OGE
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *99* ***Survivor Curve:*** *L4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	92,826.00	98.99	937.68	96.49	90,481.79
2013	117,825.00	98.99	1,190.21	97.49	116,039.68
2014	37,740.00	98.99	381.23	98.49	37,549.38
Total	4,906,916.00	98.99	49,567.34	81.01	4,015,212.65

Composite Average Remaining Life ... 81.0 Years

OGE
Electric Division
361.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	466,445.00	70.00	6,663.49	24.02	160,027.64
1959	44,979.00	70.00	642.56	24.64	15,831.25
1960	40,572.00	70.00	579.60	25.27	14,644.71
1961	10,221.00	70.00	146.01	25.91	3,782.96
1962	5,994.00	70.00	85.63	26.56	2,274.01
1963	4,516.00	70.00	64.51	27.21	1,755.64
1964	5,518.00	70.00	78.83	27.88	2,197.98
1965	13,889.00	70.00	198.41	28.56	5,666.26
1966	58,219.00	70.00	831.70	29.24	24,322.38
1967	36,132.00	70.00	516.17	29.94	15,452.15
1968	81,823.00	70.00	1,168.90	30.64	35,813.31
1969	45,430.00	70.00	649.00	31.35	20,344.14
1970	7,771.00	70.00	111.01	32.06	3,559.36
1971	79,902.00	70.00	1,141.46	32.79	37,427.10
1972	37,139.00	70.00	530.56	33.52	17,784.10
1973	138,010.00	70.00	1,971.57	34.26	67,547.49
1974	36,078.00	70.00	515.40	35.01	18,042.35
1977	23,067.00	70.00	329.53	37.29	12,287.42
1978	22,789.00	70.00	325.56	38.06	12,392.09
1979	69,275.00	70.00	989.64	38.84	38,441.96
1981	3,653.00	70.00	52.19	40.43	2,109.70
1985	27,762.00	70.00	396.60	43.67	17,318.22
1988	39,752.00	70.00	567.88	46.16	26,212.67
1989	15,965.00	70.00	228.07	47.00	10,719.64
1990	18,733.00	70.00	267.61	47.85	12,804.90
1992	10,005.00	70.00	142.93	49.56	7,083.51
1994	25,764.00	70.00	368.06	51.29	18,878.30

OGE
Electric Division
361.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1995	134,653.00	70.00	1,923.61	52.16	100,344.38
1998	36,980.00	70.00	528.28	54.81	28,956.45
1999	50,264.00	70.00	718.06	55.71	39,999.32
2000	42,866.00	70.00	612.37	56.60	34,660.39
2001	7,739.00	70.00	110.56	57.50	6,357.17
2002	13,443.00	70.00	192.04	58.41	11,216.27
2003	101,717.00	70.00	1,453.10	59.31	86,188.73
2004	54,239.00	70.00	774.84	60.23	46,665.17
2005	131,793.00	70.00	1,882.75	61.14	115,112.24
2006	1,266,223.00	70.00	18,088.88	62.06	1,122,602.23
2007	544,730.00	70.00	7,781.85	62.98	490,119.71
2008	931,106.00	70.00	13,301.50	63.91	850,084.73
2009	368,921.00	70.00	5,270.29	64.84	341,713.67
2010	458,089.00	70.00	6,544.12	65.77	430,408.61
2011	342,610.00	70.00	4,894.42	66.71	326,483.44
2012	311,849.00	70.00	4,454.98	67.64	301,346.80
2013	187,030.00	70.00	2,671.85	68.58	183,246.70
2014	435,812.00	70.00	6,225.88	69.53	432,867.40
Total	6,789,467.00	70.00	96,992.25	57.25	5,553,094.64

Composite Average Remaining Life ... 57.2 Years

OGE
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **68** ***Survivor Curve:*** **R2**

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	12,163,937.00	68.00	178,881.01	24.86	4,446,792.38
1959	2,400,215.00	68.00	35,297.20	25.44	897,846.92
1960	1,003,266.00	68.00	14,753.88	26.03	383,986.11
1961	1,849,192.00	68.00	27,193.94	26.62	723,918.11
1962	1,089,067.00	68.00	16,015.65	27.23	436,043.76
1963	1,730,503.00	68.00	25,448.51	27.84	708,406.47
1964	1,463,907.00	68.00	21,527.99	28.46	612,647.83
1965	2,258,910.00	68.00	33,219.19	29.08	966,176.02
1966	2,788,457.00	68.00	41,006.62	29.72	1,218,784.52
1967	2,451,392.00	68.00	36,049.80	30.36	1,094,612.16
1968	2,857,487.00	68.00	42,021.77	31.02	1,303,334.88
1969	3,348,472.00	68.00	49,242.12	31.67	1,559,651.26
1970	2,906,452.00	68.00	42,741.84	32.34	1,382,252.64
1971	7,147,450.00	68.00	105,109.31	33.01	3,469,841.94
1972	4,619,547.00	68.00	67,934.36	33.69	2,288,710.91
1973	7,195,844.00	68.00	105,820.99	34.38	3,638,026.71
1974	6,490,068.00	68.00	95,441.95	35.07	3,347,296.15
1975	3,009,110.00	68.00	44,251.51	35.77	1,583,062.07
1976	1,035,291.00	68.00	15,224.83	36.48	555,409.17
1977	1,618,909.00	68.00	23,807.43	37.20	885,549.98
1978	4,670,798.00	68.00	68,688.04	37.92	2,604,379.99
1979	3,131,786.00	68.00	46,055.57	38.64	1,779,809.63
1980	2,652,514.00	68.00	39,007.47	39.38	1,536,018.87
1981	1,462,094.00	68.00	21,501.33	40.12	862,608.74
1982	1,038,655.00	68.00	15,274.30	40.86	624,172.87
1983	1,415,756.00	68.00	20,819.89	41.62	866,476.31
1984	3,153,935.00	68.00	46,381.29	42.38	1,965,426.63

OGE
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **68** ***Survivor Curve:*** **R2**

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	1,164,819.00	68.00	17,129.65	43.14	738,985.52
1986	1,740,642.00	68.00	25,597.62	43.91	1,124,001.63
1987	549,246.00	68.00	8,077.13	44.69	360,944.38
1988	14,362,810.00	68.00	211,217.30	45.47	9,603,738.85
1989	15,019,489.00	68.00	220,874.32	46.26	10,216,881.07
1990	10,920,125.00	68.00	160,589.70	47.05	7,555,608.83
1991	9,543,329.00	68.00	140,342.74	47.85	6,714,901.53
1992	10,419,171.00	68.00	153,222.74	48.65	7,454,543.26
1993	6,066,394.00	68.00	89,211.47	49.46	4,412,383.17
1994	4,871,717.00	68.00	71,642.73	50.28	3,601,870.03
1995	4,744,366.00	68.00	69,769.92	51.09	3,564,833.03
1996	5,895,259.00	68.00	86,694.78	51.92	4,501,179.58
1997	1,379,441.00	68.00	20,285.85	52.75	1,070,053.07
1998	6,379,711.00	68.00	93,819.06	53.58	5,027,225.98
1999	10,864,381.00	68.00	159,769.93	54.42	8,695,172.53
2000	8,660,277.00	68.00	127,356.72	55.27	7,038,766.10
2001	8,217,266.00	68.00	120,841.86	56.12	6,781,226.42
2002	8,263,760.00	68.00	121,525.60	56.97	6,923,407.72
2003	22,346,992.00	68.00	328,631.46	57.83	19,004,258.97
2004	16,881,241.00	68.00	248,252.96	58.69	14,570,373.28
2005	25,057,168.00	68.00	368,486.90	59.56	21,946,462.44
2006	24,464,599.00	68.00	359,772.67	60.43	21,740,612.68
2007	33,476,165.00	68.00	492,295.39	61.31	30,180,398.53
2008	32,536,485.00	68.00	478,476.60	62.18	29,753,785.30
2009	35,219,894.00	68.00	517,938.40	63.07	32,665,983.21
2010	27,427,202.00	68.00	403,340.26	63.96	25,796,195.74
2011	37,110,211.00	68.00	545,737.12	64.85	35,390,536.89

OGE
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *68* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	58,639,085.00	68.00	862,337.46	65.74	56,693,602.25
2013	31,347,622.00	68.00	460,993.36	66.64	30,722,560.34
2014	27,458,325.00	68.00	403,797.95	67.55	27,275,280.81
Total	587,980,206.00	68.00	8,646,747.47	55.84	482,867,016.14

Composite Average Remaining Life ... 55.8 Years

OGE
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R1*

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	11,936,802.00	55.00	217,028.13	19.48	4,227,091.66
1959	585,593.00	55.00	10,646.92	19.96	212,483.34
1960	802,271.00	55.00	14,586.43	20.44	298,197.11
1961	1,004,653.00	55.00	18,266.03	20.94	382,413.52
1962	1,156,171.00	55.00	21,020.84	21.43	450,566.28
1963	1,774,078.00	55.00	32,255.27	21.94	707,623.71
1964	1,542,723.00	55.00	28,048.91	22.45	629,684.24
1965	1,547,961.00	55.00	28,144.14	22.97	646,387.39
1966	1,517,637.00	55.00	27,592.81	23.49	648,178.32
1967	1,427,260.00	55.00	25,949.63	24.02	623,334.19
1968	1,602,854.00	55.00	29,142.18	24.56	715,622.88
1969	963,716.00	55.00	17,521.73	25.10	439,784.48
1970	2,012,566.00	55.00	36,591.33	25.65	938,521.74
1971	2,115,283.00	55.00	38,458.87	26.20	1,007,791.31
1972	2,865,860.00	55.00	52,105.43	26.77	1,394,667.42
1973	2,823,515.00	55.00	51,335.54	27.33	1,403,221.42
1974	3,069,349.00	55.00	55,805.15	27.91	1,557,386.78
1975	2,677,621.00	55.00	48,682.98	28.49	1,386,897.51
1976	2,859,303.00	55.00	51,986.22	29.08	1,511,505.30
1977	3,110,291.00	55.00	56,549.54	29.67	1,677,700.62
1978	3,313,098.00	55.00	60,236.86	30.27	1,823,149.22
1979	4,294,372.00	55.00	78,077.82	30.87	2,410,220.41
1980	4,693,152.00	55.00	85,328.21	31.48	2,686,119.62
1981	6,571,663.00	55.00	119,482.23	32.10	3,834,869.87
1982	7,674,271.00	55.00	139,529.22	32.72	4,564,970.72
1983	8,105,003.00	55.00	147,360.54	33.34	4,913,498.33
1984	8,756,654.00	55.00	159,208.49	33.97	5,409,085.08

OGE
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	9,007,209.00	55.00	163,763.94	34.61	5,667,932.73
1986	8,663,282.00	55.00	157,510.85	35.25	5,552,560.05
1987	9,394,718.00	55.00	170,809.41	35.90	6,131,710.53
1988	8,371,986.00	55.00	152,214.68	36.55	5,563,191.51
1989	8,873,411.00	55.00	161,331.30	37.20	6,001,980.28
1990	8,060,208.00	55.00	146,546.11	37.86	5,548,285.78
1991	10,766,073.00	55.00	195,742.60	38.52	7,540,580.71
1992	9,222,786.00	55.00	167,683.44	39.19	6,571,356.47
1993	10,158,572.00	55.00	184,697.36	39.86	7,361,762.46
1994	10,752,148.00	55.00	195,489.42	40.53	7,923,408.65
1995	9,298,283.00	55.00	169,056.08	41.21	6,966,254.36
1996	8,958,264.00	55.00	162,874.05	41.88	6,821,923.86
1997	16,347,719.00	55.00	297,224.90	42.57	12,651,743.85
1998	6,622,762.00	55.00	120,411.28	43.25	5,207,843.54
1999	11,080,040.00	55.00	201,450.97	43.94	8,851,214.60
2000	9,289,047.00	55.00	168,888.16	44.63	7,536,946.47
2001	15,934,210.00	55.00	289,706.72	45.32	13,129,049.49
2002	27,045,657.00	55.00	491,728.71	46.01	22,626,385.09
2003	11,634,292.00	55.00	211,528.06	46.71	9,881,012.51
2004	13,092,154.00	55.00	238,034.08	47.41	11,286,210.86
2005	15,699,176.00	55.00	285,433.47	48.12	13,734,846.01
2006	16,476,848.00	55.00	299,572.65	48.83	14,627,418.72
2007	22,935,816.00	55.00	417,005.93	49.54	20,657,968.42
2008	30,579,571.00	55.00	555,980.32	50.25	27,940,543.06
2009	23,021,407.00	55.00	418,562.09	50.97	21,335,785.58
2010	19,525,797.00	55.00	355,006.91	51.70	18,352,874.57
2011	26,362,365.00	55.00	479,305.49	52.42	25,127,278.34

OGE
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	38,044,154.00	55.00	691,697.11	53.15	36,766,854.52
2013	35,210,322.00	55.00	640,174.00	53.89	34,499,026.95
2014	19,261,943.00	55.00	350,209.66	54.63	19,131,867.27
Total	560,493,940.00	55.00	10,190,581.19	43.91	447,496,789.70

Composite Average Remaining Life ... 43.9 Years

OGE
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *54* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	16,586,172.00	54.00	307,144.78	22.13	6,797,293.39
1959	656,988.00	54.00	12,166.18	22.60	274,977.25
1960	712,242.00	54.00	13,189.39	23.08	304,373.63
1961	1,107,785.00	54.00	20,514.10	23.56	483,246.46
1962	1,198,453.00	54.00	22,193.10	24.04	533,537.29
1963	1,533,519.00	54.00	28,397.89	24.53	696,567.40
1964	1,584,482.00	54.00	29,341.63	25.02	734,148.75
1965	1,605,973.00	54.00	29,739.61	25.52	758,883.86
1966	1,436,031.00	54.00	26,592.60	26.02	691,907.38
1967	1,578,722.00	54.00	29,234.97	26.52	775,435.57
1968	1,622,472.00	54.00	30,045.14	27.03	812,238.99
1969	1,447,266.00	54.00	26,800.65	27.55	738,301.90
1970	2,046,293.00	54.00	37,893.51	28.07	1,063,521.05
1971	2,050,577.00	54.00	37,972.84	28.59	1,085,557.14
1972	2,274,255.00	54.00	42,114.94	29.11	1,226,149.96
1973	2,350,847.00	54.00	43,533.28	29.65	1,290,547.39
1974	2,379,335.00	54.00	44,060.82	30.18	1,329,746.20
1975	1,871,358.00	54.00	34,654.04	30.72	1,064,517.52
1976	1,758,120.00	54.00	32,557.08	31.26	1,017,764.30
1977	2,292,456.00	54.00	42,451.98	31.81	1,350,278.22
1978	3,343,991.00	54.00	61,924.44	32.36	2,003,661.08
1979	3,853,091.00	54.00	71,352.02	32.91	2,348,218.38
1980	3,504,751.00	54.00	64,901.41	33.47	2,172,093.11
1981	6,426,854.00	54.00	119,013.28	34.03	4,049,806.49
1982	6,381,368.00	54.00	118,170.96	34.59	4,087,776.37
1983	6,614,067.00	54.00	122,480.11	35.16	4,306,283.48
1984	8,401,662.00	54.00	155,583.02	35.73	5,558,829.54

OGE
Electric Division
365.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *54* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	7,502,476.00	54.00	138,931.78	36.30	5,043,416.40
1986	6,681,037.00	54.00	123,720.27	36.88	4,562,453.89
1987	7,887,921.00	54.00	146,069.50	37.46	5,471,111.60
1988	7,362,672.00	54.00	136,342.87	38.04	5,185,980.84
1989	7,557,696.00	54.00	139,954.35	38.62	5,404,951.64
1990	8,204,957.00	54.00	151,940.41	39.20	5,956,761.74
1991	9,797,827.00	54.00	181,437.37	39.79	7,219,623.05
1992	8,895,423.00	54.00	164,726.54	40.38	6,651,742.70
1993	11,052,111.00	54.00	204,664.36	40.97	8,385,396.89
1994	9,877,213.00	54.00	182,907.45	41.56	7,602,361.84
1995	10,210,080.00	54.00	189,071.52	42.16	7,970,867.37
1996	9,150,870.00	54.00	169,456.94	42.75	7,244,836.87
1997	5,045,659.00	54.00	93,436.14	43.35	4,050,440.87
1998	4,311,183.00	54.00	79,835.02	43.95	3,508,525.78
1999	8,234,135.00	54.00	152,480.73	44.55	6,792,442.18
2000	5,958,393.00	54.00	110,338.26	45.15	4,981,373.69
2001	7,964,731.00	54.00	147,491.87	45.75	6,747,414.49
2002	10,712,508.00	54.00	198,375.55	46.35	9,194,751.85
2003	5,016,954.00	54.00	92,904.57	46.95	4,362,242.58
2004	10,299,075.00	54.00	190,719.54	47.56	9,070,449.10
2005	11,386,220.00	54.00	210,851.43	48.17	10,155,690.97
2006	11,069,603.00	54.00	204,988.28	48.77	9,997,914.79
2007	13,087,899.00	54.00	242,363.33	49.38	11,968,502.55
2008	20,608,803.00	54.00	381,636.36	49.99	19,079,262.26
2009	15,356,958.00	54.00	284,382.05	50.61	14,391,329.36
2010	13,269,303.00	54.00	245,722.59	51.22	12,585,774.57
2011	19,581,696.00	54.00	362,616.27	51.83	18,796,149.11

OGE
Electric Division
365.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *54* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	31,921,853.00	54.00	591,132.82	52.45	31,005,747.09
2013	26,667,582.00	54.00	493,833.58	53.07	26,207,796.69
2014	24,808,348.00	54.00	459,404.05	53.69	24,665,585.33
Total	436,100,316.00	54.00	8,075,759.55	43.56	351,816,560.16

Composite Average Remaining Life ... 43.5 Years

OGE
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	1,015,891.00	65.00	15,629.07	19.91	311,173.76
1964	3,559.00	65.00	54.75	23.53	1,288.34
1966	5,779.00	65.00	88.91	24.82	2,206.88
1970	4,221.00	65.00	64.94	27.53	1,787.49
1971	3,633,675.00	65.00	55,902.62	28.22	1,577,742.95
1972	6,541,890.00	65.00	100,644.33	28.93	2,911,703.67
1973	484,906.00	65.00	7,460.08	29.64	221,151.81
1974	1,457,469.00	65.00	22,422.57	30.37	680,954.61
1975	107,824.00	65.00	1,658.83	31.10	51,588.64
1977	136,890.00	65.00	2,106.00	32.59	68,626.00
1978	326,753.00	65.00	5,026.96	33.34	167,610.21
1979	1,005,714.00	65.00	15,472.50	34.10	527,661.03
1980	431,153.00	65.00	6,633.11	34.87	231,326.01
1981	522,093.00	65.00	8,032.19	35.65	286,346.22
1982	3,558,950.00	65.00	54,753.00	36.44	1,994,959.61
1983	470,825.00	65.00	7,243.45	37.23	269,654.76
1984	560,142.00	65.00	8,617.56	38.02	327,680.89
1985	6,341,850.00	65.00	97,566.79	38.83	3,788,552.72
1986	2,660,635.00	65.00	40,932.79	39.64	1,622,618.82
1987	4,506,451.00	65.00	69,329.92	40.46	2,805,081.65
1988	1,624,133.00	65.00	24,986.63	41.28	1,031,533.44
1989	1,637,637.00	65.00	25,194.38	42.12	1,061,063.04
1990	1,498,239.00	65.00	23,049.80	42.95	990,010.27
1991	1,646,172.00	65.00	25,325.69	43.79	1,109,134.76
1992	2,157,625.00	65.00	33,194.19	44.64	1,481,872.81
1993	1,703,070.00	65.00	26,201.04	45.50	1,192,100.55
1994	3,161,262.00	65.00	48,634.74	46.36	2,254,572.07

OGE
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1995	3,402,335.00	65.00	52,343.55	47.22	2,471,875.99
1996	3,828,035.00	65.00	58,892.77	48.10	2,832,479.48
1997	2,037,889.00	65.00	31,352.10	48.97	1,535,353.88
1998	2,547,059.00	65.00	39,185.47	49.85	1,953,519.34
1999	708,226.00	65.00	10,895.77	50.74	552,838.95
2000	3,303,432.00	65.00	50,821.96	51.63	2,623,961.19
2001	4,233,150.00	65.00	65,125.30	52.53	3,420,739.23
2002	4,223,310.00	65.00	64,973.91	53.43	3,471,315.50
2003	4,415,567.00	65.00	67,931.71	54.33	3,690,739.93
2004	6,424,591.00	65.00	98,839.73	55.24	5,459,860.30
2005	8,503,362.00	65.00	130,820.78	56.15	7,345,796.04
2006	9,668,893.00	65.00	148,752.00	57.07	8,489,127.69
2007	8,959,722.00	65.00	137,841.69	57.99	7,993,266.58
2008	12,269,551.00	65.00	188,762.07	58.91	11,120,650.71
2009	11,163,449.00	65.00	171,745.14	59.84	10,277,480.09
2010	7,232,387.00	65.00	111,267.34	60.77	6,761,958.51
2011	12,635,822.00	65.00	194,397.00	61.71	11,995,598.99
2012	16,579,996.00	65.00	255,076.52	62.64	15,978,943.29
2013	9,727,401.00	65.00	149,652.12	63.58	9,515,539.47
2014	11,790,224.00	65.00	181,387.82	64.53	11,704,454.15
Total	190,859,209.00	65.00	2,936,291.63	53.18	156,165,502.32

Composite Average Remaining Life ... 53.1 Years

OGE
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **64** ***Survivor Curve:*** **R2.5**

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	2,119,358.00	64.00	33,114.92	19.11	632,980.08
1959	27,001.00	64.00	421.89	19.68	8,301.66
1960	30,520.00	64.00	476.87	20.26	9,659.31
1961	31,292.00	64.00	488.94	20.84	10,190.33
1962	35,068.00	64.00	547.94	21.44	11,749.92
1963	35,955.00	64.00	561.80	22.06	12,391.03
1964	36,414.00	64.00	568.97	22.68	12,902.80
1965	28,985.00	64.00	452.89	23.31	10,557.70
1966	42,941.00	64.00	670.95	23.95	16,072.06
1967	45,422.00	64.00	709.72	24.61	17,465.68
1968	41,696.00	64.00	651.50	25.27	16,464.23
1969	35,638.00	64.00	556.84	25.95	14,448.06
1970	43,862.00	64.00	685.34	26.63	18,248.67
1971	10,626,292.00	64.00	166,035.56	27.32	4,536,247.97
1972	16,896,993.00	64.00	264,015.12	28.02	7,398,386.52
1973	1,114,666.00	64.00	17,416.63	28.73	500,398.97
1974	1,601,013.00	64.00	25,015.79	29.45	736,721.60
1975	225,160.00	64.00	3,518.12	30.18	106,160.45
1976	45,511.00	64.00	711.11	30.91	21,981.26
1977	337,656.00	64.00	5,275.87	31.65	166,993.03
1978	592,985.00	64.00	9,265.38	32.40	300,237.79
1979	2,168,971.00	64.00	33,890.12	33.16	1,123,898.62
1980	854,529.00	64.00	13,352.00	33.93	453,006.67
1981	1,030,347.00	64.00	16,099.15	34.70	558,672.61
1982	6,078,942.00	64.00	94,983.32	35.48	3,370,148.77
1983	1,357,136.00	64.00	21,205.22	36.27	769,117.08
1984	2,031,094.00	64.00	31,735.80	37.06	1,176,244.33

OGE
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **64** ***Survivor Curve:*** **R2.5**

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1985	19,987,662.00	64.00	312,306.75	37.87	11,825,977.79
1986	10,014,476.00	64.00	156,475.95	38.67	6,051,479.84
1987	15,444,922.00	64.00	241,326.54	39.49	9,530,015.76
1988	7,150,766.00	64.00	111,730.55	40.31	4,504,130.11
1989	9,523,314.00	64.00	148,801.56	41.14	6,121,676.45
1990	9,446,750.00	64.00	147,605.24	41.98	6,195,744.68
1991	9,825,681.00	64.00	153,526.03	42.81	6,573,186.30
1992	9,893,422.00	64.00	154,584.48	43.66	6,749,531.10
1993	10,356,977.00	64.00	161,827.52	44.51	7,203,570.53
1994	18,560,451.00	64.00	290,006.61	45.37	13,158,559.35
1995	16,928,771.00	64.00	264,511.65	46.24	12,230,401.14
1996	19,508,133.00	64.00	304,814.12	47.11	14,358,764.66
1997	8,260,986.00	64.00	129,077.71	47.98	6,193,400.87
1998	6,894,941.00	64.00	107,733.29	48.86	5,263,986.04
1999	11,440,248.00	64.00	178,753.60	49.75	8,892,449.20
2000	15,691,847.00	64.00	245,184.74	50.64	12,415,191.68
2001	18,916,496.00	64.00	295,569.80	51.53	15,231,157.36
2002	18,005,099.00	64.00	281,329.25	52.43	14,750,048.53
2003	18,878,366.00	64.00	294,974.02	53.33	15,732,268.83
2004	29,895,687.00	64.00	467,119.40	54.24	25,337,847.32
2005	29,985,245.00	64.00	468,518.74	55.15	25,840,905.39
2006	35,599,612.00	64.00	556,243.09	56.07	31,189,143.49
2007	34,961,558.00	64.00	546,273.52	56.99	31,132,419.98
2008	44,880,918.00	64.00	701,263.28	57.91	40,613,509.89
2009	37,898,440.00	64.00	592,162.23	58.84	34,843,677.22
2010	26,992,116.00	64.00	421,751.17	59.77	25,209,237.07
2011	32,902,233.00	64.00	514,096.61	60.71	31,209,268.89

OGE
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *64* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	47,726,559.00	64.00	745,726.35	61.64	45,969,510.55
2013	29,907,591.00	64.00	467,305.40	62.58	29,246,056.30
2014	36,749,951.00	64.00	574,217.11	63.53	36,478,442.80
Total	689,744,665.00	64.00	10,777,244.04	52.15	562,061,206.32

Composite Average Remaining Life ... 52.1 Years

OGE
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *O2*

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	14,809,075.00	43.85	337,685.88	26.09	8,810,706.35
1959	58,715.00	43.85	1,338.86	26.17	35,043.84
1960	191,250.00	43.85	4,361.00	26.26	114,538.61
1961	108,997.00	43.85	2,485.42	26.36	65,520.63
1962	511,659.00	43.85	11,667.17	26.47	308,789.03
1963	167,273.00	43.85	3,814.26	26.58	101,392.46
1964	391,603.00	43.85	8,929.58	26.71	238,500.88
1965	1,390,738.00	43.85	31,712.49	26.85	851,385.52
1966	473,884.00	43.85	10,805.80	27.00	291,704.88
1967	208,595.00	43.85	4,756.51	27.16	129,171.13
1968	3,617,364.00	43.85	82,485.42	27.33	2,254,364.83
1969	835,347.00	43.85	19,048.11	27.52	524,126.63
1970	185,483.00	43.85	4,229.50	27.71	117,217.44
1971	2,575,548.00	43.85	58,729.27	27.92	1,640,002.29
1972	5,247,998.00	43.85	119,668.16	28.15	3,368,334.13
1973	3,121,206.00	43.85	71,171.71	28.38	2,019,932.13
1974	12,379,813.00	43.85	282,292.31	28.63	8,081,058.18
1975	400,539.00	43.85	9,133.34	28.88	263,798.11
1976	7,411,765.00	43.85	169,007.75	29.15	4,926,539.00
1977	13,686,073.00	43.85	312,078.48	29.43	9,183,467.29
1978	6,465,500.00	43.85	147,430.41	29.71	4,380,664.83
1979	392,748.00	43.85	8,955.69	30.01	268,753.80
1980	23,690,321.00	43.85	540,201.66	30.31	16,375,570.05
1981	8,356,433.00	43.85	190,548.66	30.63	5,835,871.19
1982	225,961.00	43.85	5,152.51	30.95	159,456.59
1983	15,728,701.00	43.85	358,655.77	31.28	11,217,159.79
1984	12,250,553.00	43.85	279,344.84	31.61	8,830,294.19

OGE
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** O2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1985	91,204.00	43.85	2,079.69	31.95	66,451.48
1986	112,645.00	43.85	2,568.60	32.30	82,967.66
1987	150,855.00	43.85	3,439.89	32.65	112,328.82
1988	128,096.00	43.85	2,920.93	33.01	96,432.70
1989	84,203.00	43.85	1,920.05	33.38	64,090.12
1990	96,039.00	43.85	2,189.94	33.75	73,909.22
1991	132,565.00	43.85	3,022.83	34.12	103,151.43
1992	139,190.00	43.85	3,173.90	34.50	109,510.09
1993	89,720.00	43.85	2,045.85	34.89	71,373.24
1994	135,337.00	43.85	3,086.04	35.27	108,857.94
1995	103,862.00	43.85	2,368.33	35.67	84,467.91
1996	187,586.00	43.85	4,277.45	36.06	154,247.64
1997	6,094,458.00	43.85	138,969.68	36.46	5,066,701.32
1998	6,332,276.00	43.85	144,392.56	36.86	5,322,419.21
1999	8,058,048.00	43.85	183,744.70	37.27	6,847,357.27
2000	5,641,597.00	43.85	128,643.26	37.67	4,846,433.80
2001	8,583,963.00	43.85	195,736.94	38.08	7,454,467.71
2002	7,923,592.00	43.85	180,678.75	38.50	6,955,680.08
2003	5,858,854.00	43.85	133,597.29	38.91	5,198,736.95
2004	10,464,112.00	43.85	238,609.29	39.33	9,384,970.31
2005	12,068,406.00	43.85	275,191.41	39.75	10,939,630.91
2006	15,111,544.00	43.85	344,582.97	40.18	13,843,939.15
2007	18,535,450.00	43.85	422,657.03	40.60	17,160,397.93
2008	17,184,623.00	43.85	391,854.62	41.03	16,077,269.32
2009	20,719,780.00	43.85	472,465.51	41.46	19,587,524.62
2010	17,256,897.00	43.85	393,502.66	41.89	16,483,649.82
2011	32,731,461.00	43.85	746,363.44	42.32	31,588,275.88

OGE
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *O2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	28,994,988.00	43.85	661,162.02	42.76	28,270,080.18
2013	26,623,089.00	43.85	607,076.49	43.20	26,222,872.74
2014	28,539,242.00	43.85	650,769.82	43.63	28,395,928.08
Total	413,056,824.00	43.85	9,418,782.52	37.28	351,167,487.34

Composite Average Remaining Life ... 37.2 Years

OGE
Electric Division
369.00 Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *53* ***Survivor Curve:*** *R5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1962	115.00	53.00	2.17	5.50	11.93
1963	682.00	53.00	12.87	5.98	76.93
1964	72,507.00	53.00	1,368.05	6.49	8,883.43
1965	139,003.00	53.00	2,622.68	7.04	18,470.52
1966	266,841.00	53.00	5,034.70	7.62	38,366.33
1967	373,012.00	53.00	7,037.92	8.24	57,993.52
1968	469,403.00	53.00	8,856.60	8.89	78,767.28
1969	644,307.00	53.00	12,156.66	9.58	116,457.33
1970	815,729.00	53.00	15,391.01	10.30	158,481.59
1971	1,031,962.00	53.00	19,470.86	11.04	215,032.21
1972	1,493,764.00	53.00	28,184.04	11.82	333,081.04
1973	1,502,729.00	53.00	28,353.19	12.62	357,752.69
1974	944,020.00	53.00	17,811.58	13.44	239,398.20
1975	1,662,979.00	53.00	31,376.76	14.28	448,094.15
1976	2,320,544.00	53.00	43,783.57	15.15	663,133.16
1977	2,739,593.00	53.00	51,690.10	16.03	828,466.41
1978	3,232,280.00	53.00	60,986.02	16.93	1,032,202.66
1979	3,555,434.00	53.00	67,083.23	17.84	1,196,595.65
1980	3,672,140.00	53.00	69,285.21	18.76	1,300,010.94
1981	4,665,120.00	53.00	88,020.56	19.70	1,734,114.96
1982	4,777,178.00	53.00	90,134.85	20.65	1,861,335.52
1983	5,735,425.00	53.00	108,214.87	21.61	2,338,516.27
1984	6,350,652.00	53.00	119,822.85	22.58	2,705,236.82
1985	5,534,312.00	53.00	104,420.31	23.55	2,459,430.60
1986	4,492,924.00	53.00	84,771.60	24.54	2,079,917.18
1987	3,970,045.00	53.00	74,906.03	25.52	1,911,817.38
1988	3,132,729.00	53.00	59,107.71	26.51	1,567,188.97

OGE
Electric Division
369.00 Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *53* ***Survivor Curve:*** *R5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1989	2,892,838.00	53.00	54,581.50	27.51	1,501,445.13
1990	3,385,974.00	53.00	63,885.89	28.50	1,821,045.89
1991	3,325,248.00	53.00	62,740.12	29.50	1,850,990.82
1992	3,805,335.00	53.00	71,798.31	30.50	2,189,943.49
1993	3,972,095.00	53.00	74,944.70	31.50	2,360,809.40
1994	6,715,346.00	53.00	126,703.82	32.50	4,117,931.60
1995	6,137,088.00	53.00	115,793.37	33.50	3,879,121.11
1996	6,188,836.00	53.00	116,769.74	34.50	4,028,596.45
1997	6,885,276.00	53.00	129,910.03	35.50	4,611,851.04
1998	4,976,771.00	53.00	93,900.73	36.50	3,427,408.90
1999	1,482,117.00	53.00	27,964.29	37.50	1,048,670.49
2000	7,331,631.00	53.00	138,331.77	38.50	5,325,820.37
2001	7,708,400.00	53.00	145,440.57	39.50	5,744,952.29
2002	7,632,274.00	53.00	144,004.24	40.50	5,832,220.99
2003	6,782,860.00	53.00	127,977.66	41.50	5,311,116.86
2004	6,939,614.00	53.00	130,935.27	42.50	5,564,793.68
2005	9,885,320.00	53.00	186,514.27	43.50	8,113,434.45
2006	10,334,379.00	53.00	194,987.02	44.50	8,676,989.29
2007	11,998,173.00	53.00	226,379.16	45.50	10,300,329.29
2008	15,290,426.00	53.00	288,496.74	46.50	13,415,197.18
2009	12,709,127.00	53.00	239,793.30	47.50	11,390,263.84
2010	3,887,129.00	53.00	73,341.58	48.50	3,557,091.88
2011	7,232,147.00	53.00	136,454.72	49.50	6,754,555.47
2012	17,270,654.00	53.00	325,859.29	50.50	16,456,005.77
2013	32,470.00	53.00	612.64	51.50	31,551.04
2014	25,898.00	53.00	488.64	52.50	25,653.68

OGE
Electric Division
369.00 Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *53* ***Survivor Curve:*** *R5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	238,422,855.00	53.00	4,498,515.40	35.81	161,086,624.11

Composite Average Remaining Life ... 35.8 Years

OGE
Electric Division
371.00 Installations on Customer Premises

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *L3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	152,853.00	15.00	10,190.36	10.56	107,638.79
2011	756,920.00	15.00	50,462.13	11.52	581,380.83
2012	14,116,595.00	15.00	941,121.11	12.50	11,767,128.22
2013	24,186,996.00	15.00	1,612,491.72	13.50	21,768,331.08
Total	39,213,364.00	15.00	2,614,265.32	13.09	34,224,478.91

Composite Average Remaining Life ... 13.0 Years

OGE
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *31* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	14,923,737.00	31.00	481,410.77	5.95	2,865,059.23
1959	41,613.00	31.00	1,342.35	6.17	8,278.50
1960	32,828.00	31.00	1,058.97	6.39	6,762.58
1961	57,152.00	31.00	1,843.61	6.61	12,182.57
1962	29,365.00	31.00	947.26	6.83	6,469.53
1963	57,628.00	31.00	1,858.97	7.06	13,119.88
1964	37,605.00	31.00	1,213.06	7.29	8,841.87
1965	24,539.00	31.00	791.58	7.52	5,955.42
1966	32,682.00	31.00	1,054.26	7.76	8,179.89
1967	26,180.00	31.00	844.52	8.00	6,755.55
1968	21,072.00	31.00	679.74	8.24	5,602.93
1969	23,535.00	31.00	759.19	8.49	6,444.71
1970	96,981.00	31.00	3,128.42	8.74	27,334.28
1971	692,975.00	31.00	22,354.03	8.99	200,859.50
1972	1,224,928.00	31.00	39,513.80	9.24	364,979.60
1973	426,169.00	31.00	13,747.38	9.49	130,450.07
1974	347,390.00	31.00	11,206.13	9.74	109,167.12
1975	495,113.00	31.00	15,971.38	9.99	159,587.86
1976	180,635.00	31.00	5,826.93	10.24	59,685.73
1977	452,007.00	31.00	14,580.87	10.49	152,993.09
1978	526,836.00	31.00	16,994.71	10.74	182,534.18
1979	956,216.00	31.00	30,845.67	10.99	338,888.50
1980	595,361.00	31.00	19,205.19	11.23	215,637.31
1981	734,370.00	31.00	23,689.35	11.47	271,707.42
1982	1,721,648.00	31.00	55,537.02	11.71	650,328.71
1983	1,628,223.00	31.00	52,523.31	11.95	627,629.51
1984	1,325,089.00	31.00	42,744.80	12.19	520,980.77

OGE
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *31* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	3,894,200.00	31.00	125,619.33	12.43	1,561,491.05
1986	2,020,450.00	31.00	65,175.79	12.68	826,211.68
1987	1,505,241.00	31.00	48,556.15	12.93	627,799.52
1988	595,582.00	31.00	19,212.32	13.19	253,415.38
1989	1,754,036.00	31.00	56,581.79	13.46	761,802.82
1990	2,030,138.00	31.00	65,488.31	13.75	900,623.14
1991	2,118,122.00	31.00	68,326.50	14.06	960,651.40
1992	2,351,549.00	31.00	75,856.40	14.39	1,091,517.18
1993	2,480,779.00	31.00	80,025.11	14.75	1,180,042.64
1994	3,445,636.00	31.00	111,149.53	15.13	1,681,947.73
1995	3,159,164.00	31.00	101,908.50	15.55	1,584,963.30
1996	5,014,303.00	31.00	161,751.68	16.01	2,589,846.13
1997	6,597,296.00	31.00	212,815.96	16.51	3,514,336.43
1998	5,178,881.00	31.00	167,060.64	17.06	2,849,912.47
1999	7,704,742.00	31.00	248,540.01	17.65	4,387,149.55
2000	6,083,061.00	31.00	196,227.73	18.29	3,589,424.74
2001	6,944,852.00	31.00	224,027.44	18.98	4,252,026.48
2002	7,249,088.00	31.00	233,841.50	19.72	4,610,292.68
2003	7,620,901.00	31.00	245,835.47	20.49	5,036,676.69
2004	8,010,812.00	31.00	258,413.24	21.29	5,502,325.87
2005	10,275,441.00	31.00	331,465.77	22.12	7,332,707.75
2006	12,132,883.00	31.00	391,383.24	22.97	8,991,438.36
2007	13,634,612.00	31.00	439,826.10	23.85	10,487,703.64
2008	12,932,149.00	31.00	417,166.01	24.74	10,319,955.67
2009	10,871,010.00	31.00	350,677.67	25.65	8,995,880.08
2010	9,278,924.00	31.00	299,320.07	26.59	7,958,415.27
2011	7,847,398.00	31.00	253,141.82	27.54	6,972,707.48

OGE
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *31* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	9,800,772.00	31.00	316,153.87	28.52	9,015,836.61
2013	10,210,333.00	31.00	329,365.51	29.50	9,717,549.04
2014	10,083,510.00	31.00	325,274.45	30.50	9,920,881.03
Total	219,537,742.00	31.00	7,081,861.19	20.40	144,441,948.10

Composite Average Remaining Life ... 20.4 Years

OGE
Electric Division
389.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *45* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1984	147,723.00	45.00	3,282.72	16.18	53,112.00
1987	103.00	45.00	2.29	18.64	42.67
1988	19.00	45.00	0.42	19.49	8.23
Total	147,845.00	45.00	3,285.43	16.18	53,162.90

Composite Average Remaining Life ... 16.1 Years

OGE
Electric Division
390.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** L2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1959	5,082,685.00	44.00	115,515.54	14.32	1,654,194.84
1960	37,983.00	44.00	863.25	14.57	12,578.70
1961	506,463.00	44.00	11,510.52	14.82	170,606.56
1962	95,028.00	44.00	2,159.73	15.07	32,542.55
1963	22,871.00	44.00	519.80	15.32	7,960.73
1964	45,645.00	44.00	1,037.39	15.56	16,142.92
1965	44,127.00	44.00	1,002.89	15.81	15,851.56
1966	384,064.00	44.00	8,728.72	16.05	140,059.72
1967	67,592.00	44.00	1,536.18	16.29	25,020.37
1968	33,828.00	44.00	768.82	16.53	12,707.18
1969	138,286.00	44.00	3,142.86	16.77	52,693.32
1970	95,007.00	44.00	2,159.25	17.01	36,719.42
1971	193,471.00	44.00	4,397.07	17.25	75,832.18
1972	364,572.00	44.00	8,285.73	17.49	144,901.03
1973	398,503.00	44.00	9,056.88	17.73	160,577.73
1974	712,954.00	44.00	16,203.50	17.98	291,289.05
1975	720,173.00	44.00	16,367.56	18.23	298,355.97
1976	49,303.00	44.00	1,120.52	18.48	20,712.41
1977	236,141.00	44.00	5,366.84	18.75	100,620.92
1978	301,927.00	44.00	6,861.98	19.02	130,523.92
1979	265,971.00	44.00	6,044.79	19.30	116,689.76
1980	1,042,334.00	44.00	23,689.40	19.60	464,278.79
1981	129,019.00	44.00	2,932.25	19.91	58,372.07
1982	216,696.00	44.00	4,924.91	20.23	99,634.14
1983	814,705.00	44.00	18,516.02	20.57	380,903.52
1984	742,515.00	44.00	16,875.34	20.93	353,252.98
1985	674,663.00	44.00	15,333.25	21.32	326,828.51

OGE
Electric Division
390.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1986	15,844,597.00	44.00	360,104.38	21.72	7,821,458.62
1987	6,387,170.00	44.00	145,162.92	22.15	3,215,329.63
1988	5,979,184.00	44.00	135,890.51	22.61	3,072,512.71
1989	20,882.00	44.00	474.59	23.10	10,961.57
1990	7,818,557.00	44.00	177,694.43	23.61	4,196,027.27
1991	2,383,117.00	44.00	54,161.74	24.17	1,308,873.65
1992	951,603.00	44.00	21,627.34	24.75	535,252.73
1993	8,262,742.00	44.00	187,789.54	25.37	4,763,297.45
1994	1,562,099.00	44.00	35,502.24	26.01	923,581.11
1995	2,080,603.00	44.00	47,286.42	26.70	1,262,654.28
1996	2,286,551.00	44.00	51,967.05	27.42	1,424,853.65
1997	14,002,359.00	44.00	318,235.35	28.16	8,962,855.36
1998	1,716,568.00	44.00	39,012.90	28.94	1,129,022.85
1999	500,232.00	44.00	11,368.91	29.74	338,075.08
2000	655,655.00	44.00	14,901.25	30.55	455,279.28
2001	832,913.00	44.00	18,929.84	31.39	594,116.44
2002	40,335.00	44.00	916.70	32.23	29,548.67
2003	2,069,842.00	44.00	47,041.85	33.10	1,556,870.02
2004	308,653.00	44.00	7,014.84	33.97	238,308.94
2005	2,099,095.00	44.00	47,706.69	34.86	1,663,238.63
2006	4,486,371.00	44.00	101,962.95	35.77	3,647,506.75
2007	4,640,775.00	44.00	105,472.13	36.70	3,870,327.96
2008	1,506,439.00	44.00	34,237.24	37.63	1,288,418.06
2009	4,408,523.00	44.00	100,193.68	38.58	3,865,737.46
2010	2,558,772.00	44.00	58,153.89	39.55	2,299,870.64
2011	25,845,931.00	44.00	587,407.36	40.52	23,803,738.45
2012	20,674,441.00	44.00	469,873.53	41.51	19,503,771.51

OGE
Electric Division
390.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	5,748,374.00	44.00	130,644.83	42.50	5,552,684.29
2014	5,028,222.00	44.00	114,277.74	43.50	4,971,094.74
Total	164,117,131.00	44.00	3,729,933.78	31.50	117,505,118.64

Composite Average Remaining Life ... 31.5 Years

OGE
Electric Division
391.00 Office Furniture and Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2000	353,516.00	15.00	23,567.73	0.50	11,783.87
2001	8,619.00	15.00	574.60	1.50	861.90
2002	4,370.00	15.00	291.33	2.50	728.33
2003	461,956.00	15.00	30,797.07	3.50	107,789.73
2004	14,011.00	15.00	934.07	4.50	4,203.30
2005	154,627.00	15.00	10,308.47	5.50	56,696.57
2006	1,621.00	15.00	108.07	6.50	702.43
2007	182,196.00	15.00	12,146.40	7.50	91,098.00
2008	414,452.00	15.00	27,630.13	8.50	234,856.13
2009	1,748,696.00	15.00	116,579.73	9.50	1,107,507.47
2010	803,069.00	15.00	53,537.93	10.50	562,148.30
2011	4,034,328.00	15.00	268,955.20	11.50	3,092,984.80
2012	3,066,509.00	15.00	204,433.93	12.50	2,555,424.17
2013	753,924.00	15.00	50,261.60	13.50	678,531.60
2014	771,276.00	15.00	51,418.40	14.50	745,566.80
Total	12,773,170.00	15.00	851,544.67	10.86	9,250,883.40

Composite Average Remaining Life ... 10.8 Years

OGE
Electric Division
391.10 Office Furniture and Equipment - Computers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *5* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	65,820.00	5.00	13,164.00	0.50	6,582.00
2011	330,393.00	5.00	66,078.60	1.50	99,117.90
2012	205,673.00	5.00	41,134.60	2.50	102,836.50
2013	42,789.00	5.00	8,557.80	3.50	29,952.30
2014	82,125.00	5.00	16,425.00	4.50	73,912.50
Total	726,800.00	5.00	145,360.00	2.15	312,401.20

Composite Average Remaining Life ... 2.15 Years

OGE
Electric Division
393.00 Stores Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1991	43,492.00	25.00	1,739.68	1.50	2,609.52
1992	1,614.00	25.00	64.56	2.50	161.40
1993	27,135.00	25.00	1,085.40	3.50	3,798.90
1994	26,468.00	25.00	1,058.72	4.50	4,764.24
1995	210,006.00	25.00	8,400.24	5.50	46,201.32
1996	5,935.00	25.00	237.40	6.50	1,543.10
1998	47.00	25.00	1.88	8.50	15.98
1999	11,496.00	25.00	459.84	9.50	4,368.48
2005	77,916.00	25.00	3,116.64	15.50	48,307.92
2006	63,818.00	25.00	2,552.72	16.50	42,119.88
2007	248,123.00	25.00	9,924.92	17.50	173,686.10
2011	24,466.00	25.00	978.64	21.50	21,040.76
Total	740,516.00	25.00	29,620.64	11.77	348,617.60

Composite Average Remaining Life ... 11.7 Years

OGE
Electric Division
394.00 Tools, Shop and Garage Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1990	190,358.00	25.00	7,614.32	0.50	3,807.16
1991	468,840.00	25.00	18,753.60	1.50	28,130.40
1992	547,031.00	25.00	21,881.24	2.50	54,703.10
1993	323,404.00	25.00	12,936.16	3.50	45,276.56
1994	290,005.00	25.00	11,600.20	4.50	52,200.90
1995	160,367.00	25.00	6,414.68	5.50	35,280.74
1996	124,549.00	25.00	4,981.96	6.50	32,382.74
1997	341,733.00	25.00	13,669.32	7.50	102,519.90
1998	219,932.00	25.00	8,797.28	8.50	74,776.88
1999	288,138.00	25.00	11,525.52	9.50	109,492.44
2000	255,210.00	25.00	10,208.40	10.50	107,188.20
2001	479,011.00	25.00	19,160.44	11.50	220,345.06
2002	88,243.00	25.00	3,529.72	12.50	44,121.50
2003	144,000.00	25.00	5,760.00	13.50	77,760.00
2004	447,682.00	25.00	17,907.28	14.50	259,655.56
2005	334,151.00	25.00	13,366.04	15.50	207,173.62
2006	509,493.00	25.00	20,379.72	16.50	336,265.38
2007	749,809.00	25.00	29,992.36	17.50	524,866.30
2008	717,688.00	25.00	28,707.52	18.50	531,089.12
2009	696,716.00	25.00	27,868.64	19.50	543,438.48
2010	694,086.00	25.00	27,763.44	20.50	569,150.52
2011	594,595.00	25.00	23,783.80	21.50	511,351.70
2012	220,036.00	25.00	8,801.44	22.50	198,032.40
2013	390,146.00	25.00	15,605.84	23.50	366,737.24
2014	586,493.00	25.00	23,459.72	24.50	574,763.14

OGE
Electric Division
394.00 Tools, Shop and Garage Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	9,861,716.00	25.00	394,468.64	14.22	5,610,509.04

Composite Average Remaining Life ... 14.2 Years

OGE
Electric Division
395.00 Laboratory Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1995	322,473.00	20.00	16,123.65	0.50	8,061.83
1996	323,657.00	20.00	16,182.85	1.50	24,274.28
1997	168,837.00	20.00	8,441.85	2.50	21,104.63
1998	531,471.00	20.00	26,573.55	3.50	93,007.43
1999	1,428,339.00	20.00	71,416.95	4.50	321,376.28
2000	343,266.00	20.00	17,163.30	5.50	94,398.15
2001	781,166.00	20.00	39,058.30	6.50	253,878.95
2002	455,475.00	20.00	22,773.75	7.50	170,803.13
2003	157,000.00	20.00	7,850.00	8.50	66,725.00
2004	658,871.00	20.00	32,943.55	9.50	312,963.73
2005	113,367.00	20.00	5,668.35	10.50	59,517.68
2006	182,576.00	20.00	9,128.80	11.50	104,981.20
2007	490,874.00	20.00	24,543.70	12.50	306,796.25
2008	222,121.00	20.00	11,106.05	13.50	149,931.68
2009	233,166.00	20.00	11,658.30	14.50	169,045.35
2010	246,682.00	20.00	12,334.10	15.50	191,178.55
2011	3,830,101.00	20.00	191,505.05	16.50	3,159,833.33
2012	349,124.00	20.00	17,456.20	17.50	305,483.50
2013	209,185.00	20.00	10,459.25	18.50	193,496.13
2014	570,257.00	20.00	28,512.85	19.50	556,000.58
Total	11,618,008.00	20.00	580,900.40	11.30	6,562,857.60

Composite Average Remaining Life ... 11.3 Years

OGE
Electric Division
396.00 Power Operated Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *18* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	2.00	0.00	0.00	0.00	0.00
1959	46,898.00	0.00	0.00	0.00	0.00
1960	2,711.00	0.00	0.00	0.00	0.00
1961	2,905.00	0.00	0.00	0.00	0.00
1962	1,953.00	0.00	0.00	0.00	0.00
1963	2,855.00	0.00	0.00	0.00	0.00
1964	364.00	0.00	0.00	0.00	0.00
1965	5,560.00	18.00	308.89	0.50	154.44
1966	452.00	18.00	25.11	0.64	16.17
1968	23,321.00	18.00	1,295.61	0.93	1,209.62
1971	4,278.00	18.00	237.67	1.43	339.86
1972	42,745.00	18.00	2,374.72	1.60	3,798.79
1973	70,756.00	18.00	3,930.89	1.78	6,995.33
1974	16,933.00	18.00	940.72	1.96	1,840.66
1975	12,802.00	18.00	711.22	2.14	1,522.01
1976	26,447.00	18.00	1,469.28	2.33	3,421.66
1977	1,786.00	18.00	99.22	2.52	249.91
1978	6,968.00	18.00	387.11	2.71	1,050.89
1979	1,275.00	18.00	70.83	2.91	206.27
1980	19,478.00	18.00	1,082.11	3.12	3,371.97
1981	7,821.00	18.00	434.50	3.32	1,443.38
1982	33,247.00	18.00	1,847.06	3.54	6,529.69
1983	25,578.00	18.00	1,421.00	3.75	5,329.85
1984	59,517.00	18.00	3,306.50	3.97	13,135.92
1985	20,860.00	18.00	1,158.89	4.20	4,868.78
1987	119,405.00	18.00	6,633.62	4.67	31,004.27
1988	32,637.00	18.00	1,813.17	4.92	8,915.50

OGE
Electric Division
396.00 Power Operated Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *18* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1989	14,888.00	18.00	827.11	5.17	4,272.55
1990	66,341.00	18.00	3,685.61	5.42	19,959.68
1991	286,168.00	18.00	15,898.24	5.67	90,111.35
1992	48,708.00	18.00	2,706.00	5.92	16,015.07
1993	312,347.00	18.00	17,352.63	6.17	107,012.55
1994	190,598.00	18.00	10,588.79	6.41	67,903.62
1995	4,793.00	18.00	266.28	6.65	1,771.90
1997	51,902.00	18.00	2,883.45	7.13	20,569.19
1998	302,799.00	18.00	16,822.18	7.38	124,124.19
1999	4,678.00	18.00	259.89	7.63	1,984.06
2000	346,756.00	18.00	19,264.24	7.91	152,380.45
2001	115,233.00	18.00	6,401.84	8.21	52,590.16
2002	2,000.00	18.00	111.11	8.56	951.14
2004	80,603.00	18.00	4,477.95	9.42	42,176.13
2005	41,063.00	18.00	2,281.28	9.95	22,706.00
2006	1,539,314.00	18.00	85,517.52	10.57	903,947.06
2007	1,354,157.00	18.00	75,231.01	11.27	847,673.47
2008	601,676.00	18.00	33,426.47	12.04	402,395.68
2009	925,187.00	18.00	51,399.32	12.86	660,953.20
2010	783,435.00	18.00	43,524.20	13.72	597,074.87
2011	663,853.00	18.00	36,880.75	14.61	538,974.53
2012	663,092.00	18.00	36,838.48	15.55	572,687.78
2013	166,741.00	18.00	9,263.40	16.51	152,948.92
2014	62,546.00	18.00	3,474.78	17.50	60,809.99

OGE
Electric Division
396.00 Power Operated Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *18* ***Survivor Curve:*** *L2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	9,218,432.00	15.53	508,930.65	10.92	5,557,398.48

Composite Average Remaining Life ... 10.9 Years

OGE
Electric Division
397.00 Communication Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *10* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	57,510.00	10.00	5,751.00	0.50	2,875.50
2007	174,398.00	10.00	17,439.80	2.50	43,599.50
2008	18,158.00	10.00	1,815.80	3.50	6,355.30
2009	24,247.00	10.00	2,424.70	4.50	10,911.15
2010	4,070,449.00	10.00	407,044.90	5.50	2,238,746.95
2011	2,904,618.00	10.00	290,461.80	6.50	1,888,001.70
2012	13,103,209.00	10.00	1,310,320.90	7.50	9,827,406.75
2013	1,657,068.00	10.00	165,706.80	8.50	1,408,507.80
2014	46,950.00	10.00	4,695.00	9.50	44,602.50
Total	22,056,607.00	10.00	2,205,660.70	7.01	15,471,007.15

Composite Average Remaining Life ... 7.01 Years

OGE
Electric Division
398.00 Miscellaneous Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2014
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1995	133,630.00	20.00	6,681.50	0.50	3,340.75
1996	91,505.00	20.00	4,575.25	1.50	6,862.88
1997	33,006.00	20.00	1,650.30	2.50	4,125.75
1998	298,038.00	20.00	14,901.90	3.50	52,156.65
1999	270,082.00	20.00	13,504.10	4.50	60,768.45
2000	50,025.00	20.00	2,501.25	5.50	13,756.88
2001	438,630.00	20.00	21,931.50	6.50	142,554.75
2002	43,554.00	20.00	2,177.70	7.50	16,332.75
2003	409,971.00	20.00	20,498.55	8.50	174,237.68
2004	363,603.00	20.00	18,180.15	9.50	172,711.43
2005	24,157.00	20.00	1,207.85	10.50	12,682.43
2006	21,630.00	20.00	1,081.50	11.50	12,437.25
2007	1,236,125.00	20.00	61,806.25	12.50	772,578.13
2008	41,027.00	20.00	2,051.35	13.50	27,693.23
2009	55,438.00	20.00	2,771.90	14.50	40,192.55
2010	176,192.00	20.00	8,809.60	15.50	136,548.80
2011	749,407.00	20.00	37,470.35	16.50	618,260.78
2012	818,929.00	20.00	40,946.45	17.50	716,562.88
2013	348,920.00	20.00	17,446.00	18.50	322,751.00
2014	229,323.00	20.00	11,466.15	19.50	223,589.93
Total	5,833,192.00	20.00	291,659.60	12.10	3,530,144.90

Composite Average Remaining Life ... 12.1 Years