STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY Annual formula rate update and revenue requirement reconciliation under Section 16-108.5 of the Public Utilities Act	Docket No. 20-0393

DIRECT TESTIMONY OF

DAVID J. GARRETT

ON BEHALF OF

THE OFFICE OF THE ILLINOIS ATTORNEY GENERAL

Exhibit AG 2.0

JUNE 30, 2020

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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. with a major in Finance, an M.B.A., and a Juris Doctor 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, where 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. In 2016, 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 with the Society of Depreciation Professionals. I am also a Certified Rate of Return Analyst with 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] Exhibit DJG-1.

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

A. I am testifying on behalf of the Office of the Illinois Attorney General ("AG") regarding the depreciation rates proposed by Commonwealth Edison Company ("ComEd" or the "Company"). My testimony addresses the depreciation study performed by Gannett Fleming Valuation and Rate Consultants, LLC ("Gannett Fleming").

II. EXECUTIVE SUMMARY

Q. Summarize the key points of your testimony.

A. In this case, ComEd is requesting a $25 million increase in its annual depreciation accrual based on plant balances at December 31, 2017.[2] This proposed increase is primarily driven by changes to ComEd's existing depreciation parameters – service life and net salvage. My review of the Company's depreciation study revealed that several of the assumptions and estimates made in the depreciation study results in unreasonably high depreciation rate proposals for several of the Company's accounts. As discussed in my testimony, the Company has the burden to make a convincing showing that its proposed depreciation rates are reasonable, and while some aspects of the depreciation study may be reasonable, the evidence presented in this testimony demonstrates that the Company has failed to meet its burden regarding several key issues. As a result, the Company's proposed depreciation rates should not be accepted as filed, as they would result in an unreasonably high depreciation expense charged to customers. My analysis of the depreciation study in this case consisted of employing a well-established depreciation system and using actuarial

[2] Response to DR IIEC 3.02 Attach. 1, pp. 4-5.

analysis to statistically analyze the Company's depreciable assets to develop reasonable depreciation rates. I applied my estimates of average service life and salvage to the Company's plant and reserve balances as of the study date, December 31, 2017. The table below compares the proposed depreciation accruals as of the study date.[3]

Figure 1:
Depreciation Accrual Comparison by Plant Function

Division / Function	Plant 12/31/2017	ComEd Proposal Rate	ComEd Proposal Accrual	AG Proposal Rate	AG Proposal Accrual	AG Adjustment Rate	AG Adjustment Adjustment
Intangible	$ 76,643,287	15.07%	$ 11,546,514	15.07%	$ 11,546,514	0.00%	$ -
Transmission	5,317,122,484	2.36%	125,312,676	2.07%	110,119,570	-0.29%	(15,193,106)
Distribution - HVD	2,965,683,563	2.45%	72,646,585	2.20%	65,382,390	-0.24%	(7,264,195)
Distribution	15,863,107,010	2.73%	432,775,824	2.65%	419,943,960	-0.08%	(12,831,864)
General	2,132,516,133	6.14%	131,014,045	5.02%	107,068,267	-1.12%	(23,945,778)
Total Plant Studied	$ 26,355,072,478	2.93%	$ 773,295,644	2.71%	$ 714,060,701	-0.22%	$ (59,234,943)

Applying reasonable and conservative adjustments to ComEd's proposed depreciation rates would result in an adjustment reducing the Company's proposed depreciation accrual by $59 million – applied to plant balances at December 31, 2017.[4]

Q. Summarize the primary factors driving your adjustment.

A. My overall adjustment to ComEd's proposed depreciation rates is driven by two key issues, as follows:

[3] *See also* Exhibit DJG-2.

[4] Note that the dollar figures presented in this table and throughout my testimony relate to plant balances as of December 31, 2017, which do not necessarily reflect the amount of depreciation expense that will be charged through rates. Presenting these dollar amounts provides a direct comparison to the depreciation accruals presented in the depreciation study as of December 31, 2017.

1. Several of the service lives proposed by the Company for its mass property accounts are too short given the Company's own historical data. Unreasonably short service life estimates result in unreasonably high depreciation rates. The Iowa curve analysis presented in my testimony will illustrate that ComEd's own historical data indicate the service life estimates for several of its mass property accounts should be longer.

2. Although ComEd's proposed net salvage rates for most of its accounts were reasonable, I propose an increase in the net salvage rate for Account 397 – Communication Equipment, which is based on the Company's historical net salvage data.

The table below summarizes the difference between ComEd's and the AG's proposed depreciation parameters proposed in this case.[5]

Figure 2:
Depreciation Accrual Comparison by Plant Function

		Current Parameters			ComEd Proposal			AG Proposal		
Account No.	Description	Net Salvage	Iowa Curve Type	AL	Net Salvage	Iowa Curve Type	AL	Net Salvage	Iowa Curve Type	AL
	Tranmission Plant									
352.00	STRUCTURES AND IMPROVEMENTS	-25%	R3	65	-35%	R2.5	65	-35%	R2	69
353.00	STATION EQUIPMENT	-20%	R2	53	-25%	S0.5	54	-25%	S0	62
356.00	OVERHEAD CONDUCTORS AND DEVICES	-40%	R2.5	65	-50%	R2.5	65	-50%	R2	71
358.00	UNDERGROUND CONDUCTORS AND DEVICES	-25%	R2.5	52	-30%	R2.5	55	-30%	R2	62
	Distribution Plant									
362.00	STATION EQUIPMENT	-30%	R1.5	54	-40%	R1.5	57	-40%	R1	65
362.02	STATION EQUIPMENT - HVD	-30%	R2	53	-35%	S0.5	54	-35%	R2	61
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	-35%	S0	30	-40%	S0	30	-40%	R0.5	37
368.00	LINE TRANSFORMERS	0%	SQ	35	-5%	SQ	35	-5%	SQ	43
	General Plant									
390.00	STRUCTURES AND IMPROVEMENTS	-15%	R1	50	-20%	R1	50	-20%	R0.5	58
397.00	COMMUNICATION EQUIPMENT	-5%	S2	18	-15%	S2	18	-10%	R2	25

Q. What is your recommendation in this case?

A. I recommend the Commission adopt the depreciation rates presented in Exhibit DJG-4.

[5] *See also* Exhibit DJG-3.

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."[6] 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.[7] 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.[8]

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.

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

[7] *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."

[8] *Id*. at 169.

Q. Should depreciation represent an allocated recovery of capital costs, 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.[9] 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.[10] The definition of "depreciation accounting" published by the American Institute of Certified Public Accountants ("AICPA") properly reflects the cost allocation concept:

> 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.[11]

Thus, the concept of depreciation as "the allocation of cost has proven to be the most useful and most widely used concept."[12]

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

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

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

[12] Wolf *supra* n. 9, at 73.

IV. ANALYTIC METHODS

Q. Discuss your approach to analyzing the Company's depreciable property in this case.

A. I obtained and reviewed all the data that was used to conduct the Company's depreciation study. The depreciation rates proposed in the depreciation study were developed based on depreciable property recorded as of December 31, 2017. I used the same plant and reserve balances to develop my proposed depreciation rates.

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.[13] In this case, I used the straight line method, the average life procedure, the remaining life technique, and the broad group model to analyze the Company's actuarial data. 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

[13] *See* Wolf *supra* n. 9, at 70, 140.

detailed discussion of depreciation system parameters, theories, and equations in Appendix A.

Q. Did you use the same depreciation system as the one used to conduct the depreciation study?

A. Yes. Thus, the difference between my depreciation rates and the rates proposed in the Company's depreciation study are due to differing opinions or interpretations of the data regarding service life and net salvage parameters.

V. SERVICE LIFE ANALYSIS

Q. 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 actuarial analysts study historical human mortality data to predict how long a group of people will live, depreciation analysts study historical plant data 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.[14] 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 OLT, however,

[14] 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).

must be fitted and smoothed with a complete curve in order to determine the ultimate average life of the group. 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.

I used the aged property data provided by the Company to create an 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 required. The Iowa curves are empirically derived curves based on 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

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

and the selected Iowa curve 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. However, while mathematical curve fitting is important, simply selecting the best mathematically fitted Iowa curve may not necessarily produce a reasonable result. For example, if there is insufficient historical data in a particular account and the OLT curve derived from that data is relatively short and flat, the mathematically "best" curve may be one with a very long average life. However, when there are sufficient data available, mathematical curve fitting can be used as part of an objective service life analysis.

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. In fact, "[p]oints 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."[16] In accordance with this standard, an analyst may

[16] Wolf *supra* n. 9, at 46.

decide to truncate the tail end of the OLT curve at a certain percent of initial exposures, such as one 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 for some accounts, if necessary. However, I should also note that for every account discussed below (i.e., the accounts to which I propose service life adjustments), the Iowa curves proposed by the Company fit the observed data so poorly that the Iowa curves I propose provide a better fit to the observed data for every account, no matter which portion of the OLT curve is analyzed (i.e., the full OLT curve or the top 99% based on exposures).

Q. Generally, describe the differences between the Company's service life proposals and your service life proposals.

A. For each of these accounts discussed below, the Company's proposed service life, as estimated through Iowa curves, is too short to accurately describe the mortality characteristics of the account in my opinion. For most of the accounts in which I propose a longer service life, such proposal is based on the objective approach of choosing an Iowa curve that provides a better mathematical and/or visual fit to the observed historical retirement pattern derived from the Company's plant data.

Q. Briefly describe the mathematical curve fitting process.

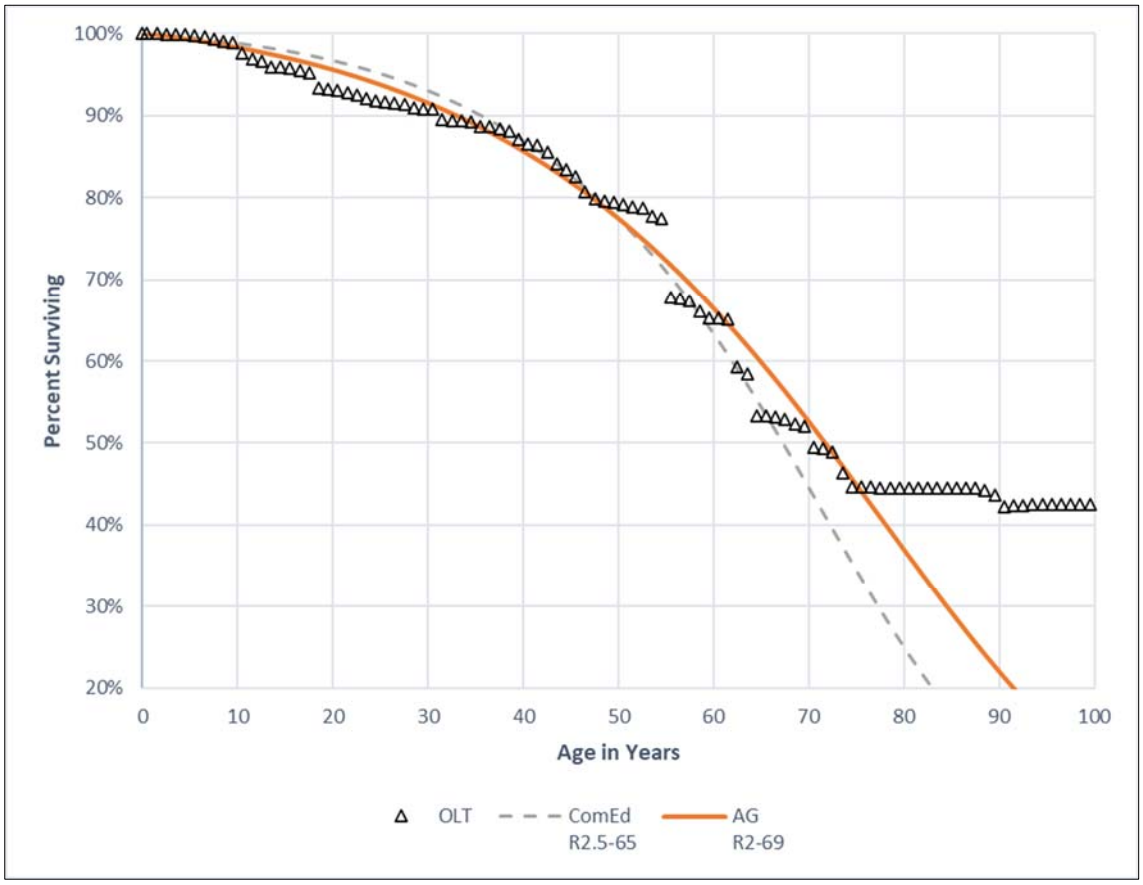
A. When conducting a mathematical curve-fitting analysis, it is important to consider the most mathematically relevant portions of the OLT curve. While visual curve fitting techniques help identify the most statistically relevant portions of the OLT curve for this account, mathematical curve fitting techniques can help us determine which of the two Iowa curves provides the better fit. Mathematical curve fitting essentially involves measuring the distance between the OLT curve and the selected Iowa curve. The best fitting 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.

A. Account 352 – Structures and Improvements

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

A. The OLT curve derived from the Company's data for this account is fairly well suited for conventional Iowa curve fitting techniques. That is, the OLT curve has adequate retirement history (i.e., it is long enough) and reflects a historical retirement pattern typically observed in utility property. For this account, ComEd selected the R2.5-65 Iowa curve, and I selected the R2-69 Iowa curve. Both of these curves are in the "R" family of curves, which means the greatest rate of retirement in these Iowa curves occurs after (or to the right of) the average life. The average lives of these curves are indicated by the numbers after the dashes (65 and 69 in this case). Both Iowa curves are displayed in the graph below along with the OLT curve.

Figure 3:
Account 352 – Structures and Improvements



As shown in the graph, both selected Iowa curves have similar shapes. In addition, both Iowa curves correctly ignore the tail end of the OLT curve (where it flattens out). This data is statistically insignificant when compared to the upper and middle portions of the OLT curve. Because it has a slightly flatter trajectory, the R2-69 curve I selected appears to result in a closer fit to the OLT curve. We can use mathematical curve fitting techniques to determine which of the two Iowa curves results in a closer fit to the OLT curve.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. For this account, the SSD or "distance" between the Company's curve and the OLT curve is 5.7345, and the SSD between the R2-69 curve and the OLT curve is only 4.0014.[17] Thus, the R2-69 curve is a better mathematical fit to the observed survivor curve, and thus results in a more reasonable depreciation rate estimate for this account.

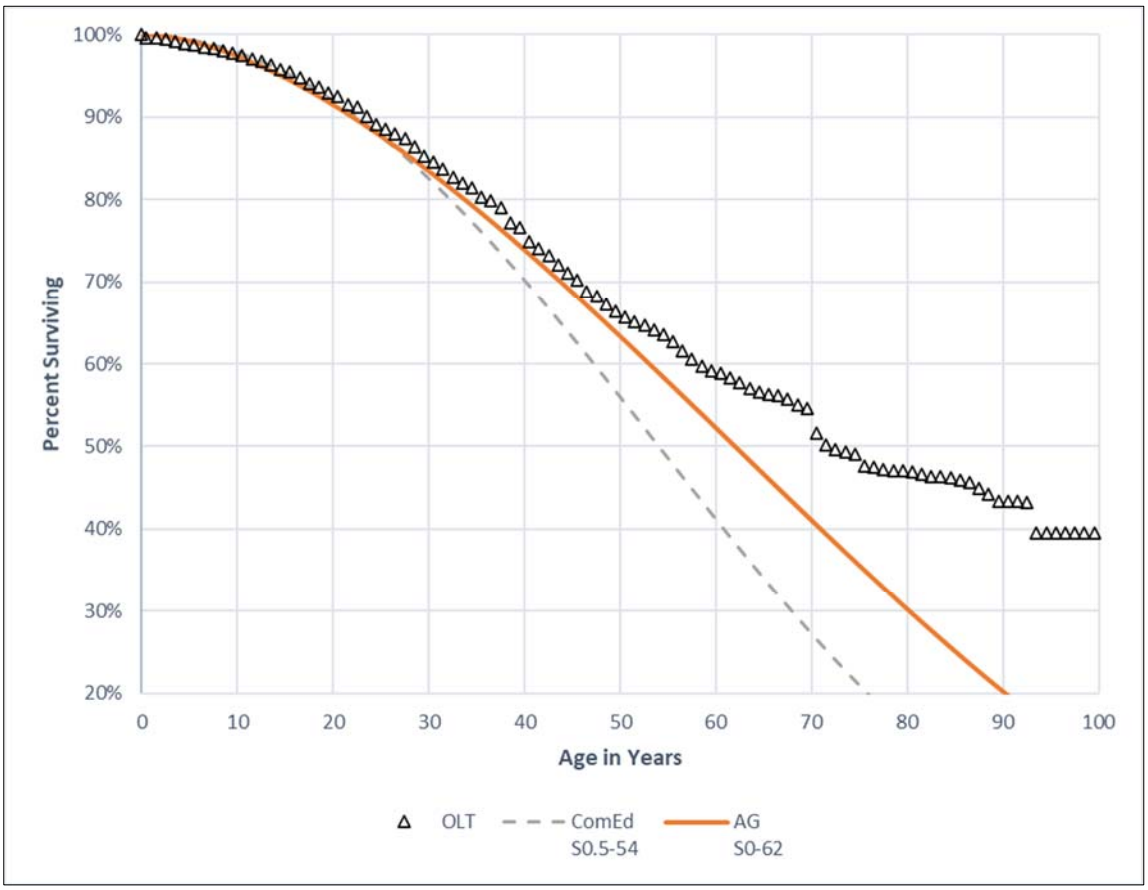
B. Account 353 – Station Equipment

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

A. The OLT curve derived from the Company's data for this account is fairly well suited for conventional Iowa curve fitting techniques. For this account, ComEd selected the S0.5-54 curve, and I selected the S0-62 curve. Both Iowa curves are displayed in the graph below along with the OLT curve.

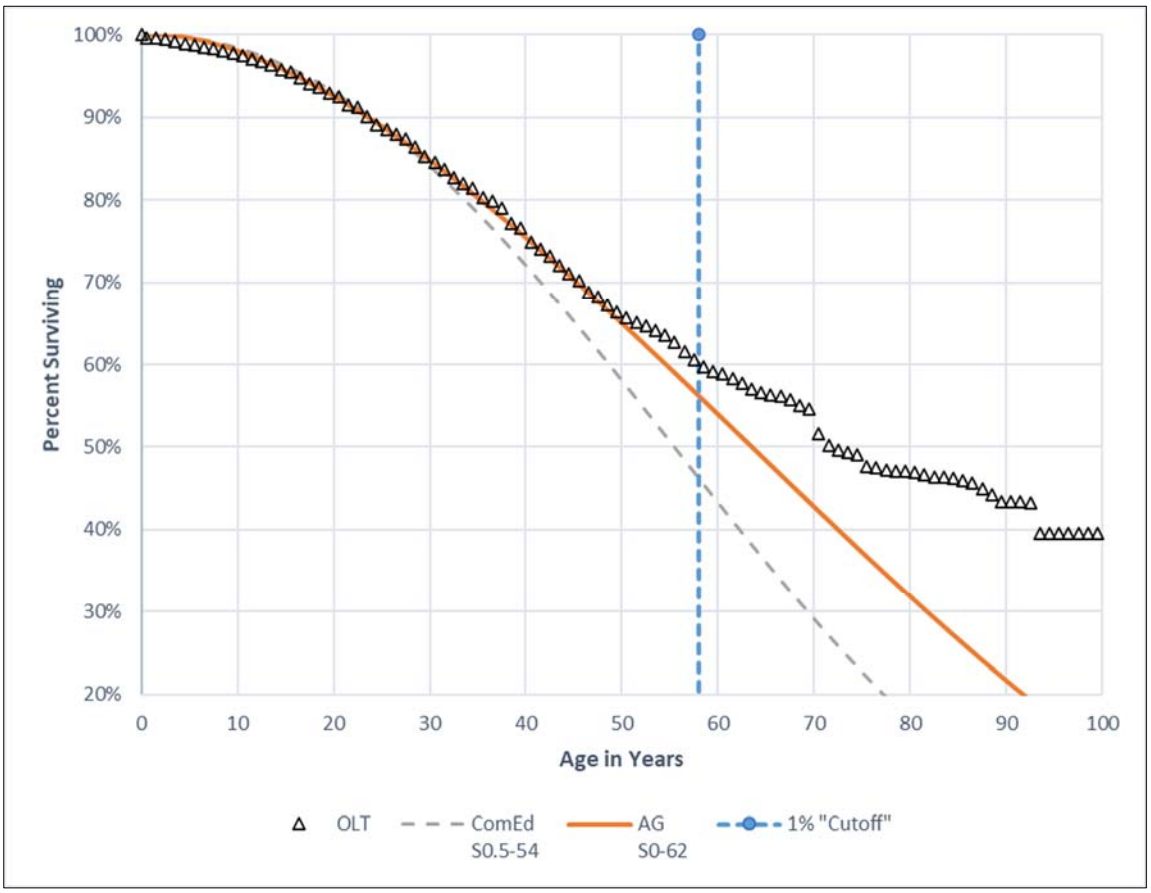
[17] Exhibit DJG-6.

Figure 4:
Account 353 – Station Equipment



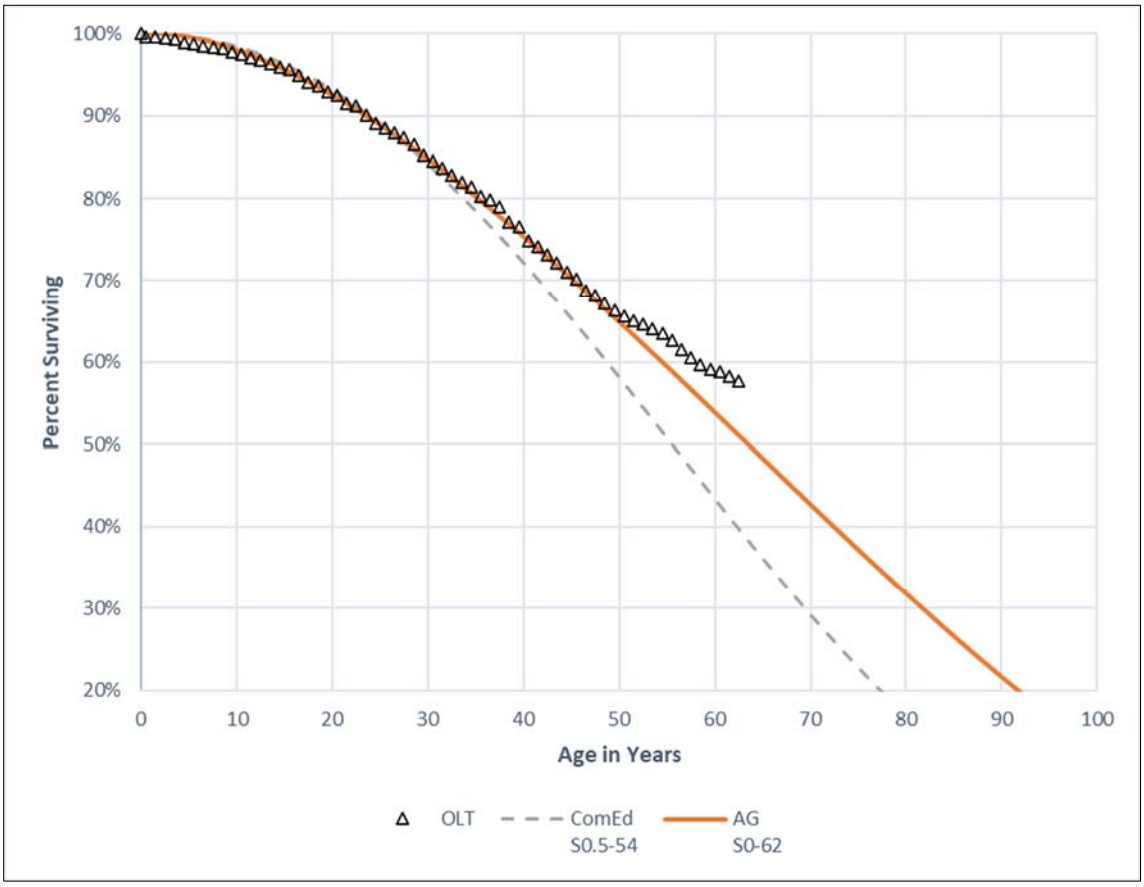
As shown in the graph, the S0.5-54 curve does not provide a good fit to the OLT curve. Specifically, it is too short, which results in an unreasonably high depreciation rate estimate. The S0-62 curve I selected provides a good fit to the OLT curve. After age-interval 50, however, it appears that the S0-62 curve is also too short relative to the OLT curve. As discussed above though, not all portions of the OLT curve should be given equal statistical weighting. The "tail end" of OLT curves should often be excluded from the statistical (and visual) analysis if the dollars associated with those data points are relatively insignificant. If we apply the 1% cutoff benchmark to this OLT curve, it eliminates quite a few data points on the OLT curve, as illustrated in the graph below.

Figure 5:
Account 353 – Station Equipment with 1% Cutoff



Note again that 1% does not equate to 1% of the number of data points on the curve, but rather all the data points associated with dollars that are 1% or less than the dollars initially exposed to retirement in the account at age zero. All the data points on the OLT curve to the right of the vertical line in the graph should be "truncated" based on the 1% cutoff benchmark. After considering this benchmark, the S0-62 curve I selected provides a relatively close fit to the truncated OLT curve, as illustrated in the graph below.

Figure 6:
Account 353 – Station Equipment with Truncated OLT Curve



This graph shows the same information presented in the graphs above, but with the OLT curve actually truncated based on the 1% cutoff benchmark. Conducting a visual Iowa curve analysis based on this graph still reveals that the S0.5-54 curve selected by the Company is too short given the full-band OLT curve.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. Regardless of whether the mathematical analysis is performed on the entire OLT curve or the truncated OLT curve, the Iowa curve I selected provides the closer fit. Specifically, the SSD between the Company's curve and the truncated OLT curve is

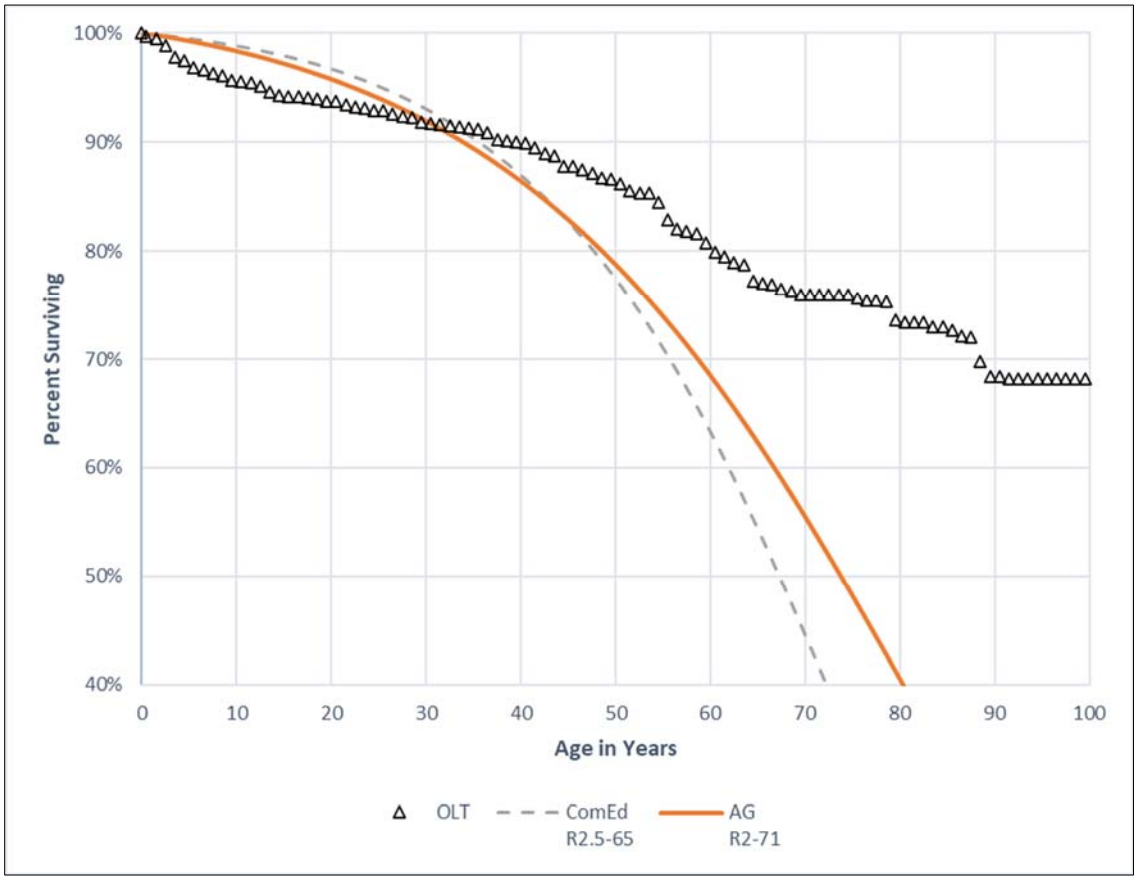
0.3951, and the SSD between the S0-62 curve and the OLT curve is only 0.0531, which means that it results in the closer fit.[18]

C. Account 356 – Overhead Conductors and Devices

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

A. For this account, ComEd selected the R2.5-65 curve, and I selected the R2-71 curve. Both Iowa curves are displayed in the graph below along with the OLT curve.

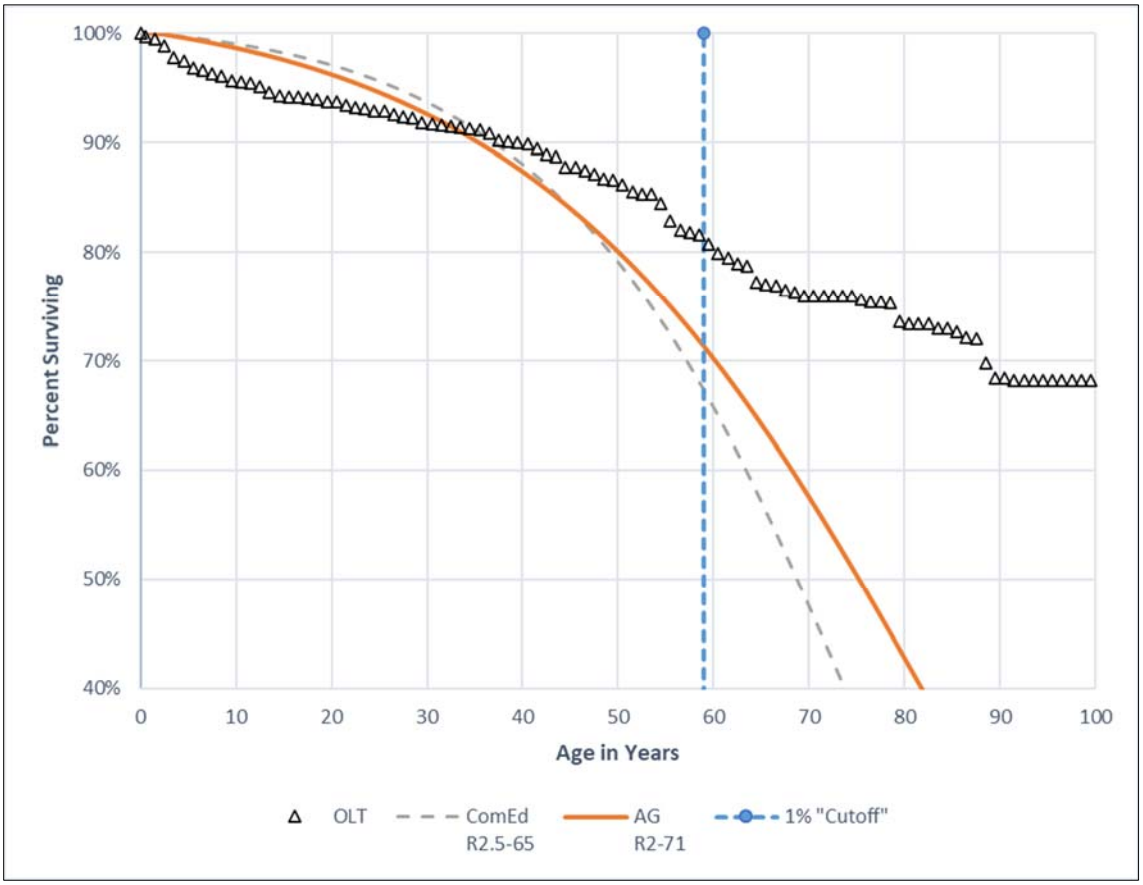
Figure 7:
Account 356 – Overhead Conductors and Devices



[18] Exhibit DJG-7.

As with Account 353 discussed above, the Company's curve is too short to provide accurate flection of the retirement rate in the entire OLT band for this account. Even the R2-71 curve I selected is somewhat short given the entire OLT curve. However, as also was the case with Account 353 above, once the truncated OLT curve is considered at the 1% cutoff benchmark, the R2-71 curve I selected for this account provides a reasonable fit to the data, as illustrated in the graph below.

Figure 8:
Account 356 – Overhead Conductors and Devices with 1% Cutoff



Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. Regardless of whether the mathematical analysis is performed on the entire OLT curve or the truncated OLT curve, the Iowa curve I selected provides the closer fit. Specifically, the SSD between the Company's curve and the truncated OLT curve is 0.6174, and the SSD between the R2-71 curve and the OLT curve is only 0.3146, which means that it results in the closer fit.[19]

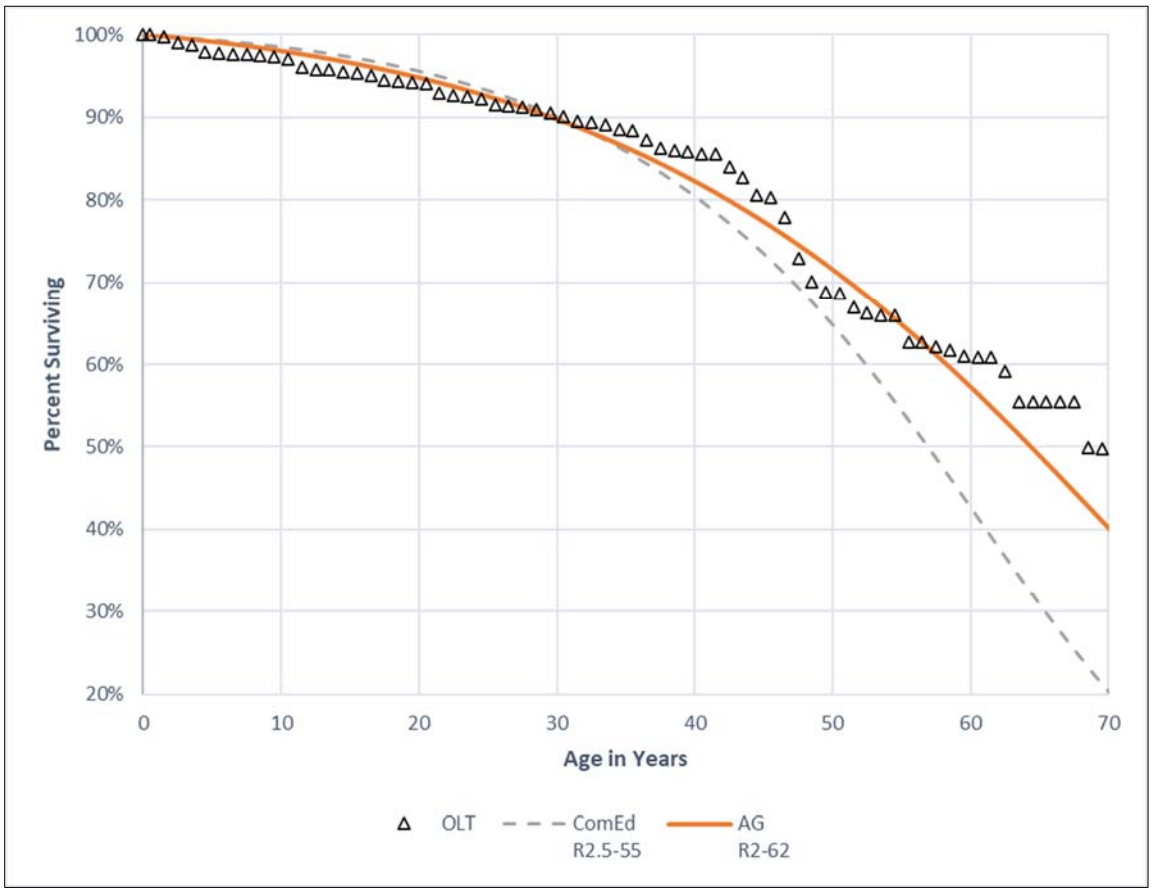
D. Account 358 – Underground Conductors and Devices

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

A. For this account, ComEd selected the R2.5-55 curve, and I selected the R2-62 curve. Both Iowa curves are displayed in the graph below along with the OLT curve.

[19] Exhibit DJG-8.

Figure 9:
Account 358 – Underground Conductors and Devices



As with the several accounts discussed above, when the full data band is considered, the Iowa curve selected by the Company is shorter than what is otherwise indicated by the historical retirement pattern in the OLT curve.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. The SSD between the Company's curve and the truncated OLT curve is 0.6384, and the SSD between the R2-62 curve and the OLT curve is only 0.0608, which means that it results in the closer fit.[20]

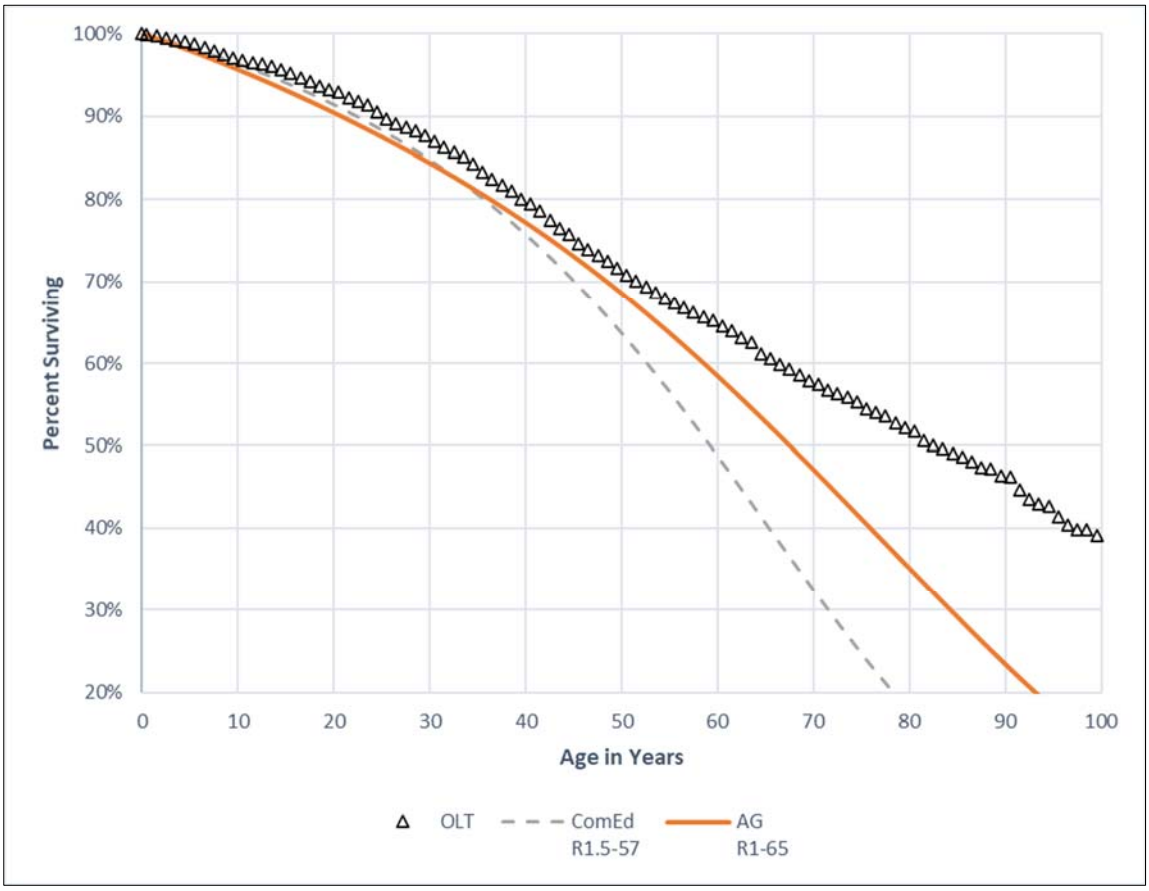
E. Account 362 – Distribution Station Equipment

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

A. For this account, ComEd selected the R1.5-57 curve, and I selected the R1-65 curve. Both Iowa curves are displayed in the graph below along with the OLT curve.

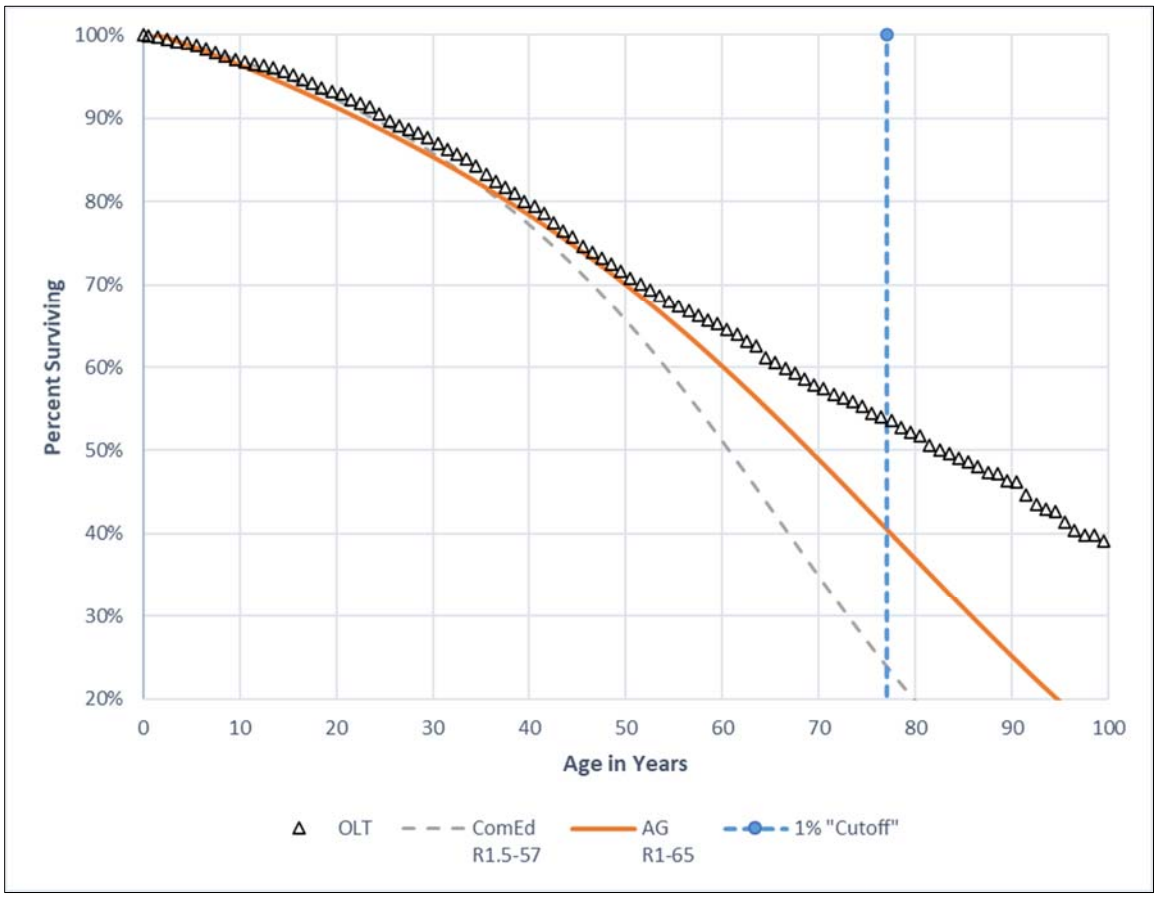
[20] Exhibit DJG-9.

Figure 10:
Account 362 – Distribution Station Equipment



As shown in this graph, the Iowa curve proposed in the depreciation study does not provide an accurate reflection of the total historical retirement experience in this account. Even when the truncated OLT curve is examined, the Company's proposed Iowa curve is still too short, as illustrated in the graph below.

Figure 11:
Account 362 – Distribution Station Equipment – Truncated



Essentially both Iowa curves are "suggesting" that the future retirement pattern in this account will likely show a decline in the percent of assets older than 50 years surviving, relative to the decline indicated in this OLT curve. The Company's proposed Iowa curve, however, falls too short in my opinion, especially when all the historical data are considered.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. The SSD between the Company's curve and the truncated OLT curve is 1.1910, and the SSD between the R1-65 curve and the OLT curve is only 0.2309, which means that it results in the closer fit.[21]

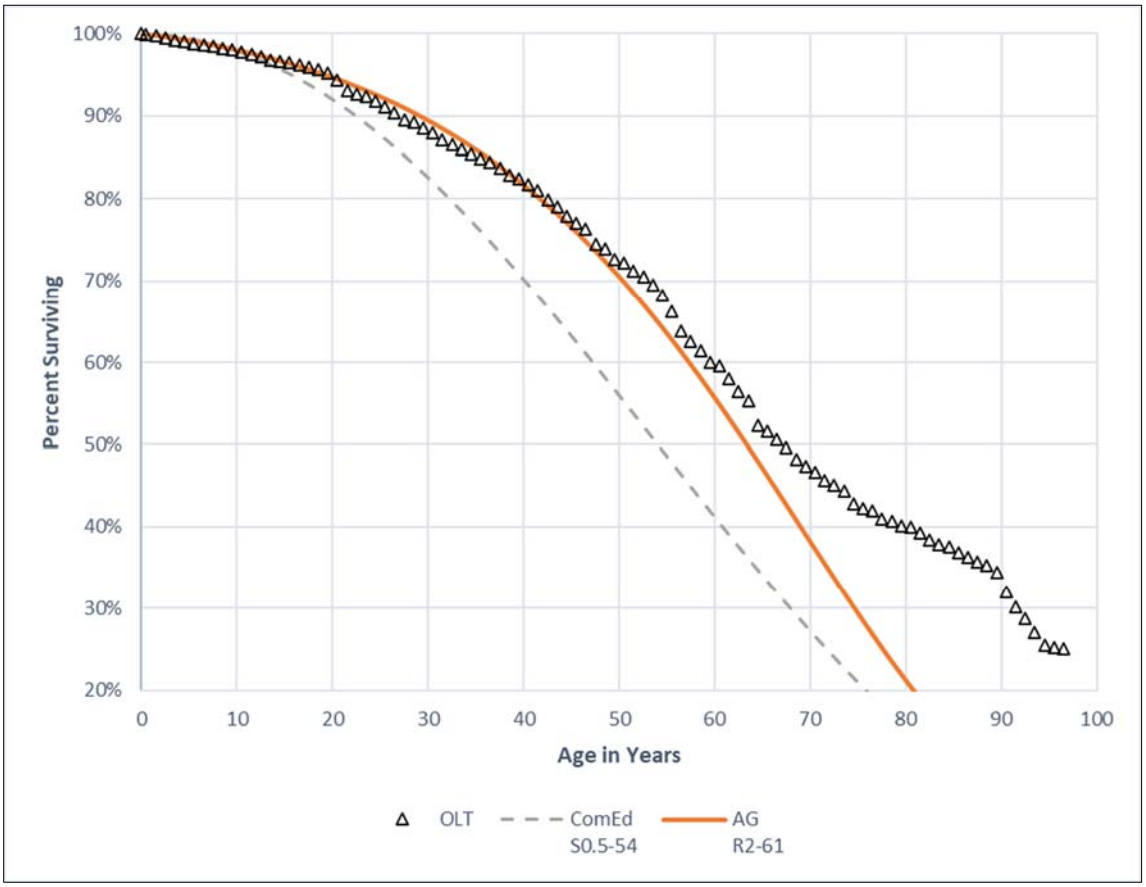
F. Account 362.02 – Distribution Station Equipment - HVD

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

A. As with other accounts discussed above, the OLT curve for Account 362.02 is well suited for conventional Iowa curve fitting techniques. For this account, ComEd selected the S0.5-54 curve, and I selected the R2-61 curve. Both Iowa curves are displayed in the graph below along with the OLT curve.

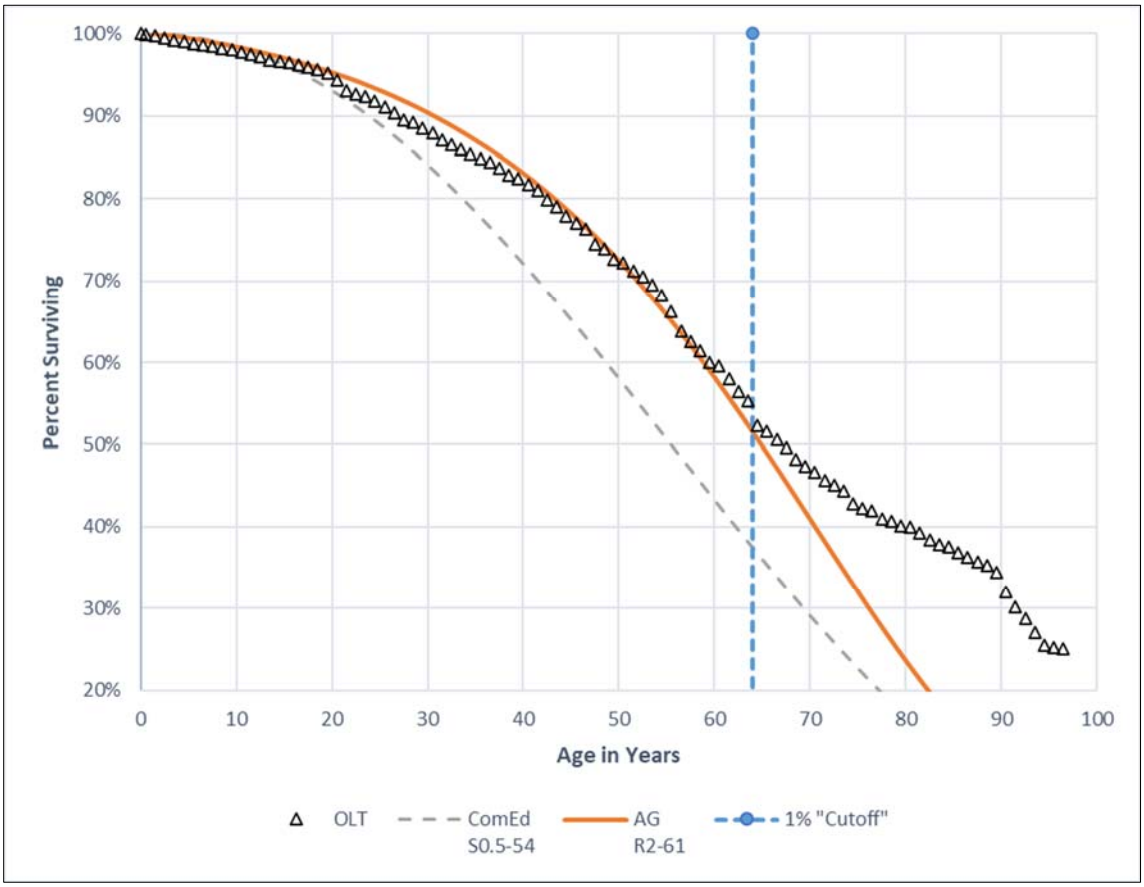
[21] Exhibit DJG-10.

Figure 12:
Account 362.02 – Distribution Station Equipment – HVD



As shown in this graph, the Iowa curve proposed in the depreciation study does not provide an accurate reflection of the total historical retirement experience in this account. As with the other accounts discussed above, the Iowa curve proposed by ComEd is notably shorter than the retirement pattern otherwise indicated by the full-band OLT curve. In contrast, the R2-61 curve I selected provides a very good fit through the relevant portions of the OLT curve, which is further highlighted by observing the truncated OLT curve in the graph below.

Figure 13:
Account 362.02 – Distribution Station Equipment – HVD (Truncated)



For the most relevant portions of this OLT curve (ages 0 – 64), the R2-61 curve I selected provides a near-perfect fit to the observed data.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. Although it is clear from a visual perspective that the R2-61 curve provides the better fit, we can confirm the results mathematically. Specifically, the SSD between the

Company's curve and the truncated OLT curve is 0.7706, and the SSD between the R2-61 curve and the OLT curve is only 0.0232, which means that it results a closer fit.[22]

G. Account 368 – Line Transformers

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

A. For Account 368, the depreciation study proposes an average service life of SQ-35, which equates to a proposed annual accrual of $36.2 million.[23] Unlike the other accounts discussed in the portion of my testimony regarding service life, ComEd did not provide any historical data to support its proposed service life for Account 368. The depreciation study notes that ComEd has received approval to amortize its plant investments related to transformers.[24]

Q. Has ComEd met its burden to make a convincing showing that its proposed amortization rate for Account 368 is not excessive?

A. No. The depreciation study provides essentially no support for the 35-year service life estimate for Account 368, which directly impacts the proposed amortization rate of 2.59%.[25]

[22] Exhibit DJG-11.

[23] Depreciation study, ComEd Ex. 1.13, p. 55.

[24] *Id*. at p. 39.

[25] *Id*. at p. 55.

Q. Are there other objective measures for estimating service life if a utility has not provided adequate, company-specific data to support its service life estimates?

A. Yes. Ideally, a utility should provide company-specific historical retirement data to support its service life estimates. These data provide an objective basis upon which service life estimates can be made through Iowa curve analysis (as illustrated in graphs presented in my testimony). If, however, a utility has not provided adequate historical data, we can consider the service lives approved for other utilities for the same account being studied.

Q. Describe the approved service life for Account 368 for other electric utilities.

A. I reviewed the approved service lives for Account 368 for several other utilities, including Southwestern Electric Power Company ("SWEPCO"), Oklahoma Gas and Electric Company ("OG&E"), Public Service Company of Oklahoma ("PSO"), Duke Energy Carolinas ("Duke"), and South Carolina Gas and Electric ("SCG&E"). I selected the first three companies because I was directly involved in those cases and conducted a technical analysis of the depreciation study. In the OG&E and PSO case, Gannett Fleming conducted the depreciation studies. I selected the Duke and SCG&E case because Gannett Fleming conducted the depreciation studies in those cases, and their proposed service lives for Account 368 were adopted. The table below shows a summary of this comparable analysis.[26]

[26] *See* Exhibit DJG-15; *see also* Application of Southwestern Electric Power Company, Docket No. 46449, Order on Rehearing, pp. 33-34 (March 19, 2018); Final Order No. 662059, p. 8, Application of Oklahoma Gas and Electric Company, Docket No. PUD 201500273, before the Corporation Commission of Oklahoma (March 20, 2017); [3] Final Order No. 672864, pp. 5-6, Application of Public Service Company of Oklahoma, Docket No. PUD 201700151, before the Corporation Commission of Oklahoma (January 31, 2018); Docket No. 2018-319-E, Duke Energy Carolinas, Order 2019-323, 5-1-19; and Docket No. 2015-313-E, South Carolina Gas and Electric.

Figure 14:
Account 368 – Comparable Analysis

Company	Approved Life
SWEPCO	50
OG&E	44
PSO	36
Duke	43
SCG&E	45
Average	**44**

As shown in the table, the average approved service life for this group is 44 years, which is notably longer than the 35-year life proposed by Gannett Fleming in the depreciation study.

Q. For the Duke and SCG&E cases, did Gannett Fleming propose 43-year and 45-year service lives for Account 368?

A. Yes. In the Duke and SCG&E cases, Gannett Fleming proposed a 43-year and 45-year average service life, respectively, and those proposals were adopted.

Q. What is your recommended service life for ComEd's Account 368?

A. I recommend the Commission adopt a service life of 43 years for Account 368, based on the SQ-43 Iowa curve. A service life of 43 years is more reflective of the approved service life for this account among other utilities in the industry. In light of the fact that ComEd did not provide adequate historical data to support its proposed service life of only 35 years,

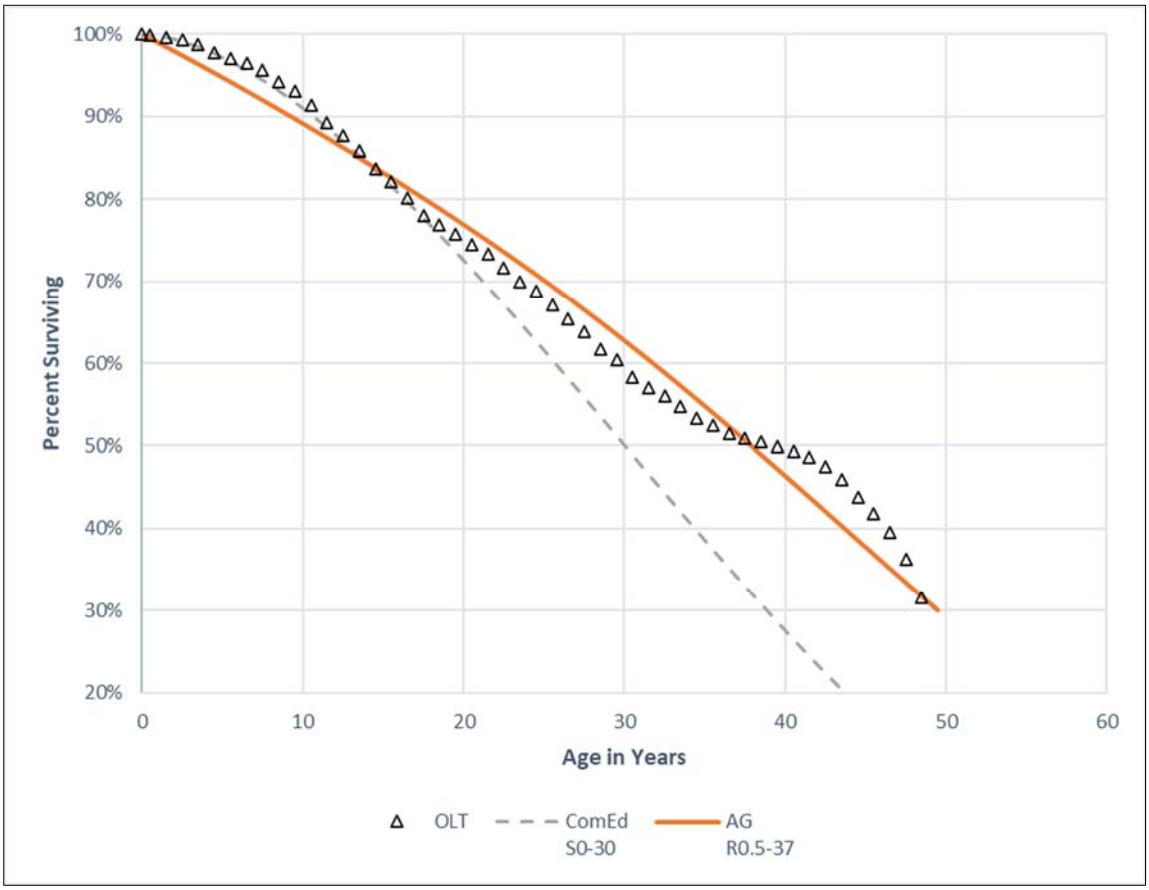
it is instructive to review the approved service lives of the comparable group, which were supported by more adequate historical retirement data and actuarial analysis.

H. Account 373 – Street Lighting and Signal Systems

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

A. Unlike some of the other accounts discussed above, essentially all of the data points on the OLT curve for Account 373 are statistically relevant based on the 1% truncation benchmark. For this account, ComEd selected the S0-30 curve, and I selected the R0.5-37 curve. Both Iowa curves are displayed in the graph below along with the OLT curve.

Figure 15:
Account 373 – Street Lighting and Signal Systems



As shown in this graph, the Iowa curve proposed in the depreciation study is, yet again, notably shorter than the retirement pattern indicated by the Company's own historical data. One of the primary purposes of the Iowa curve fitting process is to use past experience to accurately predict future experience (i.e., remaining life). For that process to work, the selected Iowa curve should, at the very least, be reflective of the historical retirement rate actually experienced in the account being studied. In Account 373 (as with other accounts discussed in my testimony), the Iowa curve proposed in the depreciation study does not provide an accurate description of the past (which is information we already know); thus, the same Iowa curve will not provide an accurate forecast of remaining life, and arguably result in an unreasonably high depreciation rate estimate.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. The SSD between the Company's curve and the entire OLT curve is 0.8064, and the SSD between the R0.5-37 curve and the OLT curve is only 0.0391, which means that it results in a closer fit.[27]

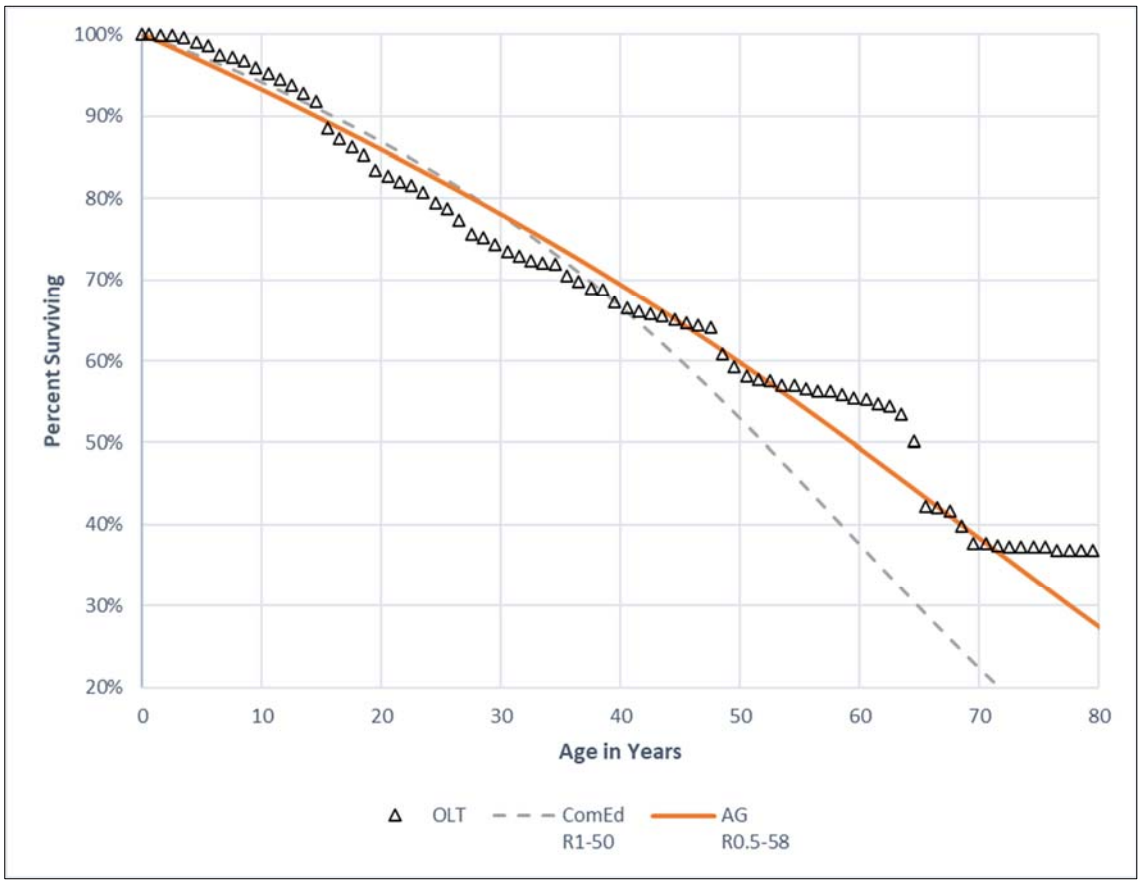
I. Account 390 – General Structures and Improvements

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

A. For this account, ComEd selected the R1-50 curve, and I selected the R0.5-58 curve. Both Iowa curves are displayed in the graph below along with the OLT curve.

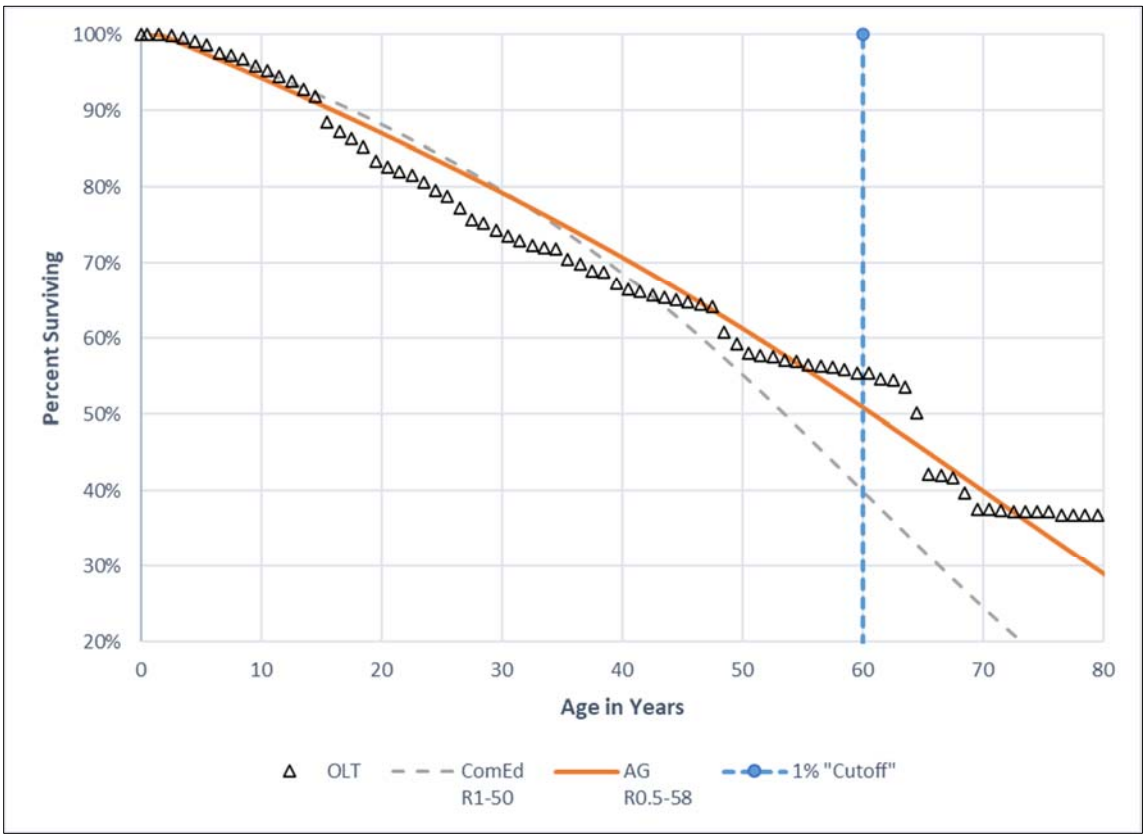
[27] Exhibit DJG-12.

Figure 16:
Account 390 – General Structures and Improvements



As shown in this graph, the Iowa curve proposed in the depreciation study does not provide an accurate reflection of the total historical retirement experience in this account, in that it is too short relative to the OLT curve. In contrast, the R0.5-58 curve provides a relatively good fit throughout the OLT curve. Even when the truncated OLT curve is examined, the Company's proposed Iowa curve is still too short, as illustrated in the graph below.

Figure 17:
Account 390 – General Structures and Improvements – Truncated



The R1-50 curve proposed in the depreciation study ignores relevant data points occurring after the 45-year age interval. As a result, the depreciation rate calculated based on ComEd's proposed Iowa curve is unreasonably high.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. The SSD between the Company's curve and the truncated OLT curve is 0.1947, and the SSD between the R0.5-58 curve and the OLT curve is only 0.0392, which means that it results in the closer fit.[28]

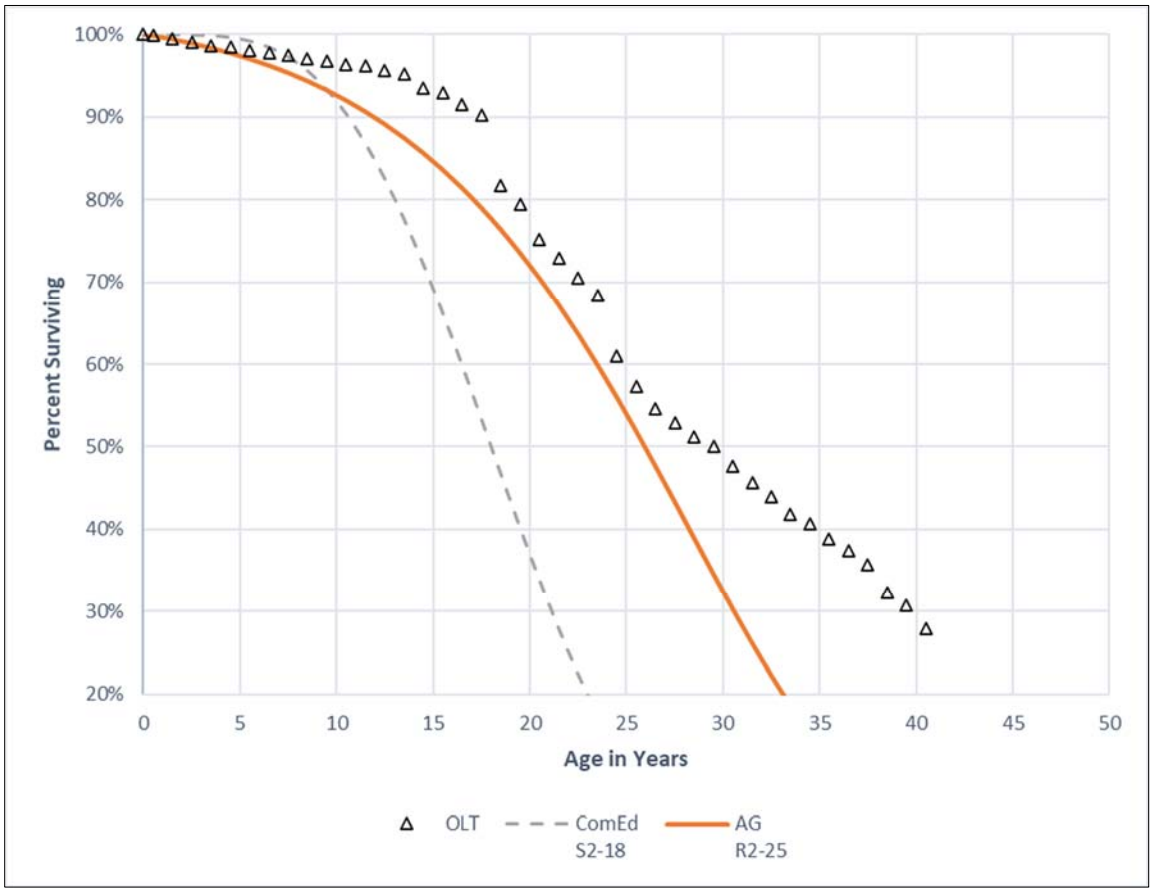
[28] Exhibit DJG-13.

J. Account 397 – Communication Equipment – SCADA

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

A. For this account, ComEd selected the S2-18 curve, and I selected the R2-25 curve. Both Iowa curves are displayed in the graph below along with the relevant portion of the OLT curve.

Figure 18:
Account 397 – Communication Equipment – SCADA



As shown in this graph, the Iowa curve proposed in the depreciation study is notably shorter than the retirement pattern indicated by the Company's own historical data. Iowa curves are not effective in providing accurate forecasts of future retirements if they cannot, at the

very least, reflect an accurate representation of what has already occurred. For Account 397, there is adequate retirement history presented in the OLT curve (i.e., it is long enough) upon which to base an objective, statistical Iowa curve analysis. The S2-18 curve proposed in the depreciation study provides a very poor fit to the observed data. Given the relatively unusual shape of the OLT curve, there is no Iowa curve that would provide a near-perfect fit. However, the R2-25 curve I selected provides a much closer, and more reasonable fit to the OLT curve.

Q. Does the Iowa curve you selected provide a better mathematical fit to the OLT curve for this account?

A. Yes. The SSD between the Company's curve and the truncated OLT curve is 4.6405, and the SSD between the R2-25 curve and the OLT curve is only 0.8389, which means that it results in a closer fit.[29]

VI. NET SALVAGE ANALYSIS

Q. Describe the concept of net salvage.

A. If an asset has any value left when it is retired from service, a utility might decide to sell the asset. The proceeds from this transaction are called "gross salvage." The corresponding expense associated with the removal of the asset from service is called the "cost of removal." The term "net salvage" equates to gross salvage less the cost of removal. Often, the net salvage for utility assets is a negative number (or percentage) because the cost of removing the assets from service exceeds any proceeds received from selling the

[29] Exhibit DJG-14.

assets. When a negative net salvage rate is applied to an account to calculate the depreciation rate, it results in increasing the total depreciable base to be recovered over a particular period of time and increases the depreciation rate. Therefore, a greater negative net salvage rate equates to a higher depreciation rate and expense, all else held constant.

Q. Please describe how net salvage is typically analyzed and estimated.

A. Net salvage is typically analyzed by reviewing historical annual net salvage rates and making a forecast of future net salvage based on averages and trends in the data over different periods of time.

Q. Are you proposing any net salvage rate adjustments in this case?

A. Yes. I am proposing an adjustment to the net salvage rate of one account – Account 397 (communication equipment).

Q. Describe the net salvage proposed in the depreciation study for Account 397.

A. The depreciation study proposes a net salvage rate of -15%, which is a sizeable increase from the currently-approved rate of -5%.[30]

Q. Do you agree with the Company's proposed net salvage rate for Account 397?

A. No. According to ComEd's historical net salvage data, the overall net salvage rate in the account is only -11%, and the most recent five-year average net salvage rate is only -10%.[31]

[30] *See* Exhibit DJG-3.

[31] Depreciation study, ComEd Ex. 1.13, p. 202.

Q. What is your recommended net salvage rate for Account 397?

A. I recommend a net salvage rate of -10%, which is equal to the most recent five-year average net salvage rate experienced in the account.

VII. CONCLUSION AND RECOMMENDATION

Q. Summarize the key points of your testimony.

A. In this case, ComEd is requesting a $25 million increase in its annual depreciation accrual based on plant balances at December 31, 2017.[32] I am proposing several reasonable adjustments to the service life and net salvage rates proposed in the depreciation study for several accounts. Regarding service life, ComEd did not present convincing evidence outside of the historical data it provided to support its service life proposals. When all of the historical data is considered, as illustrated through the OLT curves, it is clear that the service lives proposed in the depreciation study for the accounts at issue are too short to accurately reflect the historical retirement pattern otherwise indicated by the OLT curves. As a result, ComEd's proposed depreciation rates for these accounts are unreasonably high.

Q. What is your recommendation to the Commission?

A. I recommend the Commission adopt my proposed deprecation rates, which are presented in Exhibit DJG-4.

Q. Does this conclude your testimony?

A. Yes.

[32] Response to DR IIEC 3.02 Attach. 1, pp. 4-5.

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.[33] 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.[34] The figure below illustrates the basic concept of a depreciation system and includes some of the available parameters.[35]

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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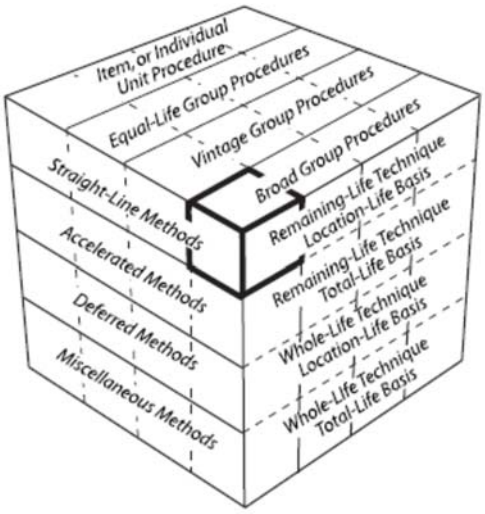
[33] Wolf *supra* n. 9, at 69-70.

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

[35] 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 some of the available parameters of a depreciation system.

Figure 19:
The Depreciation System Cube



1. Allocation Methods

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.[36] 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.[37] The basic formula for the straight-line method is as follows:[38]

[36] NARUC *supra* n. 10, at 56.

[37] *Id*.

[38] *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 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.[39] In practice, the annual accrual is expressed as a rate which is applied to the original cost of plant to determine the annual accrual in dollars. The formula for determining the straight-line rate is as follows:[40]

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.[41] 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

[39] *Id*. at 57.

[40] *Id*. at 56.

[41] Wolf *supra* n. 9, at 74-75.

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.[42] 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.[43]

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 depreciated, 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.[44] 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.[45] Under the equal life procedure the property is divided into subgroups that each has a common life.[46]

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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[42] *Id*. at 74.

[43] NARUC *supra* n. 10, at 61-62.

[44] *See* Wolf *supr*a n. 9, at 74-75.

[45] *Id*. at 75.

[46] *Id*.

technique applies the depreciation rate on the estimated average service life of a group, while the remaining life technique seeks to recover undepreciated costs over the remaining life of the plant.[47]

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.[48] 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.[49] 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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[47] NARUC *supra* n. 10, at 63-64.

[48] Wolf *supra* n. 9, at 83.

[49] NARUC *supra* n. 10, at 325.

in the annual accrual.[50] 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:[51]

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.[52]

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.[53] 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

[50] NARUC *supra* n. 10, 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.").

[51] *Id*. at 64.

[52] Wolf *supra* n. 9, at 178.

[53] *See* Wolf *supra* n. 9, 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 form a continuous property group.

The broad group model views the continuous property group as a collection of vintage groups that each have 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.[54] 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.[55] 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.[56] They generalized the 65 curves

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[54] Wolf *supra* n. 9, at 276.

[55] *Id*. at 23.

[56] *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.[57] 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."[58] 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.[59] 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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[57] *Id*.

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

[59] 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. 9, 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:[60]

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.[61]

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

[60] *See* Wolf *supra* n. 9, at 37.

[61] *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.

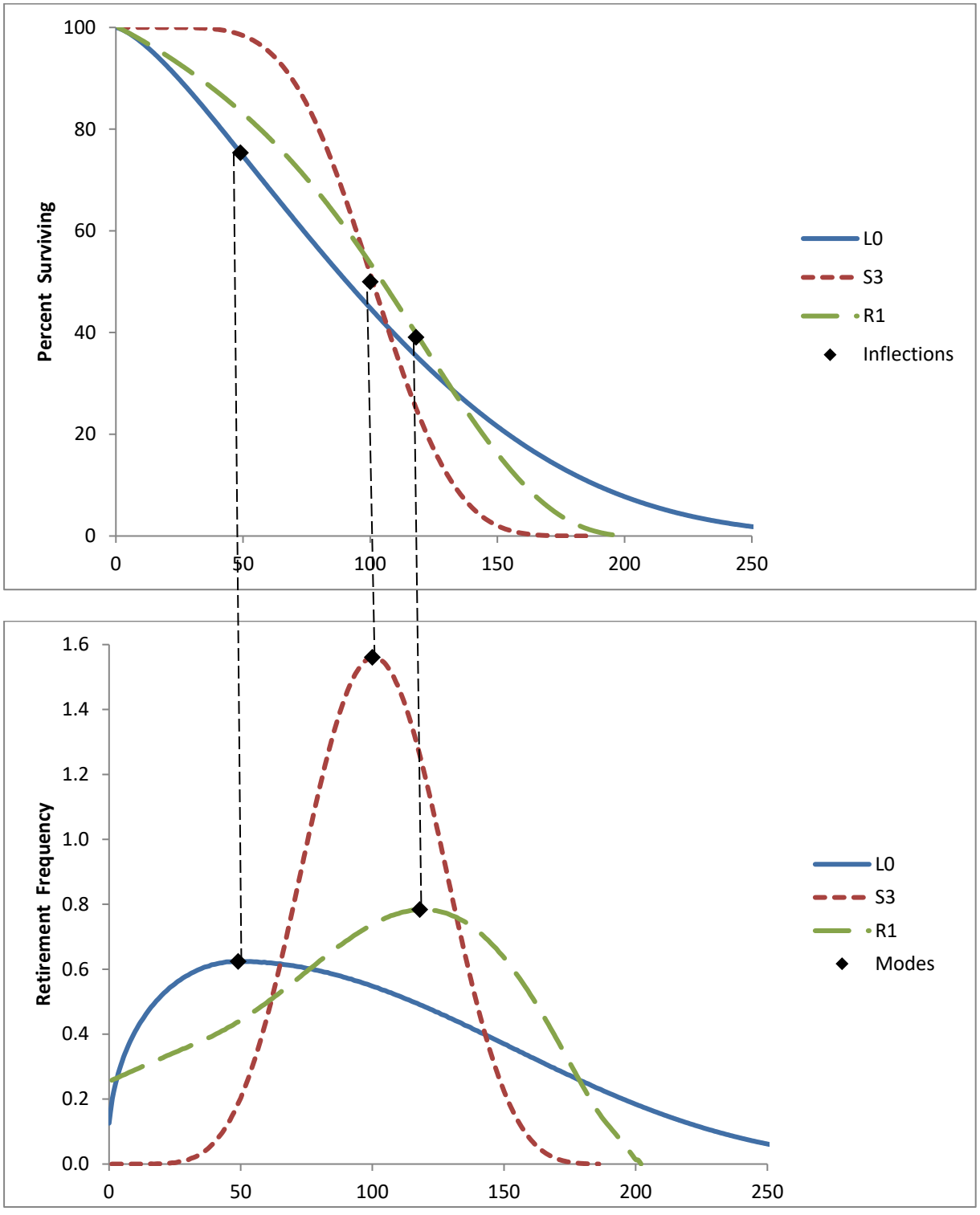
2. Classification

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).[62] 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.

[62] 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. 10, at 68).

Figure 20:
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 for the curves to be of practical value. As Winfrey notes:

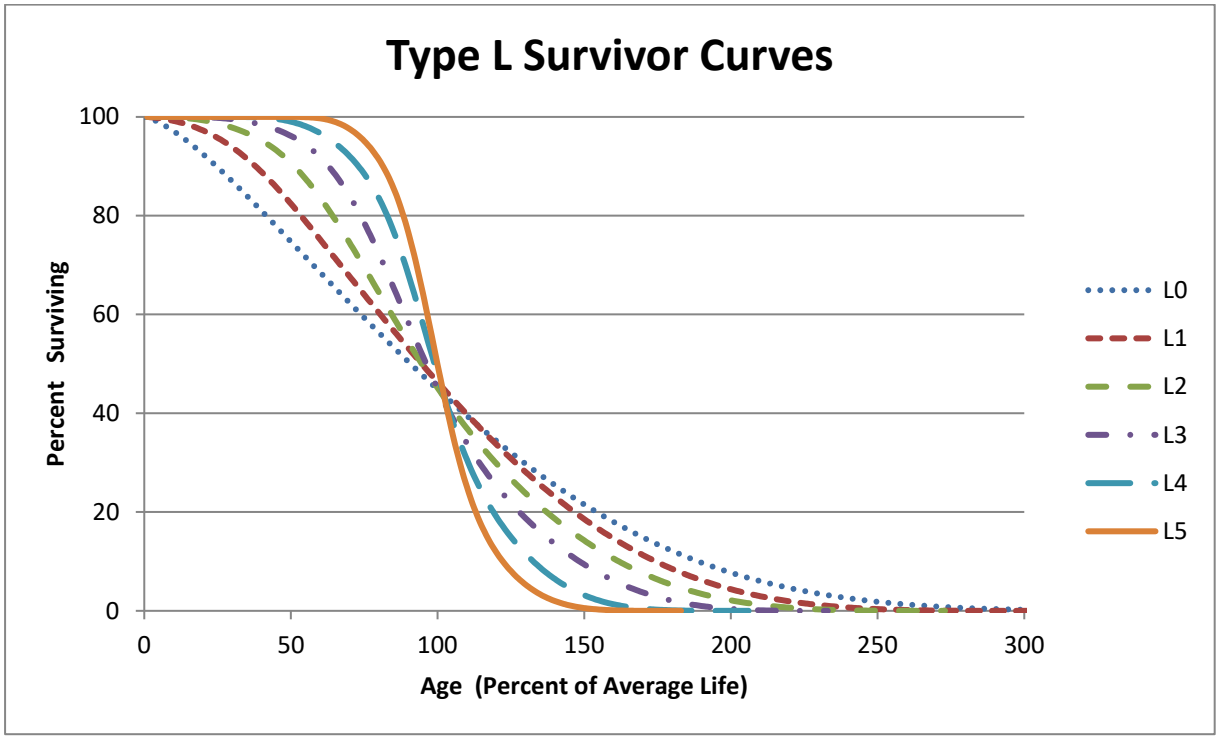
> Since the location of a particular survivor on a graph is affected by both its span in years and the shape of the curve, it is difficult to classify a group of curves unless one of these variables can be controlled. This is easily done by expressing the age in percent of average life."[63]

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.

[63] Winfrey *supra* n. 75, at 60.

Figure 21:
Type L Survivor and Frequency Curves



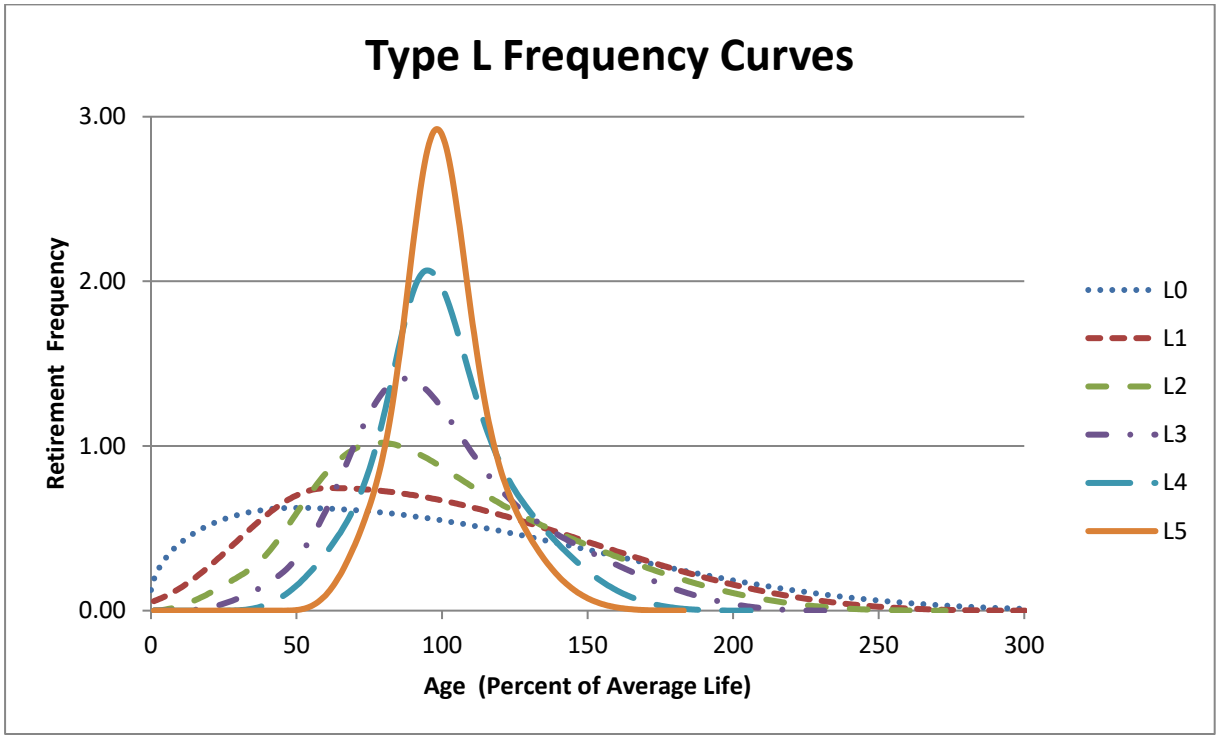
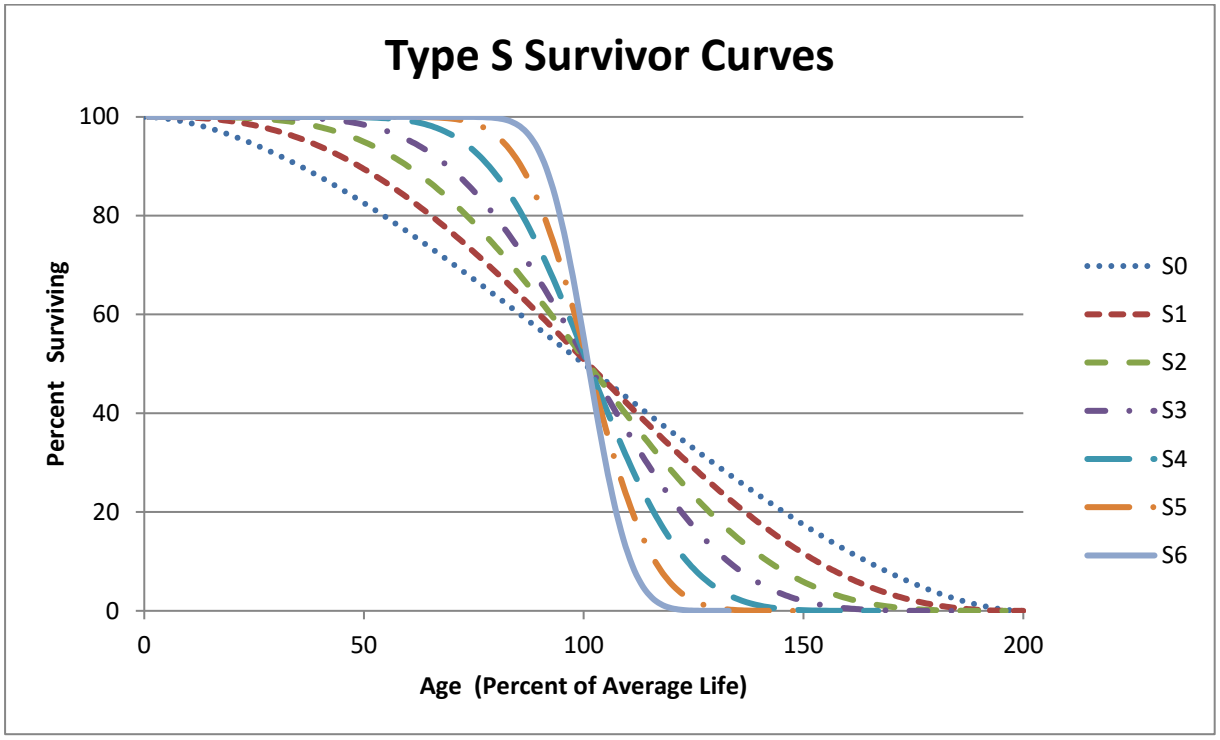


Figure 22:
Type S Survivor and Frequency Curves



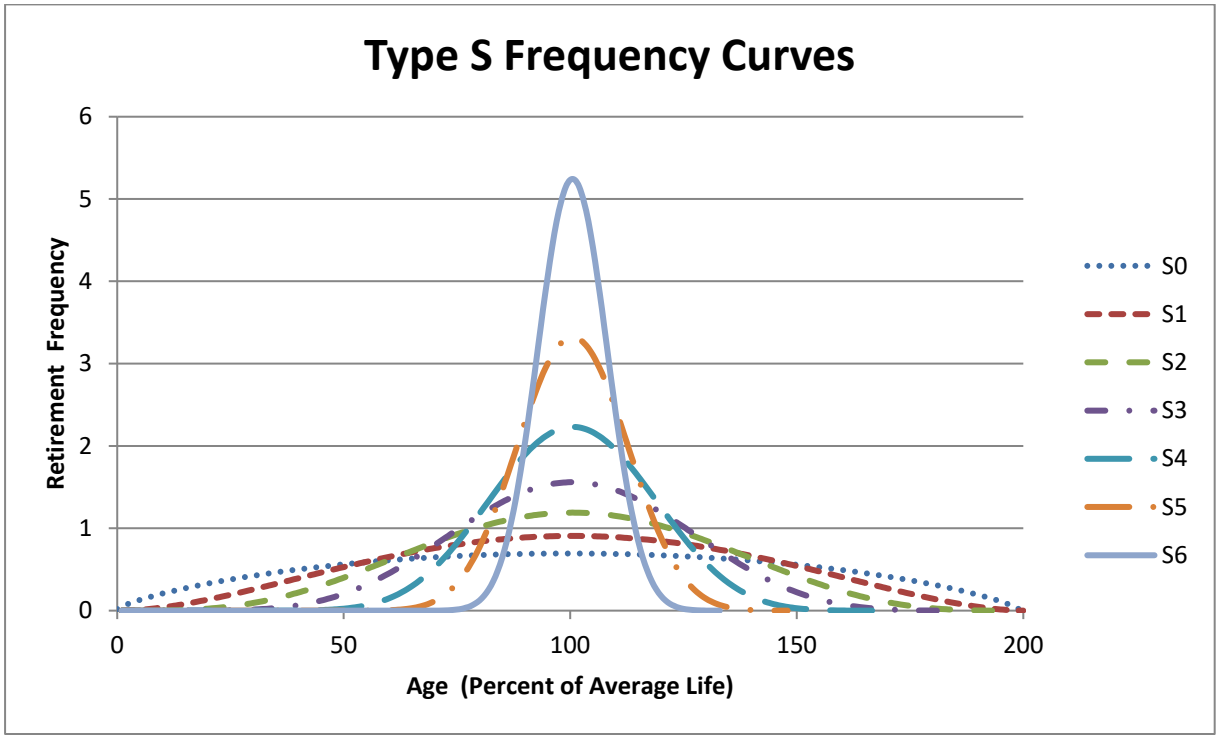
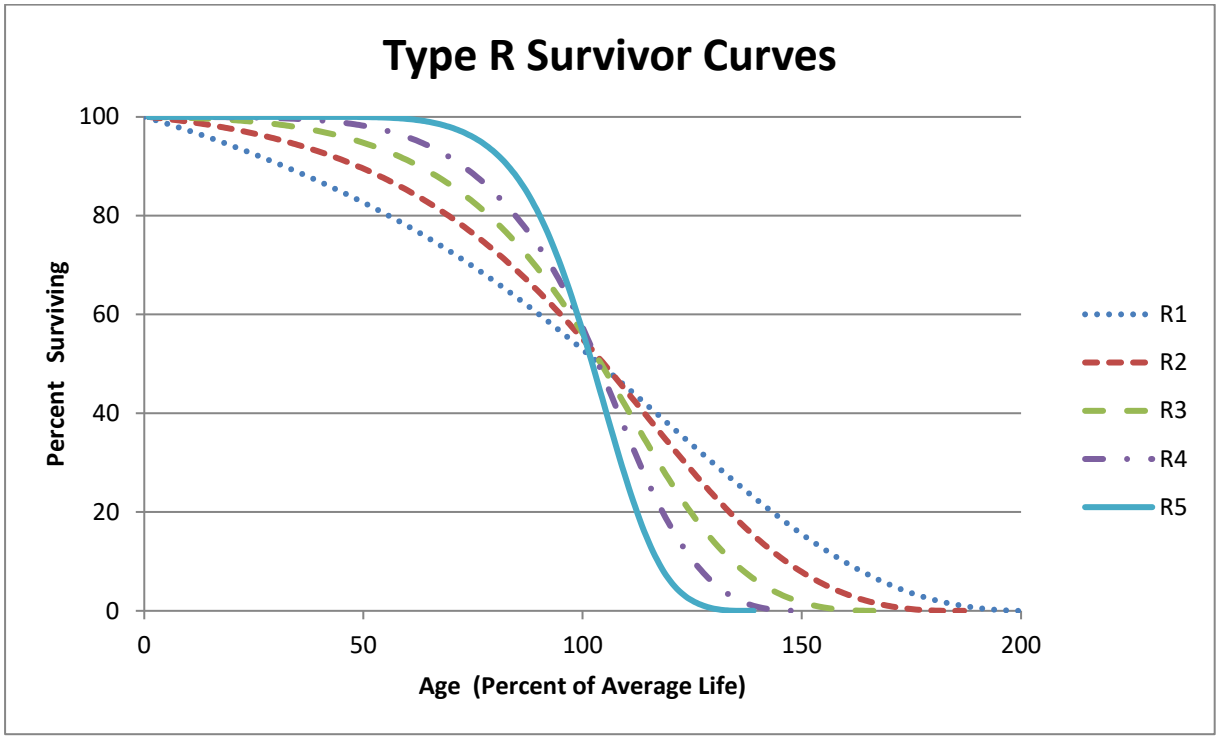
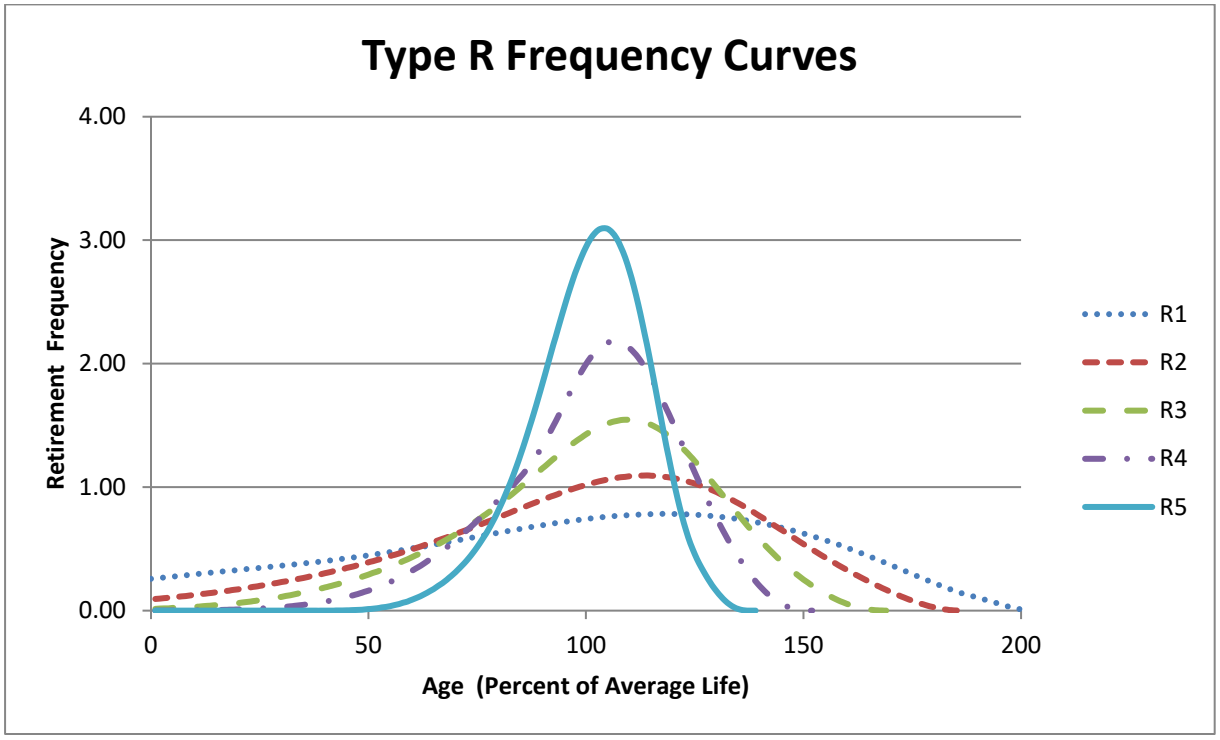


Figure 23:
Type R Survivor and Frequency Curves





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.[64]

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:[65]

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

[64] 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.

[65] *See* NARUC *supra* n. 10, 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.[66] 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.[67] 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 portion 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

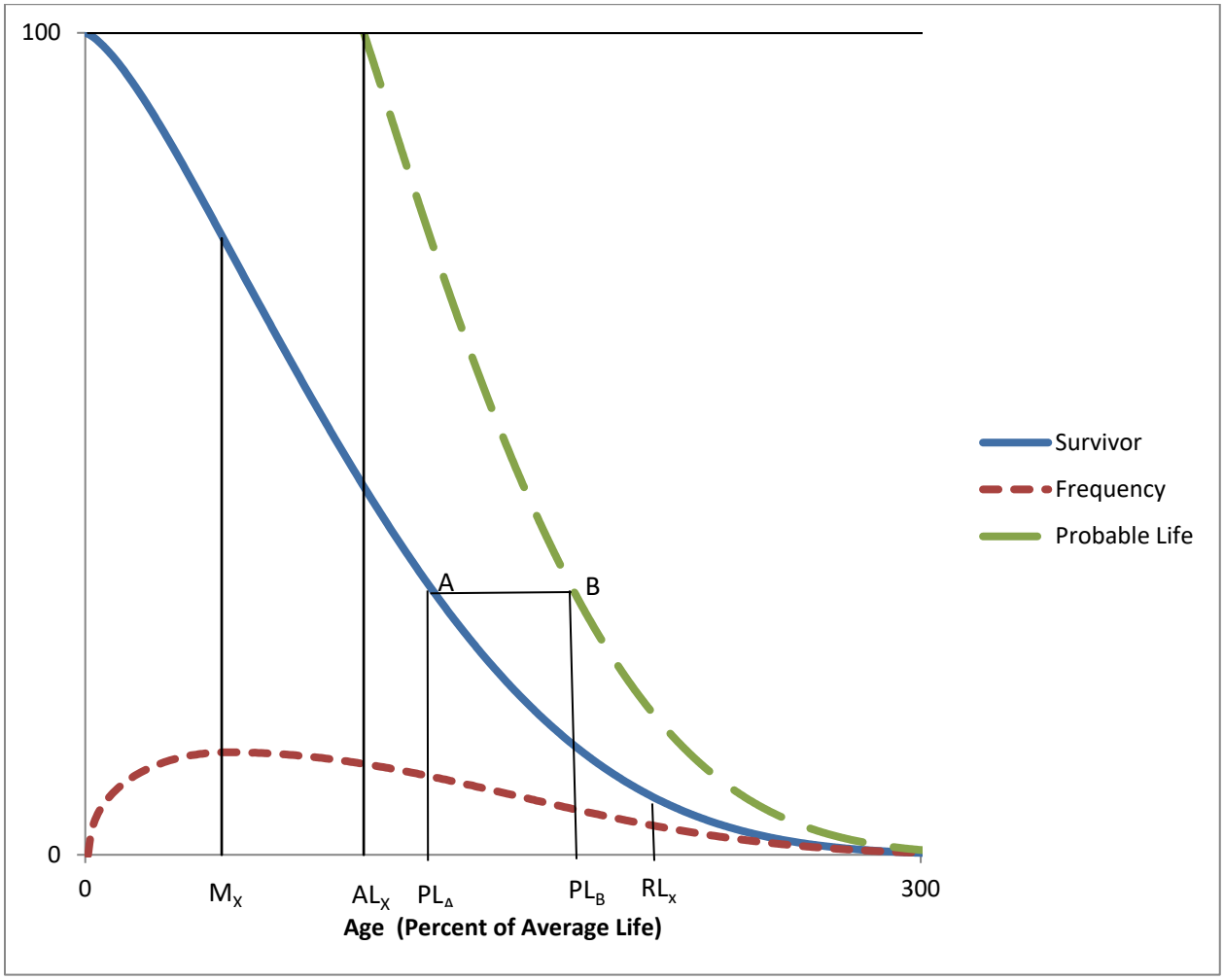
$$Average\ Remaining\ Life\ = \frac{Area\ Under\ Survivor\ Curve\ from\ Age\ x\ to\ Max\ Life}{S_X}$$

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

[66] *Id*. at 73.

[67] *Id*. at 74.

Figure 24:
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.[68] 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

[68] Wolf *supra* n. 9, 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 today will live. Insurance companies rely on 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.[69]

Figure 25:
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 Property Records ("CPR"). Generally, a CPR should contain 1) an inventory of property record

[69] NARUC *supra* n. 10, at 14-15.

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.[70] 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 to calculate observed survivor curves for property groups. Of these methods, the retirement rate method is superior, and is widely employed by depreciation analysts.[71] 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 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 into service 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

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

[71] 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.[72] 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 2012 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 were retired during 2012.

Figure 26:
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	

[72] 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 accounting period is called an "exposure" rather than an addition.

Figure 27:
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.[73] 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).

[73] Wolf *supra* n. 9, 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 at the beginning of 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 28:
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			

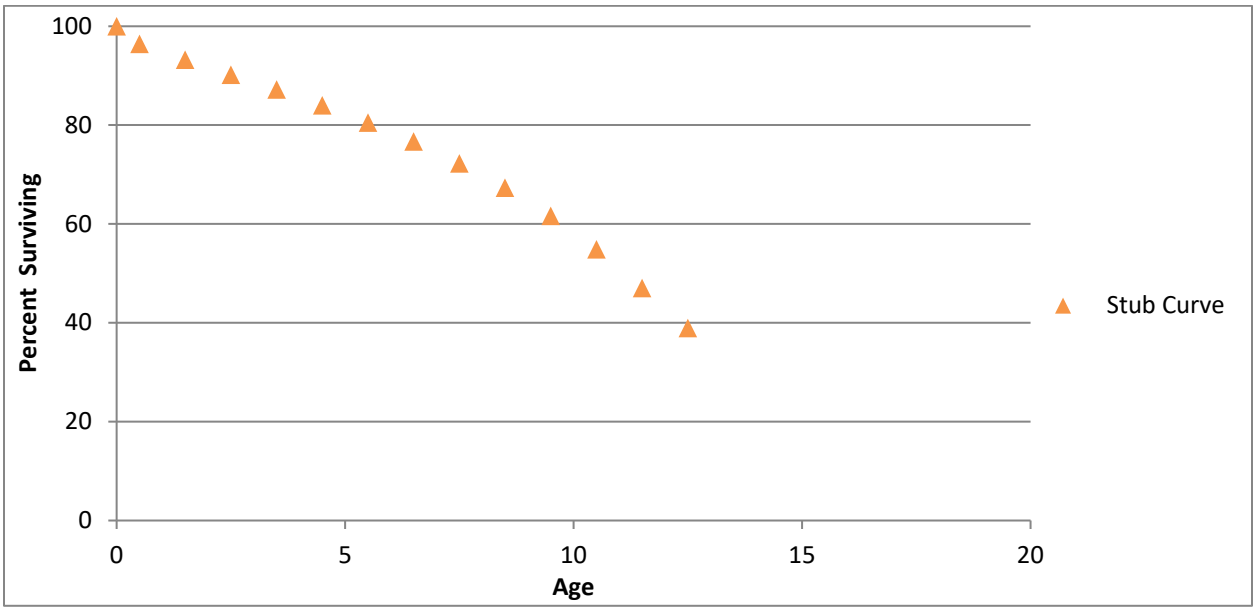
Column F on the right shows the percentages surviving at the beginning of each age interval. This column starts at 100% surviving. Each consecutive number below is calculated by multiplying the percent surviving from the previous age interval by the corresponding survivor ratio for that age interval. 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)[74].

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

[74] 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 above.

Figure 29:
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 sometimes 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.[75] 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.[76]

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.

[75] NARUC *supra* n. 10, at 113.

[76] *Id*.

Figure 30:
Placement Bands

Placement Years	Experience Years: Exposures at January 1 of Each Year (Dollars in 000's) 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.[77] 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 into service with a special chemical treatment that extended the service lives of those poles, an analyst could use placement bands to isolate and analyze the effect of that change in the property group's physical characteristics. While

[77] Wolf *supra* n. 9, at 182.

placement 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.[78]

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.

[78] NARUC *supra* n. 10, at 114.

Figure 31:
Experience Bands

Placement Years	Experience Years: Exposures at January 1 of Each Year (Dollars in 000's) 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 0.5–1.5 ($1,121). 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.[79] 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

[79] *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 to get complete survivor curves, but such analysis would ignore some of 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

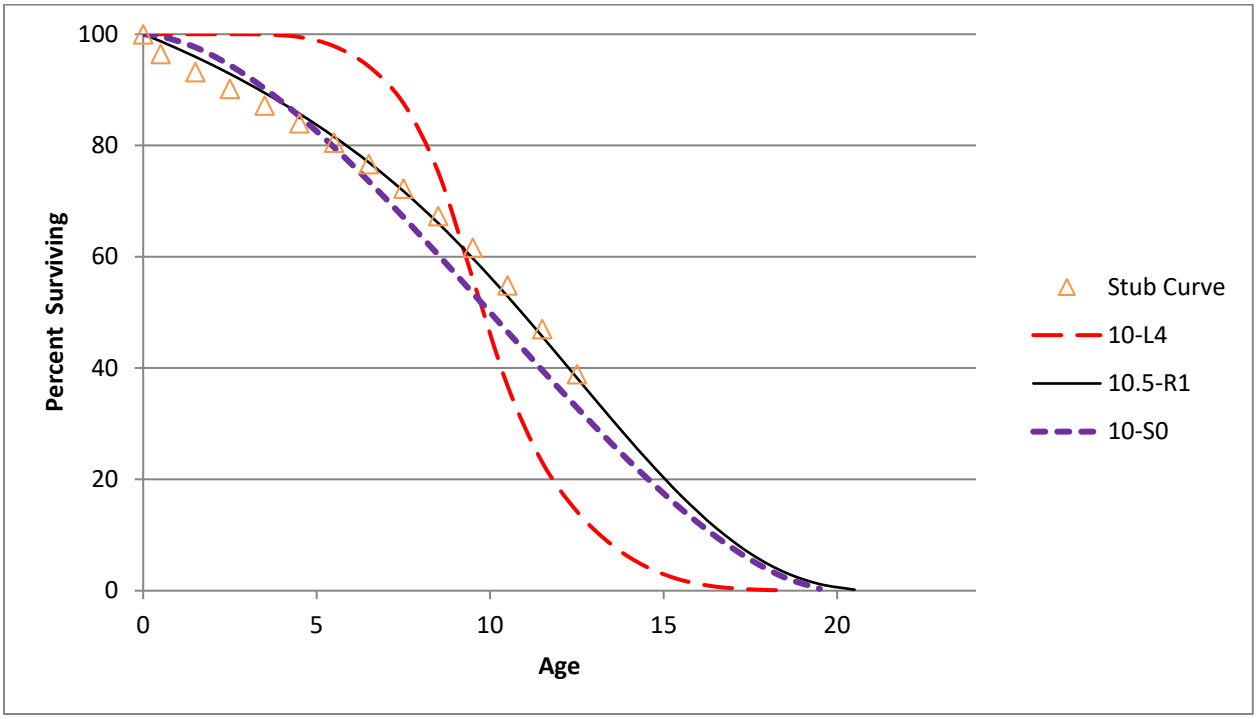
Depreciation analysts typically use the survivor curve rather than the frequency curve to fit the observed stub curves. The most commonly used generalized survivor curves in the curve fitting process are the Iowa curves discussed above. As Wolf notes, if "the Iowa curves are adopted

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."[80]

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.

[80] Wolf *supra* n. 9, at 46 (22 curves includes Winfrey's 18 original curves plus Cowles's four "O" type curves).

Figure 32:
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.[81]

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."[82]

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 for the other two curves. Curve 10-L4 is the worst fit, which was also confirmed visually.

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[81] Wolf *supra* n. 9, at 47.

[82] *Id*. at 48.

Figure 33:
Mathematical Fitting

Age Interval	Stub Curve	Iowa Curves			Squared Differences		
		10-L4	10-S0	10.5-R1	10-L4	10-S0	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 – 2018
Participate in management of operations, attend meetings, review performance, compensation, and financial records. Assist in fundraising events.

Group Facilitator & Fundraiser — 2014 – 2018
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.

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.

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utility Commission of Texas	CenterPoint Energy Houston Electric	PUC 49421	Depreciation rates, service lives, net salvage	Texas Coast Utilities Coalition
Massachusetts Department of Public Utilities	Massachusetts Electric Company and Nantucket Electric Company	D.P.U. 18-150	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201800140	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2018.9.60	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45159	Depreciation rates, grouping procedure, demolition costs	Indiana Office of Utility Consumer Counselor
Public Service Commission of the State of Montana	NorthWestern Energy	D2018.2.12	Depreciation rates, service lives, net salvage	Montana Consumer Counsel
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 201800097	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Wal-Mart
Nevada Public Utilities Commission	Southwest Gas Corporation	18-05031	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	Texas-New Mexico Power Company	PUC 48401	Depreciation rates, service lives, net salvage	Alliance of Texas-New Mexico Power Municipalities
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201700496	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Maryland Public Service Commission	Washington Gas Light Company	9481	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Citizens Energy Group	45039	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 48371	Depreciation rates, decommissioning costs	Texas Municipal Group
Washington Utilities & Transportation Commission	Avista Corporation	UE-180167	Depreciation rates, service lives, net salvage	Washington Office of Attorney General
New Mexico Public Regulation Commission	Southwestern Public Service Company	17-00255-UT	Cost of capital and authorized rate of return	HollyFrontier Navajo Refining; Occidental Permian
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 47527	Depreciation rates, plant service lives	Alliance of Xcel Municipalities
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2017.9.79	Depreciation rates, service lives, net salvage	Montana Consumer Counsel

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Florida Public Service Commission	Florida City Gas	20170179-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-170485	Cost of capital and authorized rate of return	Washington Office of Attorney General
Wyoming Public Service Commission	Powder River Energy Corporation	10014-182-CA-17	Credit analysis, cost of capital	Private customer
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201700151	Depreciation, terminal salvage, risk analysis	Oklahoma Industrial Energy Consumers
Public Utility Commission of Texas	Oncor Electric Delivery Company	PUC 46957	Depreciation rates, simulated analysis	Alliance of Oncor Cities
Nevada Public Utilities Commission	Nevada Power Company	17-06004	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	El Paso Electric Company	PUC 46831	Depreciation rates, interim retirements	City of El Paso
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-24	Accelerated depreciation of North Valmy plant	Micron Technology, Inc.
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-23	Depreciation rates, service lives, net salvage	Micron Technology, Inc.
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 46449	Depreciation rates, decommissioning costs	Cities Advocating Reasonable Deregulation
Massachusetts Department of Public Utilities	Eversource Energy	D.P.U. 17-05	Cost of capital, capital structure, and rate of return	Sunrun Inc.; Energy Freedom Coalition of America
Railroad Commission of Texas	Atmos Pipeline - Texas	GUD 10580	Depreciation rates, grouping procedure	City of Dallas
Public Utility Commission of Texas	Sharyland Utility Company	PUC 45414	Depreciation rates, simulated analysis	City of Mission
Oklahoma Corporation Commission	Empire District Electric Company	PUD 201600468	Cost of capital, depreciation rates	Oklahoma Industrial Energy Consumers
Railroad Commission of Texas	CenterPoint Energy Texas Gas	GUD 10567	Depreciation rates, simulated plant analysis	Texas Coast Utilities Coalition
Arkansas Public Service Commission	Oklahoma Gas & Electric Company	160-159-GU	Cost of capital, depreciation rates, terminal salvage	Arkansas River Valley Energy Consumers; Wal-Mart
Florida Public Service Commission	Peoples Gas	160-159-GU	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-16-0036	Cost of capital, depreciation rates, terminal salvage	Energy Freedom Coalition of America
Nevada Public Utilities Commission	Sierra Pacific Power Company	16-06008	Depreciation rates, net salvage, theoretical reserve	Northern Nevada Utility Customers
Oklahoma Corporation Commission	Oklahoma Gas & Electric Co.	PUD 201500273	Cost of capital, depreciation rates, terminal salvage	Public Utility Division
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201500208	Cost of capital, depreciation rates, terminal salvage	Public Utility Division
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 201500213	Cost of capital, depreciation rates, net salvage	Public Utility Division

Summary Accrual Adjustment

Exhibit DJG-2

Division / Function	Plant 12/31/2017	ComEd Proposal Rate	ComEd Proposal Accrual	AG Proposal Rate	AG Proposal Accrual	AG Adjustment Rate	AG Adjustment Adjustment
Intangible	$ 76,643,287	15.07%	$ 11,546,514	15.07%	$ 11,546,514	0.00%	$ -
Transmission	5,317,122,484	2.36%	125,312,676	2.07%	110,119,570	-0.29%	(15,193,106)
Distribution - HVD	2,965,683,563	2.45%	72,646,585	2.20%	65,382,390	-0.24%	(7,264,195)
Distribution	15,863,107,010	2.73%	432,775,824	2.65%	419,943,960	-0.08%	(12,831,864)
General	2,132,516,133	6.14%	131,014,045	5.02%	107,068,267	-1.12%	(23,945,778)
Total Plant Studied	$ 26,355,072,478	2.93%	$ 773,295,644	2.71%	$ 714,060,701	-0.22%	$ (59,234,943)

Depreciation Parameter Comparison

Account No.	Description	[1] Current Parameters Net Salvage	[1] Current Parameters Iowa Curve Type	[1] Current Parameters Iowa Curve AL	[2] ComEd Proposal Net Salvage	[2] ComEd Proposal Iowa Curve Type	[2] ComEd Proposal Iowa Curve AL	[3] AG Proposal Net Salvage	[3] AG Proposal Iowa Curve Type	[3] AG Proposal Iowa Curve AL
	Tranmission Plant									
352.00	STRUCTURES AND IMPROVEMENTS	-25%	R3	65	-35%	R2.5	65	-35%	R2	69
353.00	STATION EQUIPMENT	-20%	R2	53	-25%	S0.5	54	-25%	S0	62
356.00	OVERHEAD CONDUCTORS AND DEVICES	-40%	R2.5	65	-50%	R2.5	65	-50%	R2	71
358.00	UNDERGROUND CONDUCTORS AND DEVICES	-25%	R2.5	52	-30%	R2.5	55	-30%	R2	62
	Distribution Plant									
362.00	STATION EQUIPMENT	-30%	R1.5	54	-40%	R1.5	57	-40%	R1	65
362.02	STATION EQUIPMENT - HVD	-30%	R2	53	-35%	S0.5	54	-35%	R2	61
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	-35%	S0	30	-40%	S0	30	-40%	R0.5	37
368.00	LINE TRANSFORMERS	0%	SQ	35	-5%	SQ	35	-5%	SQ	43
	General Plant									
390.00	STRUCTURES AND IMPROVEMENTS	-15%	R1	50	-20%	R1	50	-20%	R0.5	58
397.00	COMMUNICATION EQUIPMENT	-5%	S2	18	-15%	S2	18	-10%	R2	25

Detailed Rate Comparison

Account No.	Description	[1] Plant 12/31/2017	[2] ComEd Proposal Rate	[2] ComEd Proposal Annual Accrual	[3] AG Proposal Rate	[3] AG Proposal Annual Accrual	[4] AG Adjustment Rate	[4] AG Adjustment Annual Accrual
	Intangible Plant							
303.00	MISCELLANEOUS INTANGIBLE PLANT	76,643,287	15.07%	11,546,514	15.07%	11,546,514	0.00%	0
	TOTAL INTANGIBLE PLANT	76,643,287	15.07%	11,546,514	15.07%	11,546,514	0.00%	0
	Transmission Plant							
350.09	LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	77,681,734	1.39%	1,082,113	1.39%	1,082,217	0.00%	104
352.00	STRUCTURES AND IMPROVEMENTS	487,133,103	2.15%	10,491,228	1.98%	9,633,552	-0.17%	-857,676
353.00	STATION EQUIPMENT	2,402,301,471	2.43%	58,491,162	2.02%	48,483,855	-0.41%	-10,007,307
354.00	TOWERS AND FIXTURES	263,301,178	2.63%	6,913,876	2.63%	6,922,532	0.00%	8,656
355.00	POLES AND FIXTURES	748,559,061	2.23%	16,673,850	2.23%	16,661,590	0.00%	-12,260
356.00	OVERHEAD CONDUCTORS AND DEVICES	581,041,710	2.51%	14,574,617	2.15%	12,470,242	-0.36%	-2,104,375
357.00	UNDERGROUND CONDUIT	222,134,752	1.61%	3,575,575	1.61%	3,574,464	0.00%	-1,111
358.00	UNDERGROUND CONDUCTORS AND DEVICES	530,913,289	2.53%	13,444,883	2.11%	11,219,779	-0.42%	-2,225,104
359.00	ROADS AND TRAILS	587,437	2.37%	13,902	2.37%	13,937	0.00%	35
350.09	GL 105 LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	3,468,749	1.48%	51,470	1.65%	57,402	0.17%	5,932
	TOTAL TRANSMISSION PLANT	5,317,122,484	2.36%	125,312,676	2.07%	110,119,570	-0.29%	-15,193,106
	Distribution Plant - HVD							
360.08	LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	15,652,062	1.30%	203,923	1.30%	203,934	0.00%	11
361.02	STRUCTURES AND IMPROVEMENTS	461,266,943	2.13%	9,815,968	2.13%	9,822,676	0.00%	6,708
362.02	STATION EQUIPMENT	2,094,362,939	2.57%	53,818,853	2.22%	46,550,149	-0.35%	-7,268,704
364.02	POLES, TOWERS AND FIXTURES	124,037,321	2.19%	2,712,648	2.19%	2,714,278	0.00%	1,630
365.02	OVERHEAD CONDUCTORS AND DEVICES	56,454,653	2.47%	1,396,528	2.47%	1,395,778	0.00%	-750
366.02	UNDERGROUND CONDUIT	72,746,771	1.61%	1,173,186	1.61%	1,174,204	0.00%	1,018
367.02	UNDERGROUND CONDUCTORS AND DEVICES	141,162,875	2.50%	3,525,479	2.49%	3,521,371	-0.01%	-4,108
	TOTAL DISTRIBUTION PLANT - HVD	2,965,683,563	2.45%	72,646,585	2.20%	65,382,390	-0.24%	-7,264,195
	Distribution Plant							
360.09	LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	5,282,787	1.16%	61,103	1.16%	61,076	0.00%	-27
361.00	STRUCTURES & IMPROVEMENTS	81,314,140	2.04%	1,659,555	2.04%	1,659,508	0.00%	-47
362.00	STATION EQUIPMENT	874,480,838	2.31%	20,183,326	1.92%	16,783,190	-0.39%	-3,400,136
363.00	STORAGE BATTERY EQUIPMENT	1,875	7.31%	137	7.31%	137	0.00%	0
364.00	POLES, TOWERS AND FIXTURES	1,788,130,222	4.40%	78,690,039	4.41%	78,789,373	0.01%	99,334
365.00	OVERHEAD CONDUCTORS AND DEVICES	2,816,689,238	2.68%	75,611,417	2.68%	75,546,853	0.00%	-64,564
366.00	UNDERGROUND CONDUIT	847,190,533	1.40%	11,850,243	1.40%	11,855,876	0.00%	5,633
367.00	UNDERGROUND CONDUCTORS AND DEVICES	5,850,693,195	1.94%	113,557,206	1.94%	113,574,458	0.00%	17,252
369.00	SERVICES	1,314,361,689	2.73%	35,878,534	2.73%	35,852,715	0.00%	-25,819
371.00	INSTALLATIONS ON CUSTOMER PREMISES	64,686,747	3.60%	2,331,283	3.61%	2,332,160	0.01%	877
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	1,300,541	3.21%	41,695	3.21%	41,749	0.00%	54
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	146,039,402	4.31%	6,294,216	3.23%	4,714,443	-1.08%	-1,579,773
368.00	LINE TRANSFORMERS	1,395,740,007	2.59%	36,189,677	2.02%	28,249,592	-0.57%	-7,940,085

Detailed Rate Comparison

Account No.	Description	[1] Plant 12/31/2017	[2] ComEd Proposal Rate	[2] ComEd Proposal Annual Accrual	[3] AG Proposal Rate	[3] AG Proposal Annual Accrual	[4] AG Adjustment Rate	[4] AG Adjustment Annual Accrual
370.01	METERS - AMI	647,074,174	7.64%	49,443,966	7.65%	49,501,178	0.01%	57,212
370.02	METERS - RELAYS, CT AND PT	30,121,621	3.26%	983,427	3.26%	981,651	0.00%	-1,776
	TOTAL DISTRIBUTION PLANT	15,863,107,010	2.73%	432,775,824	2.65%	419,943,960	-0.08%	-12,831,864
	General Plant							
390.00	STRUCTURES AND IMPROVEMENTS	544,887,407	2.53%	13,777,233	2.05%	11,148,186	-0.48%	-2,629,047
391.01	OFFICE FURNITURE AND EQUIPMENT - OFFICE MACHINES	198,225	24.66%	48,886	24.96%	49,469	0.30%	583
391.02	OFFICE FURNITURE AND EQUIPMENT - FURNITURE/EQUIPMENT	22,800,945	8.48%	1,932,759	8.48%	1,933,861	0.00%	1,102
391.03	OFFICE FURNITURE AND EQUIPMENT - COMPUTER EQUIPMENT	93,074,052	17.64%	16,422,810	17.80%	16,565,727	0.16%	142,917
392.00	TRANSPORTATION EQUIPMENT - PASSENGER CARS	5,559,713	2.93%	162,724	2.95%	163,826	0.02%	1,102
392.01	TRANSPORTATION EQUIPMENT - TRACTOR TRUCKS	2,631,708	2.73%	71,896	2.76%	72,545	0.03%	649
392.02	TRANSPORTATION EQUIPMENT - TRAILERS	15,515,375	3.21%	498,444	3.22%	499,068	0.01%	624
392.05	TRANSPORTATION EQUIPMENT - TRUCKS < 13,000 LBS	79,356,524	7.86%	6,240,131	7.81%	6,194,784	-0.05%	-45,347
392.06	TRANSPORTATION EQUIPMENT - TRUCKS >= 13,000 LBS	244,623,398	5.91%	14,450,964	5.89%	14,412,952	-0.02%	-38,012
393.00	STORES EQUIPMENT	6,652,794	5.87%	390,842	5.89%	392,148	0.02%	1,306
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	201,358,580	3.83%	7,718,675	3.84%	7,729,685	0.01%	11,010
395.00	LABORATORY EQUIPMENT	2,790,683	7.36%	205,283	7.36%	205,482	0.00%	199
396.00	POWER OPERATED EQUIPMENT	10,788,824	5.52%	595,544	5.52%	596,012	0.00%	468
397.00	COMMUNICATION EQUIPMENT							
	SCADA, FIBER OPTIC, AND MICROWAVE EQUIPMENT	601,591,608	6.22%	37,412,895	2.93%	17,640,102	-3.29%	-19,772,793
	ALL OTHER EQUIPMENT	186,969,646	9.11%	17,039,096	8.57%	16,028,130	-0.54%	-1,010,966
397.01	COMMUNICATION EQUIPMENT - MESH DEVICES	102,296,713	12.96%	13,255,395	12.36%	12,644,686	-0.60%	-610,709
397.02	COMMUNICATION EQUIPMENT - SMART STREET LIGHTS	195,397	9.69%	18,927	9.27%	18,123	-0.42%	-804
398.00	MISCELLANEOUS EQUIPMENT	11,224,543	6.87%	771,541	6.89%	773,482	0.02%	1,941
	TOTAL GENERAL PLANT	2,132,516,133	6.14%	131,014,045	5.02%	107,068,267	-1.12%	-23,945,778
	TOTAL PLANT STUDIED	**26,355,072,478**	**2.93%**	**773,295,644**	**2.71%**	**714,060,701**	**-0.22%**	**-59,234,943**

[1], [2] Depreciation Study
[3] From Exhibit DJG-5
[4] = [3] - [2]

Depreciation Rate Development

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														
303.00	MISCELLANEOUS INTANGIBLE PLANT	76,643,287	SQ	5	0%	76,643,287	40,497,456	36,145,831	3.13	11,546,514	15.07%	0	0.00%	11,546,514	**15.07%**
	TOTAL INTANGIBLE PLANT	76,643,287			0.0%	76,643,287	40,497,456	36,145,831	3.13	11,546,514	15.07%	0	0.00%	11,546,514	**15.07%**
	Transmission Plant														
350.09	LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	77,681,734	R4	80	0%	77,681,734	18,809,132	58,872,602	54.40	1,082,217	1.39%	0	0.00%	1,082,217	**1.39%**
352.00	STRUCTURES AND IMPROVEMENTS	487,133,103	R2	69	-35%	657,629,689	67,189,313	590,440,376	61.29	6,851,751	1.41%	2,781,801	0.57%	9,633,552	**1.98%**
353.00	STATION EQUIPMENT	2,402,301,471	S0	62	-25%	3,002,876,839	441,959,595	2,560,917,244	52.82	37,113,629	1.54%	11,370,227	0.47%	48,483,855	**2.02%**
354.00	TOWERS AND FIXTURES	263,301,178	R4	75	-60%	421,281,885	163,763,682	257,518,203	37.20	2,675,739	1.02%	4,246,793	1.61%	6,922,532	**2.63%**
355.00	POLES AND FIXTURES	748,559,061	R3	75	-60%	1,197,694,498	151,346,653	1,046,347,845	62.80	9,509,752	1.27%	7,151,838	0.96%	16,661,590	**2.23%**
356.00	OVERHEAD CONDUCTORS AND DEVICES	581,041,710	R2	71	-50%	871,562,565	164,624,571	706,937,994	56.69	7,345,513	1.26%	5,124,728	0.88%	12,470,242	**2.15%**
357.00	UNDERGROUND CONDUIT	222,134,752	R4	75	-10%	244,348,227	53,471,846	190,876,381	53.40	3,158,481	1.42%	415,983	0.19%	3,574,464	**1.61%**
358.00	UNDERGROUND CONDUCTORS AND DEVICES	530,913,289	R2	62	-30%	690,187,276	124,486,039	565,701,237	50.42	8,060,834	1.52%	3,158,945	0.60%	11,219,779	**2.11%**
359.00	ROADS AND TRAILS	587,437	R4	75	0%	587,437	392,313	195,124	14.00	13,937	2.37%	0	0.00%	13,937	**2.37%**
350.09	GL 105 LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	3,468,749	R4	80	-10%	3,815,624	474,839	3,340,785	58.20	51,442	1.48%	5,960	0.17%	57,402	**1.65%**
	TOTAL TRANSMISSION PLANT	5,317,122,484			-34.8%	7,167,665,774	1,186,517,983	5,981,147,791	54.32	75,863,295	1.43%	34,256,275	0.64%	110,119,570	**2.07%**
	Distribution Plant - HVD														
360.08	LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	15,652,062	R4	80	0%	15,652,062	4,435,669	11,216,393	55.00	203,934	1.30%	0	0.00%	203,934	**1.30%**
361.02	STRUCTURES AND IMPROVEMENTS	461,266,943	R2.5	65	-35%	622,710,373	125,682,986	497,027,387	50.60	6,632,094	1.44%	3,190,582	0.69%	9,822,676	**2.13%**
362.02	STATION EQUIPMENT	2,094,362,939	R2	61	-35%	2,827,389,967	652,101,494	2,175,288,473	46.73	30,863,716	1.47%	15,686,433	0.75%	46,550,149	**2.22%**
364.02	POLES, TOWERS AND FIXTURES	124,037,321	R3	75	-60%	198,459,713	44,831,562	153,628,151	56.60	1,399,395	1.13%	1,314,883	1.06%	2,714,278	**2.19%**
365.02	OVERHEAD CONDUCTORS AND DEVICES	56,454,653	R2.5	65	-55%	87,504,712	24,136,408	63,368,304	45.40	711,856	1.26%	683,922	1.21%	1,395,778	**2.47%**
366.02	UNDERGROUND CONDUIT	72,746,771	R4	75	-15%	83,658,787	29,293,132	54,365,655	46.30	938,524	1.29%	235,681	0.32%	1,174,204	**1.61%**
367.02	UNDERGROUND CONDUCTORS AND DEVICES	141,162,875	R2.5	55	-30%	183,511,737	51,460,343	132,051,394	37.50	2,392,068	1.69%	1,129,303	0.80%	3,521,371	**2.49%**
	TOTAL DISTRIBUTION PLANT - HVD	2,965,683,563			-35.5%	4,018,887,352	931,941,594	3,086,945,758	47.21	43,141,586	1.45%	22,240,804	0.75%	65,382,390	**2.20%**
	Distribution Plant														
360.09	LAND AND LAND RIGHTS - PERPETUAL EASEMENTS	5,282,787	R4	80	0%	5,282,787	2,210,684	3,072,103	50.30	61,076	1.16%	0	0.00%	61,076	**1.16%**
361.00	STRUCTURES & IMPROVEMENTS	81,314,140	R2	65	-40%	113,839,796	21,903,077	91,936,719	55.40	1,072,402	1.32%	587,106	0.72%	1,659,508	**2.04%**
362.00	STATION EQUIPMENT	874,480,838	R1	65	-40%	1,224,273,173	391,491,270	832,781,903	49.62	9,733,768	1.11%	7,049,422	0.81%	16,783,190	**1.92%**
363.00	STORAGE BATTERY EQUIPMENT	1,875	S2	15	-10%	2,063	76	1,987	14.50	124	6.62%	13	0.69%	137	**7.31%**
364.00	POLES, TOWERS AND FIXTURES	1,788,130,222	R1.5	50	-130%	4,112,699,510	1,000,519,266	3,112,180,244	39.50	19,939,518	1.12%	58,849,855	3.29%	78,789,373	**4.41%**
365.00	OVERHEAD CONDUCTORS AND DEVICES	2,816,689,238	R1	56	-55%	4,365,868,319	868,049,034	3,497,819,285	46.30	42,087,261	1.49%	33,459,591	1.19%	75,546,853	**2.68%**
366.00	UNDERGROUND CONDUIT	847,190,533	R3	75	-15%	974,269,113	335,237,384	639,031,729	53.90	9,498,203	1.12%	2,357,673	0.28%	11,855,876	**1.40%**
367.00	UNDERGROUND CONDUCTORS AND DEVICES	5,850,693,195	R0.5	53	-5%	6,143,227,855	952,875,109	5,190,352,746	45.70	107,173,262	1.83%	6,401,196	0.11%	113,574,458	**1.94%**
369.00	SERVICES	1,314,361,689	R3	55	-60%	2,102,978,702	668,870,107	1,434,108,595	40.00	16,137,290	1.23%	19,715,425	1.50%	35,852,715	**2.73%**
371.00	INSTALLATIONS ON CUSTOMER PREMISES	64,686,747	S0	37	-40%	90,561,446	26,427,043	64,134,403	27.50	1,391,262	2.15%	940,898	1.45%	2,332,160	**3.61%**
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	1,300,541	R3	35	-15%	1,495,623	284,904	1,210,719	29.00	35,022	2.69%	6,727	0.52%	41,749	**3.21%**
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	146,039,402	R0.5	37	-40%	204,455,163	68,349,182	136,105,981	28.87	2,691,036	1.84%	2,023,407	1.39%	4,714,443	**3.23%**
368.00	LINE TRANSFORMERS	1,395,740,007	SQ	43	-5%	1,465,527,007	682,730,807	782,796,200	27.71	25,731,115	1.84%	2,518,477	0.18%	28,249,592	**2.02%**
370.01	METERS - AMI	647,074,174	SQ	15	-15%	744,135,300	100,619,984	643,515,315	13.00	42,034,938	6.50%	7,466,240	1.15%	49,501,178	**7.65%**
370.02	METERS - RELAYS, CT AND PT	30,121,621	SQ	35	-10%	33,133,783	10,359,474	22,774,310	23.20	851,817	2.83%	129,835	0.43%	981,651	**3.26%**
	TOTAL DISTRIBUTION PLANT	15,863,107,010			-36.0%	21,581,749,640	5,129,927,401	16,451,822,239	39.18	278,438,094	1.76%	141,505,866	0.89%	419,943,960	**2.65%**
	General Plant														
390.00	STRUCTURES AND IMPROVEMENTS	544,887,407	R0.5	58	-20%	653,864,888	84,638,532	569,226,356	51.06	9,013,883	1.65%	2,134,302	0.39%	11,148,186	**2.05%**
391.01	OFFICE FURNITURE AND EQUIPMENT - OFFICE MACHINES	198,225	SQ	10	0%	198,225	54,764	143,461	2.90	49,469	24.96%	0	0.00%	49,469	**24.96%**
391.02	OFFICE FURNITURE AND EQUIPMENT - FURNITURE/EQUIPMENT	22,800,945	SQ	15	0%	22,800,945	4,235,879	18,565,066	9.60	1,933,861	8.48%	0	0.00%	1,933,861	**8.48%**
391.03	OFFICE FURNITURE AND EQUIPMENT - COMPUTER EQUIPMENT	93,074,052	SQ	5	0%	93,074,052	48,346,589	44,727,463	2.70	16,565,727	17.80%	0	0.00%	16,565,727	**17.80%**
392.00	TRANSPORTATION EQUIPMENT - PASSENGER CARS	5,559,713	R3	8.5	8%	5,114,936	4,361,338	753,598	4.60	260,516	4.69%	-96,691	-1.74%	163,826	**2.95%**
392.01	TRANSPORTATION EQUIPMENT - TRACTOR TRUCKS	2,631,708	R2.5	15	9%	2,394,854	2,039,384	355,470	4.90	120,882	4.59%	-48,337	-1.84%	72,545	**2.76%**
392.02	TRANSPORTATION EQUIPMENT - TRAILERS	15,515,375	S0	18	15%	13,188,069	6,251,022	6,937,047	13.90	666,500	4.30%	-167,432	-1.08%	499,068	**3.22%**
392.05	TRANSPORTATION EQUIPMENT - TRUCKS < 13,000 LBS	79,356,524	R2.5	10	10%	71,420,871	30,535,296	40,885,575	6.60	7,397,156	9.32%	-1,202,372	-1.52%	6,194,784	**7.81%**
392.06	TRANSPORTATION EQUIPMENT - TRUCKS >= 13,000 LBS	244,623,398	S1.5	14	8%	225,053,526	83,806,595	141,246,931	9.80	16,409,878	6.71%	-1,996,926	-0.82%	14,412,952	**5.89%**
393.00	STORES EQUIPMENT	6,652,794	SQ	15	0%	6,652,794	1,319,588	5,333,206	13.60	392,148	5.89%	0	0.00%	392,148	**5.89%**

Depreciation Rate Development

		[1]	[2]		[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Account No.	Description	Original Cost	Iowa Curve Type	AL	Net Salvage	Depreciable Base	Book Reserve	Future Accruals	Remaining Life	Service Life Accrual	Service Life Rate	Net Salvage Accrual	Net Salvage Rate	Total Accrual	Total Rate
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	201,358,580	SQ	25	0%	201,358,580	83,094,393	118,264,187	15.30	7,729,685	3.84%	0	0.00%	7,729,685	**3.84%**
395.00	LABORATORY EQUIPMENT	2,790,683	SQ	15	0%	2,790,683	797,508	1,993,174	9.70	205,482	7.36%	0	0.00%	205,482	**7.36%**
396.00	POWER OPERATED EQUIPMENT	10,788,824	L3	15	5%	10,249,382	5,183,277	5,066,106	8.50	659,476	6.11%	-63,464	-0.59%	596,012	**5.52%**
397.00	COMMUNICATION EQUIPMENT														
	SCADA, FIBER OPTIC, AND MICROWAVE EQUIPMENT	601,591,608	R2	25	-10%	661,750,768	422,550,991	239,199,778	13.56	13,203,585	2.19%	4,436,516	0.74%	17,640,102	**2.93%**
	ALL OTHER EQUIPMENT	186,969,646	SQ	15	-10%	205,666,610	48,590,938	157,075,672	9.80	14,120,276	7.55%	1,907,854	1.02%	16,028,130	**8.57%**
397.01	COMMUNICATION EQUIPMENT - MESH DEVICES	102,296,713	SQ	10	-10%	112,526,384	18,955,707	93,570,677	7.40	11,262,298	11.01%	1,382,388	1.35%	12,644,686	**12.36%**
397.02	COMMUNICATION EQUIPMENT - SMART STREET LIGHTS	195,397	SQ	12	-10%	214,937	8,340	206,597	11.40	16,409	8.40%	1,714	0.88%	18,123	**9.27%**
398.00	MISCELLANEOUS EQUIPMENT	11,224,543	SQ	15	0%	11,224,543	2,020,102	9,204,441	11.90	773,482	6.89%	0	0.00%	773,482	**6.89%**
	TOTAL GENERAL PLANT	2,132,516,133			-7.8%	2,299,545,048	846,790,245	1,452,754,804	13.57	100,780,714	4.73%	6,287,553	0.29%	107,068,267	**5.02%**
	TOTAL PLANT STUDIED	**26,355,072,478**			-33.4%	**35,144,491,101**	**8,135,674,679**	**27,008,816,422**	37.82	**509,770,203**	1.93%	**204,290,498**	0.78%	**714,060,701**	**2.71%**

[1] Company depreciation study
[2] Average life and Iowa curve shape developed through actuarial analysis and professional judgment
[3] Net salvage for mass property accounts developed through statistical analysis and professional judgment
[4] = [1]*(1-[3])
[5] Company depreciation study
[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]

Account 352 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R2.5-65**	**AG R2-69**	**ComEd SSD**	**AG SSD**
0.0	532,828,455	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	501,393,872	99.98%	99.96%	99.93%	0.0000	0.0000
1.5	351,005,422	99.98%	99.87%	99.79%	0.0000	0.0000
2.5	302,621,063	99.88%	99.77%	99.64%	0.0000	0.0000
3.5	256,837,568	99.87%	99.67%	99.48%	0.0000	0.0000
4.5	250,959,281	99.86%	99.57%	99.32%	0.0000	0.0000
5.5	241,653,790	99.74%	99.45%	99.15%	0.0000	0.0000
6.5	232,110,560	99.57%	99.33%	98.97%	0.0000	0.0000
7.5	220,860,376	99.35%	99.20%	98.78%	0.0000	0.0000
8.5	218,280,581	99.04%	99.07%	98.58%	0.0000	0.0000
9.5	190,329,100	98.92%	98.92%	98.37%	0.0000	0.0000
10.5	184,392,792	97.64%	98.77%	98.16%	0.0001	0.0000
11.5	132,861,813	96.84%	98.60%	97.93%	0.0003	0.0001
12.5	140,281,822	96.61%	98.43%	97.70%	0.0003	0.0001
13.5	127,011,285	95.93%	98.24%	97.45%	0.0005	0.0002
14.5	126,108,771	95.88%	98.05%	97.19%	0.0005	0.0002
15.5	123,586,974	95.78%	97.84%	96.92%	0.0004	0.0001
16.5	102,885,066	95.56%	97.62%	96.64%	0.0004	0.0001
17.5	98,745,123	95.20%	97.38%	96.35%	0.0005	0.0001
18.5	97,083,201	93.36%	97.13%	96.05%	0.0014	0.0007
19.5	90,832,034	93.18%	96.87%	95.73%	0.0014	0.0006
20.5	80,164,437	93.08%	96.59%	95.40%	0.0012	0.0005
21.5	73,410,042	92.74%	96.30%	95.05%	0.0013	0.0005
22.5	85,748,278	92.44%	95.99%	94.69%	0.0013	0.0005
23.5	77,218,620	92.05%	95.66%	94.32%	0.0013	0.0005
24.5	76,450,135	91.79%	95.32%	93.93%	0.0012	0.0005
25.5	59,542,206	91.62%	94.95%	93.53%	0.0011	0.0004
26.5	56,456,837	91.55%	94.57%	93.11%	0.0009	0.0002
27.5	54,364,640	91.40%	94.16%	92.67%	0.0008	0.0002
28.5	52,006,433	90.97%	93.74%	92.22%	0.0008	0.0002
29.5	50,094,660	90.85%	93.29%	91.75%	0.0006	0.0001
30.5	48,022,124	90.77%	92.81%	91.26%	0.0004	0.0000
31.5	46,576,822	89.52%	92.32%	90.76%	0.0008	0.0002
32.5	45,878,519	89.45%	91.80%	90.23%	0.0006	0.0001
33.5	46,138,901	89.40%	91.25%	89.69%	0.0003	0.0000
34.5	45,719,446	89.20%	90.67%	89.13%	0.0002	0.0000
35.5	43,201,107	88.69%	90.07%	88.54%	0.0002	0.0000
36.5	41,366,973	88.66%	89.44%	87.94%	0.0001	0.0001
37.5	41,411,022	88.44%	88.77%	87.31%	0.0000	0.0001
38.5	35,276,492	88.14%	88.08%	86.66%	0.0000	0.0002
39.5	33,514,858	87.06%	87.35%	85.99%	0.0000	0.0001
40.5	32,338,184	86.50%	86.59%	85.29%	0.0000	0.0001
41.5	23,132,395	86.35%	85.80%	84.57%	0.0000	0.0003
42.5	21,564,953	85.56%	84.97%	83.83%	0.0000	0.0003
43.5	18,974,163	84.09%	84.10%	83.06%	0.0000	0.0001
44.5	16,720,033	83.39%	83.20%	82.27%	0.0000	0.0001
45.5	15,543,648	82.58%	82.25%	81.45%	0.0000	0.0001
46.5	13,538,667	80.75%	81.26%	80.60%	0.0000	0.0000
47.5	12,161,041	79.87%	80.23%	79.73%	0.0000	0.0000
48.5	9,375,972	79.65%	79.16%	78.83%	0.0000	0.0001
49.5	7,816,492	79.51%	78.04%	77.90%	0.0002	0.0003
50.5	7,305,456	79.15%	76.88%	76.94%	0.0005	0.0005
51.5	6,996,992	78.87%	75.67%	75.96%	0.0010	0.0008
52.5	6,787,631	78.67%	74.40%	74.94%	0.0018	0.0014
53.5	6,567,983	77.76%	73.09%	73.90%	0.0022	0.0015
54.5	6,447,205	77.49%	71.73%	72.83%	0.0033	0.0022
55.5	5,628,228	67.78%	70.32%	71.72%	0.0006	0.0016
56.5	5,624,313	67.66%	68.86%	70.59%	0.0001	0.0009
57.5	5,494,885	67.35%	67.34%	69.43%	0.0000	0.0004
58.5	5,157,899	66.17%	65.77%	68.23%	0.0000	0.0004
59.5	4,986,884	65.27%	64.15%	67.01%	0.0001	0.0003
60.5	4,735,329	65.18%	62.48%	65.76%	0.0007	0.0000
61.5	4,448,001	65.17%	60.76%	64.48%	0.0019	0.0000
62.5	3,733,938	59.23%	58.99%	63.17%	0.0000	0.0016
63.5	3,577,245	58.40%	57.18%	61.84%	0.0001	0.0012
64.5	2,714,041	53.36%	55.32%	60.47%	0.0004	0.0051
65.5	1,842,047	53.31%	53.43%	59.08%	0.0000	0.0033
66.5	1,262,828	53.24%	51.50%	57.67%	0.0003	0.0020
67.5	1,153,467	52.85%	49.54%	56.23%	0.0011	0.0011
68.5	967,174	52.30%	47.56%	54.76%	0.0023	0.0006
69.5	1,193,537	51.99%	45.55%	53.28%	0.0041	0.0002
70.5	1,065,124	49.49%	43.53%	51.78%	0.0035	0.0005
71.5	1,569,289	49.29%	41.51%	50.25%	0.0061	0.0001

Account 352 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R2.5-65**	**AG R2-69**	**ComEd SSD**	**AG SSD**
72.5	1,551,263	48.96%	39.48%	48.72%	0.0090	0.0000
73.5	1,271,770	46.39%	37.46%	47.16%	0.0080	0.0001
74.5	1,204,834	44.60%	35.46%	45.60%	0.0084	0.0001
75.5	1,160,778	44.60%	33.47%	44.03%	0.0124	0.0000
76.5	808,881	44.60%	31.51%	42.45%	0.0171	0.0005
77.5	786,886	44.55%	29.59%	40.86%	0.0224	0.0014
78.5	787,969	44.55%	27.71%	39.28%	0.0283	0.0028
79.5	787,180	44.55%	25.88%	37.69%	0.0348	0.0047
80.5	786,094	44.55%	24.10%	36.11%	0.0418	0.0071
81.5	782,997	44.55%	22.39%	34.54%	0.0491	0.0100
82.5	780,543	44.51%	20.73%	32.98%	0.0566	0.0133
83.5	779,839	44.51%	19.14%	31.43%	0.0643	0.0171
84.5	744,295	44.51%	17.62%	29.90%	0.0723	0.0214
85.5	723,651	44.46%	16.18%	28.39%	0.0800	0.0258
86.5	605,463	44.46%	14.80%	26.90%	0.0880	0.0308
87.5	500,073	44.46%	13.51%	25.43%	0.0958	0.0362
88.5	191,383	44.22%	12.28%	24.00%	0.1020	0.0409
89.5	37,211	43.62%	11.13%	22.60%	0.1056	0.0442
90.5	-622,050	42.28%	10.05%	21.23%	0.1039	0.0443
91.5	-630,629	42.33%	9.05%	19.90%	0.1108	0.0503
92.5	-350,193	42.33%	8.11%	18.60%	0.1171	0.0563
93.5	-401,776	42.51%	7.24%	17.35%	0.1244	0.0633
94.5	-139,146	42.51%	6.44%	16.14%	0.1301	0.0695
95.5	-145,826	42.51%	5.70%	14.98%	0.1355	0.0758
96.5	-143,118	42.51%	5.02%	13.85%	0.1405	0.0821
97.5	-139,227	42.51%	4.40%	12.78%	0.1452	0.0884
98.5	-130,185	42.51%	3.84%	11.75%	0.1495	0.0946
99.5	-126,769	42.51%	3.33%	10.77%	0.1535	0.1007
100.5	-126,769	42.51%	2.87%	9.84%	0.1571	0.1067
101.5	-122,320	42.51%	2.46%	8.96%	0.1604	0.1126
102.5	-122,320	42.51%	2.10%	8.12%	0.1633	0.1183
103.5	-41,564	42.51%	1.77%	7.33%	0.1659	0.1238
104.5	-41,564	42.51%	1.49%	6.59%	0.1683	0.1290
105.5	7,738	42.51%	1.24%	5.89%	0.1703	0.1341
106.5	7,738	42.51%	1.02%	5.24%	0.1721	0.1389
107.5	2,987	42.51%	0.84%	4.63%	0.1737	0.1435
108.5	2,987	42.51%	0.67%	4.07%	0.1750	0.1478
109.5	2,987	42.51%	0.53%	3.55%	0.1762	0.1518
110.5	2,987	42.51%	0.41%	3.07%	0.1772	0.1556
111.5	2,987	42.51%	0.31%	2.63%	0.1781	0.1590
112.5	2,987	42.51%	0.22%	2.23%	0.1788	0.1623
113.5	2,987	42.51%	0.16%	1.87%	0.1794	0.1652
114.5	2,987	42.51%	0.10%	1.54%	0.1798	0.1678
115.5	2,987	42.51%	0.06%	1.26%	0.1802	0.1702
116.5	0	42.51%	0.03%	1.00%	0.1804	0.1723
117.5	0	42.51%	0.02%	0.78%	0.1806	0.1741
118.5	0	42.51%	0.01%	0.59%	0.1807	0.1757
119.5	0	42.51%	0.00%	0.44%	0.1807	0.1770
120.5	0	42.51%	0.00%	0.31%		
Sum of Squared Differences				[8]	5.7345	4.0014
Up to 1% of Beginning Exposures				[9]	0.0289	0.0176

[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 353 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S0.5-54**	**AG S0-62**	**ComEd SSD**	**AG SSD**
0.0	3,468,443,723	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	3,259,208,574	99.64%	99.99%	99.99%	0.0000	0.0000
1.5	2,994,210,040	99.60%	99.94%	99.90%	0.0000	0.0000
2.5	2,793,651,121	99.42%	99.84%	99.76%	0.0000	0.0000
3.5	2,440,281,380	99.24%	99.70%	99.57%	0.0000	0.0000
4.5	2,345,949,235	98.85%	99.53%	99.34%	0.0000	0.0000
5.5	2,281,033,248	98.70%	99.32%	99.06%	0.0000	0.0000
6.5	2,097,664,758	98.47%	99.07%	98.74%	0.0000	0.0000
7.5	1,964,649,552	98.35%	98.78%	98.39%	0.0000	0.0000
8.5	1,879,388,012	98.11%	98.46%	98.00%	0.0000	0.0000
9.5	1,740,461,315	97.78%	98.10%	97.58%	0.0000	0.0000
10.5	1,712,306,016	97.49%	97.70%	97.13%	0.0000	0.0000
11.5	1,622,417,412	97.10%	97.26%	96.65%	0.0000	0.0000
12.5	1,593,726,210	96.78%	96.79%	96.14%	0.0000	0.0000
13.5	1,520,533,704	96.34%	96.28%	95.60%	0.0000	0.0001
14.5	1,469,601,803	95.83%	95.72%	95.04%	0.0000	0.0001
15.5	1,429,815,533	95.55%	95.13%	94.45%	0.0000	0.0001
16.5	1,265,056,469	94.84%	94.51%	93.83%	0.0000	0.0001
17.5	1,138,428,703	94.11%	93.84%	93.19%	0.0000	0.0001
18.5	1,086,742,431	93.60%	93.14%	92.52%	0.0000	0.0001
19.5	1,027,700,394	92.88%	92.40%	91.84%	0.0000	0.0001
20.5	982,503,602	92.49%	91.63%	91.13%	0.0001	0.0002
21.5	971,873,269	91.55%	90.82%	90.40%	0.0001	0.0001
22.5	927,748,104	91.16%	89.97%	89.65%	0.0001	0.0002
23.5	875,115,548	90.14%	89.09%	88.88%	0.0001	0.0002
24.5	789,947,236	89.08%	88.17%	88.09%	0.0001	0.0001
25.5	728,030,959	88.50%	87.22%	87.29%	0.0002	0.0001
26.5	687,873,749	87.93%	86.24%	86.46%	0.0003	0.0002
27.5	660,875,502	87.36%	85.22%	85.62%	0.0005	0.0003
28.5	627,443,341	86.47%	84.18%	84.77%	0.0005	0.0003
29.5	596,608,909	85.25%	83.10%	83.89%	0.0005	0.0002
30.5	566,776,678	84.56%	81.99%	83.00%	0.0007	0.0002
31.5	550,632,290	83.74%	80.85%	82.10%	0.0008	0.0003
32.5	528,003,424	82.77%	79.69%	81.18%	0.0010	0.0003
33.5	508,130,581	82.05%	78.49%	80.25%	0.0013	0.0003
34.5	501,441,425	81.40%	77.28%	79.30%	0.0017	0.0004
35.5	476,136,151	80.32%	76.03%	78.34%	0.0018	0.0004
36.5	452,849,897	79.89%	74.77%	77.37%	0.0026	0.0006
37.5	448,561,703	78.96%	73.48%	76.39%	0.0030	0.0007
38.5	413,944,492	77.14%	72.16%	75.40%	0.0025	0.0003
39.5	395,685,851	76.55%	70.83%	74.40%	0.0033	0.0005
40.5	360,346,344	74.87%	69.48%	73.38%	0.0029	0.0002
41.5	323,709,423	74.11%	68.11%	72.36%	0.0036	0.0003
42.5	300,044,626	73.19%	66.72%	71.33%	0.0042	0.0003
43.5	272,645,763	72.12%	65.32%	70.28%	0.0046	0.0003
44.5	249,530,514	71.02%	63.91%	69.23%	0.0051	0.0003
45.5	226,490,819	70.24%	62.48%	68.18%	0.0060	0.0004
46.5	191,760,711	68.78%	61.04%	67.11%	0.0060	0.0003
47.5	166,388,183	68.16%	59.59%	66.04%	0.0073	0.0004
48.5	143,658,172	67.23%	58.13%	64.96%	0.0083	0.0005
49.5	127,485,281	66.32%	56.66%	63.88%	0.0093	0.0006
50.5	118,123,792	65.65%	55.19%	62.79%	0.0109	0.0008
51.5	110,439,466	65.04%	53.71%	61.69%	0.0128	0.0011
52.5	104,993,792	64.61%	52.23%	60.59%	0.0153	0.0016
53.5	99,776,086	64.08%	50.74%	59.49%	0.0178	0.0021
54.5	94,555,188	63.57%	49.26%	58.38%	0.0205	0.0027
55.5	87,315,805	62.70%	47.78%	57.27%	0.0223	0.0029
56.5	83,596,950	61.55%	46.29%	56.16%	0.0233	0.0029
57.5	74,936,834	60.51%	44.82%	55.04%	0.0246	0.0030
58.5	68,013,259	59.75%	43.34%	53.92%	0.0269	0.0034
59.5	61,817,407	59.19%	41.88%	52.81%	0.0300	0.0041
60.5	56,828,177	58.81%	40.42%	51.69%	0.0338	0.0051
61.5	45,723,883	58.28%	38.97%	50.56%	0.0373	0.0060
62.5	40,365,400	57.74%	37.52%	49.44%	0.0409	0.0069
63.5	33,660,784	56.97%	36.10%	48.32%	0.0436	0.0075
64.5	28,814,937	56.65%	34.68%	47.20%	0.0483	0.0089
65.5	25,984,357	56.33%	33.28%	46.08%	0.0531	0.0105
66.5	20,632,401	56.20%	31.89%	44.96%	0.0591	0.0126
67.5	17,087,213	55.68%	30.52%	43.85%	0.0633	0.0140

Account 353 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S0.5-54**	**AG S0-62**	**ComEd SSD**	**AG SSD**
68.5	14,488,783	55.01%	29.17%	42.73%	0.0668	0.0151
69.5	13,157,122	54.65%	27.84%	41.62%	0.0719	0.0170
70.5	11,966,185	51.55%	26.53%	40.52%	0.0626	0.0122
71.5	10,862,682	50.15%	25.24%	39.41%	0.0621	0.0115
72.5	10,363,270	49.62%	23.97%	38.31%	0.0658	0.0128
73.5	9,913,229	49.39%	22.73%	37.22%	0.0711	0.0148
74.5	9,542,634	49.01%	21.51%	36.13%	0.0756	0.0166
75.5	8,704,465	47.70%	20.32%	35.05%	0.0750	0.0160
76.5	8,065,655	47.50%	19.15%	33.97%	0.0804	0.0183
77.5	7,773,144	47.19%	18.02%	32.90%	0.0851	0.0204
78.5	7,217,611	47.12%	16.91%	31.83%	0.0913	0.0234
79.5	6,714,011	47.03%	15.83%	30.77%	0.0974	0.0264
80.5	6,613,352	46.98%	14.78%	29.72%	0.1037	0.0298
81.5	6,521,844	46.62%	13.76%	28.68%	0.1079	0.0322
82.5	6,447,991	46.40%	12.78%	27.65%	0.1130	0.0352
83.5	6,235,805	46.36%	11.83%	26.63%	0.1192	0.0389
84.5	5,909,432	46.23%	10.92%	25.61%	0.1247	0.0425
85.5	5,319,086	45.95%	10.03%	24.61%	0.1290	0.0455
86.5	4,375,714	45.66%	9.19%	23.62%	0.1330	0.0486
87.5	2,079,266	44.91%	8.37%	22.63%	0.1335	0.0496
88.5	1,295,669	44.30%	7.60%	21.66%	0.1347	0.0512
89.5	647,829	43.33%	6.86%	20.71%	0.1330	0.0512
90.5	467,051	43.33%	6.16%	19.76%	0.1382	0.0556
91.5	369,217	43.33%	5.50%	18.83%	0.1431	0.0600
92.5	117,589	43.30%	4.87%	17.91%	0.1477	0.0645
93.5	-5,246	39.61%	4.28%	17.01%	0.1248	0.0511
94.5	-13,926	39.61%	3.73%	16.12%	0.1288	0.0552
95.5	-11,833	39.61%	3.22%	15.24%	0.1325	0.0594
96.5	-11,850	39.61%	2.74%	14.38%	0.1359	0.0636
97.5	-16,741	39.61%	2.30%	13.54%	0.1392	0.0679
98.5	-12,041	39.61%	1.90%	12.72%	0.1422	0.0723
99.5	-17,075	39.61%	1.54%	11.91%	0.1449	0.0767
100.5	-17,145	39.61%	1.22%	11.12%	0.1474	0.0811
101.5	-17,158	39.61%	0.93%	10.36%	0.1496	0.0856
102.5	-17,158	39.61%	0.68%	9.61%	0.1515	0.0900
103.5	-18,101	39.61%	0.47%	8.88%	0.1532	0.0945
104.5	-18,366	39.75%	0.30%	8.17%	0.1556	0.0997
105.5	4,261	39.75%	0.16%	7.48%	0.1567	0.1041
106.5	4,251	39.75%	0.07%	6.82%	0.1575	0.1084
107.5	4,251	39.75%	0.01%	6.18%	0.1579	0.1127
108.5	4,179	39.75%	0.00%	5.56%	0.1580	0.1169
109.5	1,758	39.75%	0.00%	4.97%	0.1580	0.1210
110.5	1,562	39.75%	0.00%	4.41%	0.1580	0.1249
111.5	1,349	39.30%	0.00%	3.87%	0.1544	0.1256
112.5	1,276	37.18%	0.00%	3.36%		
Sum of Squared Differences				[8]	6.0343	2.6268
Up to 1% of Beginning Exposures				[9]	0.3951	0.0531

[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]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R2.5-65**	**AG R2-71**	**ComEd SSD**	**AG SSD**
0.0	636,541,961	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	573,154,153	99.70%	99.96%	99.93%	0.0000	0.0000
1.5	542,014,674	99.52%	99.87%	99.80%	0.0000	0.0000
2.5	486,038,395	98.83%	99.77%	99.65%	0.0001	0.0001
3.5	428,866,029	97.76%	99.67%	99.50%	0.0004	0.0003
4.5	385,617,610	97.48%	99.57%	99.34%	0.0004	0.0003
5.5	375,239,950	96.88%	99.45%	99.18%	0.0007	0.0005
6.5	366,897,200	96.59%	99.33%	99.00%	0.0008	0.0006
7.5	355,969,663	96.35%	99.20%	98.82%	0.0008	0.0006
8.5	345,571,274	96.12%	99.07%	98.63%	0.0009	0.0006
9.5	324,524,854	95.71%	98.92%	98.43%	0.0010	0.0007
10.5	323,975,642	95.58%	98.77%	98.22%	0.0010	0.0007
11.5	319,960,932	95.47%	98.60%	98.01%	0.0010	0.0006
12.5	316,932,308	95.14%	98.43%	97.78%	0.0011	0.0007
13.5	327,173,531	94.61%	98.24%	97.54%	0.0013	0.0009
14.5	308,132,456	94.26%	98.05%	97.30%	0.0014	0.0009
15.5	284,667,102	94.21%	97.84%	97.04%	0.0013	0.0008
16.5	289,637,616	94.14%	97.62%	96.77%	0.0012	0.0007
17.5	257,156,727	94.04%	97.38%	96.50%	0.0011	0.0006
18.5	254,247,075	93.91%	97.13%	96.21%	0.0010	0.0005
19.5	264,045,988	93.76%	96.87%	95.90%	0.0010	0.0005
20.5	248,178,350	93.71%	96.59%	95.59%	0.0008	0.0004
21.5	233,855,332	93.43%	96.30%	95.26%	0.0008	0.0003
22.5	224,866,763	93.20%	95.99%	94.92%	0.0008	0.0003
23.5	222,359,868	93.15%	95.66%	94.57%	0.0006	0.0002
24.5	221,200,967	92.94%	95.32%	94.20%	0.0006	0.0002
25.5	215,041,824	92.91%	94.95%	93.82%	0.0004	0.0001
26.5	213,322,870	92.54%	94.57%	93.42%	0.0004	0.0001
27.5	210,842,511	92.38%	94.16%	93.01%	0.0003	0.0000
28.5	207,931,174	92.27%	93.74%	92.59%	0.0002	0.0000
29.5	195,607,380	91.82%	93.29%	92.14%	0.0002	0.0000
30.5	191,247,558	91.70%	92.81%	91.69%	0.0001	0.0000
31.5	189,296,259	91.66%	92.32%	91.21%	0.0000	0.0000
32.5	187,088,017	91.53%	91.80%	90.72%	0.0000	0.0001
33.5	180,569,651	91.39%	91.25%	90.20%	0.0000	0.0001
34.5	178,609,623	91.27%	90.67%	89.67%	0.0000	0.0003
35.5	168,282,687	91.19%	90.07%	89.13%	0.0001	0.0004
36.5	152,342,929	90.92%	89.44%	88.56%	0.0002	0.0006
37.5	151,486,010	90.18%	88.77%	87.97%	0.0002	0.0005
38.5	142,678,748	90.13%	88.08%	87.36%	0.0004	0.0008
39.5	141,122,403	89.98%	87.35%	86.73%	0.0007	0.0011
40.5	138,552,016	89.94%	86.59%	86.08%	0.0011	0.0015
41.5	117,515,281	89.51%	85.80%	85.41%	0.0014	0.0017
42.5	112,364,113	88.95%	84.97%	84.72%	0.0016	0.0018
43.5	100,032,276	88.77%	84.10%	84.00%	0.0022	0.0023
44.5	88,147,706	87.79%	83.20%	83.26%	0.0021	0.0021
45.5	78,087,306	87.73%	82.25%	82.49%	0.0030	0.0027
46.5	67,376,964	87.48%	81.26%	81.70%	0.0039	0.0033
47.5	63,648,918	87.12%	80.23%	80.89%	0.0047	0.0039
48.5	52,827,575	86.76%	79.16%	80.05%	0.0058	0.0045
49.5	48,191,263	86.66%	78.04%	79.19%	0.0074	0.0056
50.5	35,875,021	86.22%	76.88%	78.30%	0.0087	0.0063
51.5	31,777,492	85.51%	75.67%	77.38%	0.0097	0.0066
52.5	28,799,235	85.38%	74.40%	76.43%	0.0120	0.0080
53.5	26,190,988	85.30%	73.09%	75.46%	0.0149	0.0097
54.5	23,747,730	84.45%	71.73%	74.46%	0.0162	0.0100
55.5	21,538,297	82.89%	70.32%	73.43%	0.0158	0.0089
56.5	19,800,143	82.05%	68.86%	72.38%	0.0174	0.0094
57.5	18,453,156	81.84%	67.34%	71.30%	0.0210	0.0111
58.5	16,065,213	81.58%	65.77%	70.18%	0.0250	0.0130
59.5	13,284,074	80.78%	64.15%	69.04%	0.0277	0.0138
60.5	12,464,449	79.93%	62.48%	67.88%	0.0304	0.0145
61.5	11,950,545	79.43%	60.76%	66.68%	0.0349	0.0163
62.5	10,629,211	78.89%	58.99%	65.46%	0.0396	0.0180
63.5	9,287,819	78.68%	57.18%	64.21%	0.0462	0.0209
64.5	8,495,454	77.26%	55.32%	62.93%	0.0481	0.0205
65.5	8,222,706	77.00%	53.43%	61.63%	0.0556	0.0236
66.5	7,693,560	76.96%	51.50%	60.30%	0.0648	0.0278
67.5	6,869,116	76.49%	49.54%	58.94%	0.0726	0.0308
68.5	6,155,739	76.33%	47.56%	57.56%	0.0828	0.0352
69.5	5,591,467	76.00%	45.55%	56.17%	0.0927	0.0393
70.5	5,522,559	76.00%	43.53%	54.74%	0.1054	0.0452
71.5	5,518,680	75.99%	41.51%	53.30%	0.1189	0.0515

Account 356 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R2.5-65**	**AG R2-71**	**ComEd SSD**	**AG SSD**
72.5	5,515,128	75.99%	39.48%	51.84%	0.1333	0.0583
73.5	5,496,130	75.99%	37.46%	50.36%	0.1485	0.0657
74.5	5,377,533	75.95%	35.46%	48.87%	0.1640	0.0733
75.5	5,300,624	75.62%	33.47%	47.36%	0.1777	0.0799
76.5	5,266,067	75.41%	31.51%	45.84%	0.1927	0.0874
77.5	5,260,100	75.38%	29.59%	44.32%	0.2096	0.0965
78.5	5,032,615	75.37%	27.71%	42.78%	0.2271	0.1062
79.5	4,743,194	73.59%	25.88%	41.24%	0.2276	0.1046
80.5	4,703,959	73.40%	24.10%	39.70%	0.2430	0.1136
81.5	4,703,074	73.39%	22.39%	38.16%	0.2601	0.1241
82.5	4,698,922	73.36%	20.73%	36.62%	0.2770	0.1350
83.5	4,588,770	72.94%	19.14%	35.09%	0.2894	0.1432
84.5	4,531,085	72.94%	17.62%	33.57%	0.3060	0.1550
85.5	4,299,437	72.70%	16.18%	32.06%	0.3195	0.1652
86.5	3,573,924	72.08%	14.80%	30.56%	0.3281	0.1724
87.5	2,789,201	71.99%	13.51%	29.09%	0.3420	0.1841
88.5	1,193,143	69.82%	12.28%	27.63%	0.3311	0.1780
89.5	202,330	68.38%	11.13%	26.19%	0.3277	0.1780
90.5	197,593	68.38%	10.05%	24.78%	0.3402	0.1901
91.5	181,079	68.23%	9.05%	23.40%	0.3503	0.2009
92.5	93,619	68.22%	8.11%	22.05%	0.3613	0.2131
93.5	0	68.22%	7.24%	20.74%	0.3719	0.2255
94.5	0	68.22%	6.44%	19.45%	0.3817	0.2378
95.5	0	68.22%	5.70%	18.21%	0.3909	0.2501
96.5	0	68.22%	5.02%	17.00%	0.3994	0.2623
97.5	0	68.22%	4.40%	15.84%	0.4073	0.2744
98.5	0	68.22%	3.84%	14.72%	0.4145	0.2862
99.5	0	68.22%	3.33%	13.64%	0.4211	0.2979
100.5	0	68.22%	2.87%	12.60%	0.4270	0.3093
101.5	0	68.22%	2.46%	11.61%	0.4324	0.3205
102.5	0	68.22%	2.10%	10.67%	0.4372	0.3312
103.5	0	68.22%	1.77%	9.76%	0.4415	0.3417
104.5	0	68.22%	1.49%	8.91%	0.4453	0.3518
105.5	0	68.22%	1.24%	8.10%	0.4486	0.3615
106.5	0	68.22%	1.02%	7.33%	0.4515	0.3708
107.5	0	68.22%	0.84%	6.61%	0.4541	0.3796
108.5	0	68.22%	0.67%	5.93%	0.4563	0.3880
109.5	0	68.22%	0.53%	5.29%	0.4582	0.3960
110.5	0	68.22%	0.41%	4.70%	0.4598	0.4035
111.5	0	68.22%	0.31%	4.15%	0.4612	0.4105
112.5	0	68.22%	0.22%	3.64%	0.4623	0.4171
113.5	0	68.22%	0.16%	26.19%	0.4633	0.1766
114.5	0	68.22%	0.10%	26.19%	0.4640	0.1766
115.5	0	68.22%	0.06%	26.19%	0.4646	0.1766
116.5	0	68.22%	0.03%	26.19%	0.4649	0.1766
117.5	0	68.22%	0.02%	26.19%	0.4652	0.1766
118.5	0	68.22%	0.01%	26.19%	0.4653	0.1766
119.5	0	68.22%	0.00%	26.19%	0.4654	0.1766
120.5	0	68.22%	0.00%	20.74%		
Sum of Squared Differences				[8]	18.4484	11.1625
Up to 1% of Beginning Exposures				[9]	0.6174	0.3146

[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 358 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R2.5-55**	**AG R2-62**	**ComEd SSD**	**AG SSD**
0.0	485,725,099	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	489,920,151	99.98%	99.95%	99.92%	0.0000	0.0000
1.5	485,459,798	99.74%	99.84%	99.76%	0.0000	0.0000
2.5	454,607,557	99.00%	99.73%	99.60%	0.0001	0.0000
3.5	352,146,400	98.78%	99.61%	99.42%	0.0001	0.0000
4.5	344,373,306	97.94%	99.47%	99.23%	0.0002	0.0002
5.5	345,371,613	97.78%	99.33%	99.04%	0.0002	0.0002
6.5	328,759,015	97.68%	99.18%	98.83%	0.0002	0.0001
7.5	312,279,133	97.56%	99.01%	98.61%	0.0002	0.0001
8.5	305,521,501	97.45%	98.84%	98.38%	0.0002	0.0001
9.5	227,667,363	97.33%	98.65%	98.14%	0.0002	0.0001
10.5	224,315,932	97.02%	98.44%	97.89%	0.0002	0.0001
11.5	196,535,891	96.09%	98.22%	97.62%	0.0005	0.0002
12.5	197,858,896	95.83%	97.99%	97.34%	0.0005	0.0002
13.5	208,785,943	95.78%	97.74%	97.05%	0.0004	0.0002
14.5	180,160,322	95.43%	97.47%	96.75%	0.0004	0.0002
15.5	139,489,236	95.32%	97.18%	96.42%	0.0003	0.0001
16.5	139,827,757	95.08%	96.87%	96.09%	0.0003	0.0001
17.5	135,753,035	94.43%	96.54%	95.74%	0.0004	0.0002
18.5	136,978,969	94.32%	96.19%	95.37%	0.0003	0.0001
19.5	113,627,843	94.22%	95.81%	94.98%	0.0003	0.0001
20.5	132,505,555	94.03%	95.41%	94.58%	0.0002	0.0000
21.5	105,480,386	92.95%	94.99%	94.16%	0.0004	0.0001
22.5	102,795,138	92.72%	94.53%	93.72%	0.0003	0.0001
23.5	99,534,596	92.48%	94.05%	93.26%	0.0002	0.0001
24.5	96,369,910	92.28%	93.53%	92.78%	0.0002	0.0000
25.5	94,505,001	91.57%	92.99%	92.28%	0.0002	0.0001
26.5	100,174,649	91.32%	92.41%	91.76%	0.0001	0.0000
27.5	95,633,097	91.23%	91.80%	91.21%	0.0000	0.0000
28.5	95,173,878	90.88%	91.15%	90.65%	0.0000	0.0000
29.5	96,045,946	90.58%	90.46%	90.06%	0.0000	0.0000
30.5	95,029,483	90.06%	89.73%	89.44%	0.0000	0.0000
31.5	94,147,424	89.57%	88.96%	88.80%	0.0000	0.0001
32.5	92,966,126	89.33%	88.15%	88.14%	0.0001	0.0001
33.5	92,889,290	89.13%	87.29%	87.45%	0.0003	0.0003
34.5	91,245,716	88.49%	86.38%	86.73%	0.0004	0.0003
35.5	90,339,678	88.38%	85.43%	85.98%	0.0009	0.0006
36.5	89,445,815	87.22%	84.42%	85.21%	0.0008	0.0004
37.5	88,682,489	86.22%	83.36%	84.40%	0.0008	0.0003
38.5	89,219,192	85.99%	82.25%	83.57%	0.0014	0.0006
39.5	85,810,867	85.88%	81.08%	82.70%	0.0023	0.0010
40.5	84,038,016	85.59%	79.85%	81.80%	0.0033	0.0014
41.5	82,613,955	85.50%	78.56%	80.87%	0.0048	0.0021
42.5	73,356,866	83.98%	77.20%	79.91%	0.0046	0.0017
43.5	59,428,790	82.66%	75.78%	78.91%	0.0047	0.0014
44.5	53,233,514	80.62%	74.29%	77.88%	0.0040	0.0008
45.5	48,456,211	80.34%	72.73%	76.81%	0.0058	0.0012
46.5	41,838,367	77.93%	71.10%	75.71%	0.0047	0.0005
47.5	37,466,159	72.98%	69.39%	74.57%	0.0013	0.0003
48.5	35,988,180	70.14%	67.62%	73.39%	0.0006	0.0011
49.5	34,165,016	68.81%	65.77%	72.18%	0.0009	0.0011
50.5	32,758,749	68.70%	63.85%	70.93%	0.0024	0.0005
51.5	29,546,951	66.95%	61.86%	69.65%	0.0026	0.0007
52.5	28,408,313	66.20%	59.80%	68.32%	0.0041	0.0005
53.5	27,816,566	65.97%	57.68%	66.96%	0.0069	0.0001
54.5	25,230,637	65.92%	55.50%	65.57%	0.0109	0.0000
55.5	22,847,181	62.67%	53.26%	64.13%	0.0089	0.0002
56.5	21,820,866	62.63%	50.97%	62.67%	0.0136	0.0000
57.5	21,408,377	62.07%	48.64%	61.17%	0.0180	0.0001
58.5	21,102,113	61.75%	46.28%	59.63%	0.0239	0.0004
59.5	18,586,781	61.00%	43.90%	58.07%	0.0292	0.0009
60.5	17,048,054	60.90%	41.51%	56.47%	0.0376	0.0020
61.5	16,430,954	60.78%	39.11%	54.85%	0.0469	0.0035
62.5	12,510,672	59.19%	36.73%	53.20%	0.0504	0.0036
63.5	9,430,231	55.49%	34.37%	51.52%	0.0446	0.0016
64.5	7,112,173	55.49%	32.04%	49.82%	0.0550	0.0032
65.5	6,273,366	55.48%	29.76%	48.10%	0.0661	0.0054
66.5	5,838,128	55.48%	27.54%	46.37%	0.0780	0.0083
67.5	5,763,523	55.48%	25.39%	44.62%	0.0905	0.0118
68.5	4,213,075	49.86%	23.32%	42.87%	0.0705	0.0049
69.5	4,157,125	49.82%	21.33%	41.11%	0.0812	0.0076
70.5	3,915,638	49.79%	19.43%	39.34%	0.0922	0.0109
71.5	3,909,763	49.75%	17.62%	37.58%	0.1032	0.0148

Account 358 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R2.5-55**	**AG R2-62**	**ComEd SSD**	**AG SSD**
72.5	3,905,628	49.75%	15.92%	35.82%	0.1144	0.0194
73.5	3,611,470	49.75%	14.32%	34.07%	0.1255	0.0246
74.5	3,535,303	49.75%	12.83%	32.34%	0.1363	0.0303
75.5	3,527,565	49.74%	11.44%	30.62%	0.1467	0.0365
76.5	3,411,185	49.74%	10.15%	28.93%	0.1568	0.0433
77.5	3,403,574	49.74%	8.96%	27.27%	0.1663	0.0505
78.5	3,384,002	49.74%	7.87%	25.63%	0.1753	0.0581
79.5	2,082,121	49.74%	6.87%	24.03%	0.1838	0.0661
80.5	2,078,815	49.74%	5.96%	22.47%	0.1917	0.0743
81.5	1,994,558	49.74%	5.14%	20.96%	0.1989	0.0828
82.5	1,994,168	49.74%	4.40%	19.48%	0.2056	0.0915
83.5	1,879,332	49.74%	3.74%	18.06%	0.2116	0.1003
84.5	1,821,637	49.74%	3.16%	16.69%	0.2170	0.1092
85.5	1,267,812	49.74%	2.64%	15.37%	0.2218	0.1181
86.5	1,126,264	49.74%	2.19%	14.11%	0.2261	0.1269
87.5	413,615	49.74%	1.80%	12.91%	0.2298	0.1357
88.5	403,521	49.74%	1.46%	11.76%	0.2331	0.1442
89.5	26,240	49.74%	1.18%	10.67%	0.2358	0.1526
90.5	26,240	49.74%	0.94%	9.64%	0.2382	0.1608
91.5	26,240	49.74%	0.73%	8.68%	0.2402	0.1686
92.5	26,240	49.74%	0.56%	7.76%	0.2419	0.1762
93.5	26,240	49.74%	0.41%	6.91%	0.2433	0.1834
94.5	26,240	49.74%	0.29%	6.12%	0.2445	0.1903
95.5	26,240	49.74%	0.20%	5.38%	0.2454	0.1968
96.5	26,240	49.74%	0.12%	4.70%	0.2462	0.2029
97.5	26,240	49.74%	0.07%	4.07%	0.2467	0.2086
98.5	26,240	49.74%	0.04%	3.49%	0.2471	0.2139
99.5	19,318	49.74%	0.01%	2.96%	0.2473	0.2188
100.5	19,318	49.74%	0.00%	2.49%	0.2474	0.2233
101.5	19,318	49.74%	0.00%	2.06%	0.2474	0.2273
102.5	19,318	49.74%	0.00%	1.68%	0.2474	0.2310
103.5	19,318	49.74%	0.00%	1.34%	0.2474	0.2342
104.5	19,318	49.74%	0.00%	1.05%	0.2474	0.2371
105.5	19,318	49.74%	0.00%	0.80%	0.2474	0.2395
106.5	19,318	49.74%	0.00%	0.59%	0.2474	0.2416
107.5	19,318	49.74%	0.00%	0.42%	0.2474	0.2433
108.5	19,318	49.74%	0.00%	0.28%	0.2474	0.2446
109.5	19,318	49.74%	0.00%	0.18%	0.2474	0.2456
110.5	19,318	49.74%	0.00%	0.10%	0.2474	0.2464
111.5	19,318	49.74%	0.00%	0.05%	0.2474	0.2469
112.5	19,318	49.74%	0.00%	0.02%	0.2474	0.2472
113.5	19,318	49.74%	0.00%	0.00%	0.2474	0.2474
114.5	19,318	49.74%	0.00%	0.00%	0.2474	0.2474
115.5	19,318	49.74%	0.00%	0.00%	0.2474	0.2474
116.5	0	49.74%	0.00%	0.00%	0.2474	0.2474
117.5	0	49.74%	0.00%	0.00%	0.2474	0.2474
118.5	0	49.74%	0.00%	0.00%	0.2474	0.2474
119.5	0	49.74%	0.00%	0.00%	0.2474	0.2474
120.5	0	49.74%	0.00%	0.00%		
Sum of Squared Differences				[8]	11.7508	8.3239
Up to 1% of Beginning Exposures				[9]	0.6384	0.0608

[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 362 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R1.5-57**	**AG R1-65**	**ComEd SSD**	**AG SSD**
0.0	925,428,069	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	935,911,649	99.85%	99.85%	99.80%	0.0000	0.0000
1.5	925,865,407	99.68%	99.53%	99.40%	0.0000	0.0000
2.5	915,979,334	99.49%	99.20%	98.99%	0.0000	0.0000
3.5	900,887,226	99.23%	98.86%	98.57%	0.0000	0.0000
4.5	897,730,308	98.99%	98.51%	98.14%	0.0000	0.0001
5.5	890,135,369	98.73%	98.15%	97.70%	0.0000	0.0001
6.5	872,806,491	98.33%	97.77%	97.26%	0.0000	0.0001
7.5	813,407,580	97.89%	97.39%	96.80%	0.0000	0.0001
8.5	753,150,921	97.47%	96.99%	96.34%	0.0000	0.0001
9.5	730,456,836	97.07%	96.58%	95.87%	0.0000	0.0001
10.5	707,628,947	96.78%	96.15%	95.39%	0.0000	0.0002
11.5	699,408,208	96.52%	95.72%	94.90%	0.0001	0.0003
12.5	674,765,683	96.31%	95.27%	94.40%	0.0001	0.0004
13.5	665,135,992	96.02%	94.80%	93.90%	0.0001	0.0005
14.5	642,280,127	95.61%	94.32%	93.38%	0.0002	0.0005
15.5	628,328,555	95.16%	93.83%	92.86%	0.0002	0.0005
16.5	614,183,678	94.57%	93.32%	92.33%	0.0002	0.0005
17.5	583,050,918	94.22%	92.80%	91.79%	0.0002	0.0006
18.5	569,901,602	93.64%	92.26%	91.25%	0.0002	0.0006
19.5	574,519,854	93.27%	91.71%	90.69%	0.0002	0.0007
20.5	543,778,785	92.88%	91.14%	90.13%	0.0003	0.0008
21.5	518,553,935	92.28%	90.55%	89.56%	0.0003	0.0007
22.5	500,471,141	91.84%	89.94%	88.98%	0.0004	0.0008
23.5	484,911,952	91.42%	89.32%	88.39%	0.0004	0.0009
24.5	469,607,154	90.59%	88.68%	87.80%	0.0004	0.0008
25.5	450,173,754	89.63%	88.01%	87.19%	0.0003	0.0006
26.5	412,518,626	89.16%	87.33%	86.58%	0.0003	0.0007
27.5	382,333,049	88.67%	86.62%	85.95%	0.0004	0.0007
28.5	357,447,618	88.23%	85.90%	85.32%	0.0005	0.0008
29.5	335,214,238	87.64%	85.15%	84.67%	0.0006	0.0009
30.5	313,488,707	86.95%	84.37%	84.01%	0.0007	0.0009
31.5	287,518,153	86.28%	83.57%	83.35%	0.0007	0.0009
32.5	269,319,603	85.72%	82.75%	82.67%	0.0009	0.0009
33.5	251,444,499	85.14%	81.90%	81.97%	0.0010	0.0010
34.5	236,470,006	84.25%	81.03%	81.27%	0.0010	0.0009
35.5	223,490,217	83.32%	80.12%	80.55%	0.0010	0.0008
36.5	213,022,082	82.48%	79.19%	79.82%	0.0011	0.0007
37.5	201,352,253	81.65%	78.23%	79.08%	0.0012	0.0007
38.5	194,434,208	81.00%	77.25%	78.32%	0.0014	0.0007
39.5	189,155,765	80.06%	76.23%	77.55%	0.0015	0.0006
40.5	186,657,040	79.43%	75.18%	76.76%	0.0018	0.0007
41.5	181,448,118	78.63%	74.10%	75.96%	0.0020	0.0007
42.5	170,792,159	77.46%	72.99%	75.15%	0.0020	0.0005
43.5	163,950,664	76.51%	71.85%	74.32%	0.0022	0.0005
44.5	157,985,865	75.69%	70.68%	73.48%	0.0025	0.0005
45.5	149,518,294	74.64%	69.48%	72.62%	0.0027	0.0004
46.5	142,302,751	73.89%	68.24%	71.74%	0.0032	0.0005
47.5	136,262,839	73.22%	66.97%	70.85%	0.0039	0.0006
48.5	128,827,835	72.49%	65.68%	69.94%	0.0046	0.0006
49.5	123,448,575	71.59%	64.35%	69.02%	0.0052	0.0007
50.5	118,941,245	70.77%	62.99%	68.09%	0.0061	0.0007
51.5	114,413,280	70.03%	61.60%	67.13%	0.0071	0.0008
52.5	112,215,960	69.36%	60.18%	66.17%	0.0084	0.0010
53.5	108,181,050	68.71%	58.73%	65.19%	0.0100	0.0012
54.5	104,090,944	67.91%	57.26%	64.19%	0.0114	0.0014
55.5	98,562,732	67.37%	55.76%	63.18%	0.0135	0.0018
56.5	92,282,193	66.84%	54.23%	62.15%	0.0159	0.0022
57.5	86,673,123	66.19%	52.68%	61.11%	0.0182	0.0026
58.5	82,792,072	65.71%	51.12%	60.06%	0.0213	0.0032
59.5	74,645,552	65.21%	49.53%	58.99%	0.0246	0.0039
60.5	64,823,082	64.52%	47.93%	57.91%	0.0275	0.0044
61.5	58,084,892	63.92%	46.31%	56.81%	0.0310	0.0050
62.5	52,084,216	63.13%	44.68%	55.71%	0.0340	0.0055
63.5	46,103,824	62.52%	43.04%	54.59%	0.0379	0.0063
64.5	39,445,368	61.15%	41.40%	53.46%	0.0390	0.0059
65.5	33,725,530	60.51%	39.76%	52.33%	0.0431	0.0067
66.5	29,537,559	59.84%	38.11%	51.18%	0.0472	0.0075
67.5	24,952,473	59.23%	36.47%	50.02%	0.0518	0.0085
68.5	20,065,081	58.63%	34.84%	48.85%	0.0566	0.0096
69.5	16,861,452	57.85%	33.23%	47.68%	0.0606	0.0103
70.5	15,161,174	57.39%	31.62%	46.50%	0.0664	0.0119
71.5	14,343,345	56.69%	30.04%	45.31%	0.0710	0.0130
72.5	13,864,043	56.31%	28.47%	44.12%	0.0775	0.0149
73.5	13,520,982	55.81%	26.94%	42.92%	0.0834	0.0166

Account 362 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R1.5-57**	**AG R1-65**	**ComEd SSD**	**AG SSD**
74.5	12,774,907	55.24%	25.43%	41.72%	0.0889	0.0183
75.5	11,539,650	54.48%	23.95%	40.52%	0.0932	0.0195
76.5	10,046,480	53.98%	22.51%	39.31%	0.0990	0.0215
77.5	8,814,483	53.57%	21.10%	38.10%	0.1054	0.0239
78.5	7,859,562	52.70%	19.74%	36.90%	0.1086	0.0250
79.5	7,026,753	52.16%	18.42%	35.70%	0.1139	0.0271
80.5	6,416,815	51.78%	17.14%	34.49%	0.1200	0.0299
81.5	5,969,591	50.69%	15.90%	33.30%	0.1210	0.0303
82.5	5,715,952	50.09%	14.72%	32.10%	0.1251	0.0324
83.5	5,537,765	49.59%	13.58%	30.91%	0.1297	0.0349
84.5	5,429,494	49.06%	12.49%	29.73%	0.1338	0.0374
85.5	5,266,744	48.69%	11.44%	28.56%	0.1387	0.0405
86.5	4,641,372	48.13%	10.45%	27.40%	0.1420	0.0430
87.5	3,854,726	47.42%	9.51%	26.24%	0.1437	0.0448
88.5	3,236,300	47.21%	8.62%	25.10%	0.1489	0.0489
89.5	2,326,602	46.42%	7.78%	23.97%	0.1493	0.0504
90.5	1,648,332	46.21%	6.98%	22.86%	0.1539	0.0545
91.5	901,572	44.61%	6.24%	21.76%	0.1472	0.0522
92.5	617,231	43.58%	5.55%	20.68%	0.1446	0.0524
93.5	442,288	42.91%	4.90%	19.61%	0.1445	0.0543
94.5	270,661	42.68%	4.31%	18.57%	0.1473	0.0581
95.5	239,076	41.46%	3.76%	17.54%	0.1421	0.0572
96.5	204,551	40.35%	3.26%	16.54%	0.1376	0.0567
97.5	189,587	39.88%	2.80%	15.56%	0.1375	0.0592
98.5	179,075	39.86%	2.40%	14.60%	0.1404	0.0638
99.5	157,873	39.10%	2.03%	13.67%	0.1374	0.0647
100.5	136,687	38.97%	1.71%	12.76%	0.1388	0.0687
101.5	120,072	38.85%	1.43%	11.88%	0.1400	0.0727
102.5	103,099	37.97%	1.18%	11.03%	0.1353	0.0726
103.5	94,854	36.55%	0.97%	10.20%	0.1266	0.0694
104.5	84,992	36.55%	0.79%	9.41%	0.1279	0.0737
105.5	80,614	36.38%	0.64%	8.65%	0.1278	0.0769
106.5	77,725	36.27%	0.50%	7.91%	0.1279	0.0804
107.5	72,337	36.27%	0.39%	7.22%	0.1288	0.0844
108.5	6,395	36.20%	0.29%	6.55%	0.1290	0.0879
109.5	5,493	36.20%	0.20%	5.92%	0.1296	0.0917
110.5	5,437	35.83%	0.13%	5.32%	0.1275	0.0931
111.5	4,030	35.13%	0.07%	4.75%	0.1229	0.0923
112.5	3,943	35.13%	0.03%	4.22%	0.1232	0.0955
113.5	3,894	35.13%	0.01%	3.73%	0.1234	0.0986
114.5	3,829	34.54%	0.00%	3.27%	0.1193	0.0978
115.5	3,816	34.42%	0.00%	2.85%	0.1185	0.0997
116.5	4,274	30.54%	0.00%	2.46%	0.0933	0.0789
117.5	0	30.52%	0.00%	2.10%	0.0931	0.0808
118.5	0	30.52%	0.00%	1.78%	0.0931	0.0826
119.5	0	30.52%	0.00%	1.49%	0.0931	0.0843
120.5	0	30.52%	0.00%	1.23%	0.0931	0.0858
121.5	0	30.52%	0.00%	1.00%	0.0931	0.0872
122.5	0	30.52%	0.00%	0.79%	0.0931	0.0884
123.5	0	30.52%	0.00%	0.61%	0.0931	0.0895
124.5	0	30.52%	0.00%	0.45%		
Sum of Squared Differences				[8]	7.0953	3.3052
Up to 1% of Beginning Exposures				[9]	1.1910	0.2309

[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 362.02 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S0.5-54**	**AG R2-61**	**ComEd SSD**	**AG SSD**
0.0	1,504,824,273	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	1,445,082,595	99.90%	99.99%	99.92%	0.0000	0.0000
1.5	1,279,695,053	99.72%	99.94%	99.76%	0.0000	0.0000
2.5	1,230,838,764	99.49%	99.84%	99.59%	0.0000	0.0000
3.5	1,251,427,585	99.21%	99.70%	99.41%	0.0000	0.0000
4.5	1,145,113,562	99.05%	99.53%	99.22%	0.0000	0.0000
5.5	1,112,097,072	98.80%	99.32%	99.02%	0.0000	0.0000
6.5	1,101,023,321	98.66%	99.07%	98.81%	0.0000	0.0000
7.5	1,096,192,777	98.47%	98.78%	98.58%	0.0000	0.0000
8.5	1,137,716,415	98.22%	98.46%	98.35%	0.0000	0.0000
9.5	1,106,477,615	98.03%	98.10%	98.10%	0.0000	0.0000
10.5	1,049,366,025	97.77%	97.70%	97.84%	0.0000	0.0000
11.5	1,036,249,051	97.50%	97.26%	97.57%	0.0000	0.0000
12.5	1,004,171,912	97.13%	96.79%	97.29%	0.0000	0.0000
13.5	981,576,459	96.78%	96.28%	96.99%	0.0000	0.0000
14.5	892,857,499	96.65%	95.72%	96.67%	0.0001	0.0000
15.5	748,175,610	96.47%	95.13%	96.34%	0.0002	0.0000
16.5	634,556,509	96.22%	94.51%	95.99%	0.0003	0.0000
17.5	493,353,336	95.94%	93.84%	95.63%	0.0004	0.0000
18.5	473,489,125	95.66%	93.14%	95.25%	0.0006	0.0000
19.5	429,467,003	95.26%	92.40%	94.85%	0.0008	0.0000
20.5	415,690,667	94.40%	91.63%	94.44%	0.0008	0.0000
21.5	386,320,917	93.07%	90.82%	94.00%	0.0005	0.0001
22.5	330,394,000	92.62%	89.97%	93.55%	0.0007	0.0001
23.5	339,737,291	92.43%	89.09%	93.07%	0.0011	0.0000
24.5	310,373,226	91.85%	88.17%	92.58%	0.0014	0.0001
25.5	288,245,866	91.04%	87.22%	92.06%	0.0015	0.0001
26.5	270,884,899	90.43%	86.24%	91.52%	0.0018	0.0001
27.5	231,134,294	89.58%	85.22%	90.96%	0.0019	0.0002
28.5	215,798,986	89.30%	84.18%	90.37%	0.0026	0.0001
29.5	227,541,244	88.54%	83.10%	89.76%	0.0030	0.0001
30.5	238,839,539	87.99%	81.99%	89.13%	0.0036	0.0001
31.5	242,202,828	87.05%	80.85%	88.46%	0.0038	0.0002
32.5	244,166,659	86.59%	79.69%	87.77%	0.0048	0.0001
33.5	244,945,118	86.03%	78.49%	87.06%	0.0057	0.0001
34.5	241,572,372	85.37%	77.28%	86.31%	0.0066	0.0001
35.5	236,873,063	84.84%	76.03%	85.53%	0.0078	0.0000
36.5	230,901,671	84.38%	74.77%	84.73%	0.0092	0.0000
37.5	225,445,672	83.65%	73.48%	83.89%	0.0104	0.0000
38.5	226,302,393	82.90%	72.16%	83.02%	0.0115	0.0000
39.5	210,793,605	82.43%	70.83%	82.12%	0.0135	0.0000
40.5	203,108,380	81.65%	69.48%	81.19%	0.0148	0.0000
41.5	194,454,583	81.04%	68.11%	80.22%	0.0167	0.0001
42.5	176,877,479	79.89%	66.72%	79.21%	0.0173	0.0000
43.5	170,167,251	79.08%	65.32%	78.18%	0.0189	0.0001
44.5	147,768,557	77.93%	63.91%	77.10%	0.0197	0.0001
45.5	142,452,627	77.08%	62.48%	75.99%	0.0213	0.0001
46.5	125,415,731	76.34%	61.04%	74.84%	0.0234	0.0002
47.5	112,160,089	74.47%	59.59%	73.66%	0.0221	0.0001
48.5	101,108,982	73.87%	58.13%	72.43%	0.0248	0.0002
49.5	88,831,505	72.68%	56.66%	71.17%	0.0257	0.0002
50.5	79,343,266	72.25%	55.19%	69.87%	0.0291	0.0006
51.5	74,475,499	71.24%	53.71%	68.53%	0.0307	0.0007
52.5	68,893,416	70.46%	52.23%	67.15%	0.0332	0.0011
53.5	65,054,674	69.49%	50.74%	65.74%	0.0351	0.0014
54.5	59,881,399	68.22%	49.26%	64.29%	0.0359	0.0015
55.5	55,467,980	66.23%	47.78%	62.80%	0.0341	0.0012
56.5	50,262,247	63.81%	46.29%	61.28%	0.0307	0.0006
57.5	47,098,276	62.59%	44.82%	59.72%	0.0316	0.0008
58.5	42,140,019	61.47%	43.34%	58.13%	0.0329	0.0011
59.5	38,445,974	60.01%	41.88%	56.51%	0.0329	0.0012
60.5	35,878,873	59.54%	40.42%	54.86%	0.0366	0.0022
61.5	33,452,750	57.95%	38.97%	53.18%	0.0360	0.0023
62.5	25,618,107	56.39%	37.52%	51.48%	0.0356	0.0024
63.5	20,937,762	55.30%	36.10%	49.75%	0.0369	0.0031
64.5	14,206,387	52.27%	34.68%	48.01%	0.0309	0.0018
65.5	13,097,318	51.64%	33.28%	46.24%	0.0337	0.0029
66.5	11,396,432	50.63%	31.89%	44.47%	0.0351	0.0038
67.5	6,564,008	49.68%	30.52%	42.68%	0.0367	0.0049

Account 362.02 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S0.5-54**	**AG R2-61**	**ComEd SSD**	**AG SSD**
68.5	5,813,784	48.28%	29.17%	40.89%	0.0365	0.0055
69.5	6,399,027	47.36%	27.84%	39.09%	0.0381	0.0068
70.5	6,292,263	46.59%	26.53%	37.30%	0.0402	0.0086
71.5	6,198,428	45.66%	25.24%	35.52%	0.0417	0.0103
72.5	6,228,677	45.15%	23.97%	33.74%	0.0449	0.0130
73.5	5,997,436	44.41%	22.73%	31.99%	0.0470	0.0154
74.5	5,694,352	42.86%	21.51%	30.25%	0.0456	0.0159
75.5	5,336,827	42.23%	20.32%	28.53%	0.0480	0.0188
76.5	4,681,255	41.99%	19.15%	26.85%	0.0522	0.0229
77.5	4,354,782	40.97%	18.02%	25.20%	0.0527	0.0249
78.5	4,175,236	40.65%	16.91%	23.58%	0.0564	0.0291
79.5	3,831,215	40.16%	15.83%	22.01%	0.0592	0.0329
80.5	3,004,263	39.94%	14.78%	20.48%	0.0633	0.0379
81.5	2,792,748	39.20%	13.76%	19.00%	0.0647	0.0408
82.5	2,732,642	38.39%	12.78%	17.57%	0.0656	0.0433
83.5	2,599,291	37.79%	11.83%	16.20%	0.0674	0.0466
84.5	2,484,601	37.51%	10.92%	14.88%	0.0707	0.0512
85.5	2,285,027	36.91%	10.03%	13.62%	0.0722	0.0542
86.5	2,042,898	36.27%	9.19%	12.42%	0.0734	0.0569
87.5	1,313,942	35.76%	8.37%	11.28%	0.0750	0.0599
88.5	853,246	35.24%	7.60%	10.20%	0.0764	0.0627
89.5	520,650	34.45%	6.86%	9.18%	0.0761	0.0638
90.5	284,860	32.06%	6.16%	8.23%	0.0671	0.0568
91.5	212,547	30.15%	5.50%	7.33%	0.0608	0.0521
92.5	119,240	28.77%	4.87%	6.50%	0.0571	0.0496
93.5	97,261	27.09%	4.28%	5.72%	0.0520	0.0457
94.5	36,131	25.49%	3.73%	5.00%	0.0474	0.0420
95.5	28,585	25.16%	3.22%	4.33%	0.0482	0.0434
96.5	24,880	25.09%	2.74%	3.72%	0.0500	0.0457
97.5	20,153	19.58%	2.30%	3.17%	0.0298	0.0269
98.5	23,457	19.45%	1.90%	2.67%	0.0308	0.0282
99.5	21,838	19.03%	1.54%	2.21%	0.0306	0.0283
100.5	17,443	19.03%	1.22%	1.81%	0.0317	0.0297
101.5	16,662	18.60%	0.93%	1.45%	0.0312	0.0294
102.5	15,242	18.60%	0.68%	1.14%	0.0321	0.0305
103.5	14,637	18.60%	0.47%	0.87%	0.0329	0.0314
104.5	14,356	18.60%	0.30%	0.65%	0.0335	0.0322
105.5	12,518	18.60%	0.16%	0.46%	0.0340	0.0329
106.5	5,925	18.60%	0.07%	0.31%	0.0343	0.0334
107.5	5,827	18.60%	0.01%	0.20%	0.0346	0.0339
108.5	5,827	18.60%	0.00%	0.12%	0.0346	0.0342
109.5	1,375	8.16%	0.00%	0.06%	0.0067	0.0066
110.5	1,375	8.16%	0.00%	0.02%	0.0067	0.0066
111.5	1,246	7.40%	0.00%	0.01%	0.0055	0.0055
112.5			0.00%	0.45%		
Sum of Squared Differences				[8]	2.9657	1.4830
Up to 1% of Beginning Exposures				[9]	0.7706	0.0232

[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 373 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S0-30**	**AG R0.5-37**	**ComEd SSD**	**AG SSD**
0.0	208,595,970	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	192,709,570	99.89%	99.95%	99.49%	0.0000	0.0000
1.5	177,896,979	99.55%	99.66%	98.45%	0.0000	0.0001
2.5	174,145,433	99.30%	99.15%	97.40%	0.0000	0.0004
3.5	167,429,099	98.69%	98.49%	96.34%	0.0000	0.0006
4.5	161,077,012	97.78%	97.67%	95.27%	0.0000	0.0006
5.5	155,480,007	97.02%	96.72%	94.18%	0.0000	0.0008
6.5	150,941,957	96.48%	95.64%	93.08%	0.0001	0.0012
7.5	145,730,665	95.60%	94.45%	91.96%	0.0001	0.0013
8.5	137,551,863	94.20%	93.14%	90.84%	0.0001	0.0011
9.5	124,281,937	93.08%	91.74%	89.70%	0.0002	0.0011
10.5	108,832,645	91.39%	90.25%	88.54%	0.0001	0.0008
11.5	96,020,460	89.23%	88.67%	87.38%	0.0000	0.0003
12.5	85,855,935	87.71%	87.02%	86.20%	0.0000	0.0002
13.5	80,023,827	85.78%	85.28%	85.01%	0.0000	0.0001
14.5	73,185,251	83.73%	83.48%	83.81%	0.0000	0.0000
15.5	69,164,572	82.08%	81.61%	82.59%	0.0000	0.0000
16.5	72,034,201	80.18%	79.68%	81.35%	0.0000	0.0001
17.5	67,998,695	78.08%	77.70%	80.10%	0.0000	0.0004
18.5	54,042,870	76.83%	75.66%	78.83%	0.0001	0.0004
19.5	49,681,782	75.74%	73.59%	77.55%	0.0005	0.0003
20.5	45,302,780	74.50%	71.46%	76.24%	0.0009	0.0003
21.5	42,276,343	73.38%	69.30%	74.91%	0.0017	0.0002
22.5	36,295,458	71.69%	67.11%	73.56%	0.0021	0.0004
23.5	29,384,346	70.00%	64.89%	72.19%	0.0026	0.0005
24.5	26,173,331	68.86%	62.64%	70.80%	0.0039	0.0004
25.5	20,337,550	67.13%	60.37%	69.38%	0.0046	0.0005
26.5	15,815,395	65.38%	58.09%	67.94%	0.0053	0.0007
27.5	14,251,873	63.84%	55.79%	66.48%	0.0065	0.0007
28.5	11,767,786	61.77%	53.48%	64.99%	0.0069	0.0010
29.5	10,636,802	60.43%	51.16%	63.48%	0.0086	0.0009
30.5	9,889,841	58.36%	48.84%	61.94%	0.0091	0.0013
31.5	9,302,384	56.98%	46.53%	60.39%	0.0109	0.0012
32.5	8,904,890	55.96%	44.22%	58.81%	0.0138	0.0008
33.5	8,523,041	54.79%	41.92%	57.21%	0.0166	0.0006
34.5	7,485,861	53.30%	39.63%	55.58%	0.0187	0.0005
35.5	7,146,465	52.46%	37.37%	53.94%	0.0228	0.0002
36.5	6,757,276	51.53%	35.12%	52.28%	0.0269	0.0001
37.5	6,476,568	50.94%	32.90%	50.61%	0.0326	0.0000
38.5	6,228,935	50.43%	30.70%	48.92%	0.0389	0.0002
39.5	6,009,889	49.96%	28.54%	47.21%	0.0459	0.0008
40.5	5,799,683	49.38%	26.42%	45.50%	0.0527	0.0015
41.5	5,646,494	48.66%	24.34%	43.78%	0.0591	0.0024
42.5	5,374,961	47.46%	22.31%	42.05%	0.0633	0.0029
43.5	5,038,779	45.87%	20.32%	40.31%	0.0653	0.0031
44.5	4,585,026	43.84%	18.40%	38.58%	0.0647	0.0028
45.5	3,936,863	41.79%	16.53%	36.84%	0.0638	0.0024
46.5	3,538,011	39.53%	14.73%	35.12%	0.0615	0.0019

Account 373 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S0-30**	**AG R0.5-37**	**ComEd SSD**	**AG SSD**
47.5	2,644,018	36.34%	12.99%	33.39%	0.0545	0.0009
48.5	1,548,517	31.57%	11.33%	31.68%	0.0410	0.0000
49.5			9.75%	29.99%		
Sum of Squared Differences				[8]	0.8064	0.0391
Up to 1% of Beginning Exposures				[9]	0.7654	0.0391

[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 390 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R1-50**	**AG R0.5-58**	**ComEd SSD**	**AG SSD**
0.0	621,572,751	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	530,168,719	99.98%	99.74%	99.67%	0.0000	0.0000
1.5	441,111,499	99.92%	99.22%	99.02%	0.0000	0.0001
2.5	400,195,128	99.82%	98.67%	98.35%	0.0001	0.0002
3.5	381,841,618	99.55%	98.12%	97.69%	0.0002	0.0003
4.5	329,497,893	99.07%	97.55%	97.01%	0.0002	0.0004
5.5	297,986,951	98.67%	96.96%	96.33%	0.0003	0.0005
6.5	283,125,346	97.54%	96.36%	95.65%	0.0001	0.0004
7.5	275,699,866	97.19%	95.75%	94.96%	0.0002	0.0005
8.5	269,534,573	96.73%	95.12%	94.26%	0.0003	0.0006
9.5	264,699,184	95.91%	94.48%	93.56%	0.0002	0.0006
10.5	246,339,924	95.25%	93.82%	92.86%	0.0002	0.0006
11.5	235,547,795	94.45%	93.15%	92.15%	0.0002	0.0005
12.5	229,893,601	93.82%	92.46%	91.43%	0.0002	0.0006
13.5	222,389,716	92.82%	91.77%	90.71%	0.0001	0.0004
14.5	214,392,316	91.83%	91.05%	89.98%	0.0001	0.0003
15.5	196,686,333	88.52%	90.33%	89.25%	0.0003	0.0001
16.5	185,502,020	87.25%	89.59%	88.51%	0.0005	0.0002
17.5	168,922,904	86.30%	88.84%	87.77%	0.0006	0.0002
18.5	176,374,054	85.26%	88.07%	87.03%	0.0008	0.0003
19.5	169,541,076	83.42%	87.28%	86.27%	0.0015	0.0008
20.5	155,481,226	82.65%	86.48%	85.52%	0.0015	0.0008
21.5	144,494,303	82.02%	85.67%	84.75%	0.0013	0.0007
22.5	142,107,364	81.52%	84.83%	83.98%	0.0011	0.0006
23.5	123,002,654	80.70%	83.98%	83.21%	0.0011	0.0006
24.5	92,536,732	79.51%	83.11%	82.43%	0.0013	0.0009
25.5	87,737,640	78.72%	82.22%	81.64%	0.0012	0.0009
26.5	82,165,336	77.29%	81.31%	80.85%	0.0016	0.0013
27.5	77,023,165	75.64%	80.37%	80.05%	0.0022	0.0019
28.5	58,146,459	75.24%	79.42%	79.24%	0.0017	0.0016
29.5	57,135,311	74.36%	78.44%	78.42%	0.0017	0.0017
30.5	54,552,619	73.53%	77.43%	77.60%	0.0015	0.0017
31.5	53,200,477	72.89%	76.41%	76.77%	0.0012	0.0015
32.5	51,516,066	72.38%	75.36%	75.93%	0.0009	0.0013
33.5	50,138,734	72.05%	74.28%	75.08%	0.0005	0.0009
34.5	47,287,749	71.94%	73.18%	74.23%	0.0002	0.0005
35.5	39,506,675	70.53%	72.05%	73.36%	0.0002	0.0008
36.5	36,560,923	69.85%	70.90%	72.49%	0.0001	0.0007
37.5	35,503,706	68.89%	69.72%	71.61%	0.0001	0.0007
38.5	36,313,211	68.75%	68.51%	70.71%	0.0000	0.0004
39.5	27,100,327	67.29%	67.28%	69.81%	0.0000	0.0006
40.5	26,473,610	66.51%	66.02%	68.90%	0.0000	0.0006
41.5	25,846,306	66.16%	64.74%	67.98%	0.0002	0.0003
42.5	25,490,361	65.78%	63.43%	67.05%	0.0006	0.0002
43.5	25,116,647	65.49%	62.10%	66.11%	0.0011	0.0000
44.5	23,923,302	65.16%	60.74%	65.16%	0.0020	0.0000
45.5	23,275,589	64.75%	59.36%	64.20%	0.0029	0.0000
46.5	18,607,902	64.43%	57.96%	63.23%	0.0042	0.0001
47.5	18,382,845	64.18%	56.54%	62.25%	0.0058	0.0004
48.5	15,285,629	60.83%	55.10%	61.26%	0.0033	0.0000
49.5	13,022,729	59.25%	53.63%	60.27%	0.0032	0.0001
50.5	12,827,521	58.10%	52.15%	59.26%	0.0035	0.0001
51.5	12,756,368	57.74%	50.66%	58.24%	0.0050	0.0000
52.5	12,615,015	57.63%	49.15%	57.22%	0.0072	0.0000
53.5	12,127,434	57.08%	47.62%	56.19%	0.0089	0.0001
54.5	12,056,734	56.98%	46.08%	55.15%	0.0119	0.0003

Account 390 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd R1-50**	**AG R0.5-58**	**ComEd SSD**	**AG SSD**
55.5	11,949,839	56.57%	44.54%	54.10%	0.0145	0.0006
56.5	11,611,647	56.30%	42.98%	53.04%	0.0177	0.0011
57.5	11,122,974	56.24%	41.42%	51.98%	0.0220	0.0018
58.5	10,589,122	55.88%	39.85%	50.91%	0.0257	0.0025
59.5	9,821,671	55.40%	38.29%	49.84%	0.0293	0.0031
60.5	5,509,261	55.35%	36.72%	48.76%	0.0347	0.0043
61.5	4,871,382	54.69%	35.15%	47.67%	0.0382	0.0049
62.5	4,679,940	54.44%	33.59%	46.58%	0.0435	0.0062
63.5	4,165,988	53.51%	32.04%	45.48%	0.0461	0.0064
64.5	3,853,197	50.15%	30.50%	44.39%	0.0386	0.0033
65.5	3,083,841	42.25%	28.97%	43.28%	0.0176	0.0001
66.5	3,160,460	42.09%	27.45%	42.18%	0.0214	0.0000
67.5	2,981,146	41.73%	25.96%	41.07%	0.0249	0.0000
68.5	2,767,342	39.77%	24.48%	39.97%	0.0234	0.0000
69.5	2,299,544	37.65%	23.03%	38.86%	0.0214	0.0001
70.5	2,249,769	37.64%	21.60%	37.76%	0.0257	0.0000
71.5	1,357,500	37.49%	20.20%	36.65%	0.0299	0.0001
72.5	1,303,967	37.26%	18.83%	35.55%	0.0340	0.0003
73.5	1,300,791	37.25%	17.49%	34.45%	0.0390	0.0008
74.5	1,331,697	37.25%	16.19%	33.35%	0.0443	0.0015
75.5	1,173,558	37.25%	14.93%	32.26%	0.0498	0.0025
76.5	1,125,443	36.85%	13.71%	31.17%	0.0535	0.0032
77.5	1,109,100	36.85%	12.54%	30.09%	0.0591	0.0046
78.5	1,101,632	36.85%	11.40%	29.01%	0.0647	0.0061
79.5	1,094,206	36.80%	10.32%	27.95%	0.0701	0.0078
80.5	1,089,682	36.80%	9.29%	26.89%	0.0757	0.0098
81.5	1,080,771	36.54%	8.31%	25.84%	0.0797	0.0114
82.5	1,005,617	34.02%	7.39%	24.80%	0.0709	0.0085
83.5	1,000,609	33.95%	6.52%	23.77%	0.0753	0.0104
84.5	997,870	33.94%	5.70%	22.76%	0.0797	0.0125
85.5	778,571	33.93%	4.95%	21.76%	0.0840	0.0148
86.5			4.25%	20.77%		
Sum of Squared Differences				[8]	1.4401	0.1591
Up to 1% of Beginning Exposures				[9]	0.1947	0.0392

[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 397 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S2-18**	**AG R2-25**	**ComEd SSD**	**AG SSD**
0.0	871,535,655	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	896,342,059	99.82%	100.00%	99.81%	0.0000	0.0000
1.5	843,156,439	99.41%	100.00%	99.38%	0.0000	0.0000
2.5	777,639,743	99.05%	99.98%	98.89%	0.0001	0.0000
3.5	741,157,220	98.60%	99.89%	98.34%	0.0002	0.0000
4.5	731,887,380	98.50%	99.67%	97.72%	0.0001	0.0001
5.5	666,219,950	98.00%	99.24%	97.01%	0.0002	0.0001
6.5	626,294,409	97.73%	98.48%	96.22%	0.0001	0.0002
7.5	604,076,260	97.52%	97.30%	95.33%	0.0000	0.0005
8.5	599,792,095	97.12%	95.61%	94.34%	0.0002	0.0008
9.5	590,912,137	96.81%	93.33%	93.23%	0.0012	0.0013
10.5	581,259,870	96.32%	90.39%	92.00%	0.0035	0.0019
11.5	562,803,712	96.13%	86.79%	90.64%	0.0087	0.0030
12.5	541,316,460	95.60%	82.51%	89.13%	0.0171	0.0042
13.5	502,132,023	95.25%	77.60%	87.46%	0.0312	0.0061
14.5	403,361,320	93.55%	72.11%	85.63%	0.0460	0.0063
15.5	375,865,819	92.88%	66.16%	83.62%	0.0714	0.0086
16.5	345,154,458	91.52%	59.84%	81.42%	0.1004	0.0102
17.5	307,215,253	90.17%	53.31%	79.01%	0.1359	0.0125
18.5	271,752,213	81.73%	46.69%	76.40%	0.1227	0.0028
19.5	256,542,603	79.47%	40.16%	73.56%	0.1545	0.0035
20.5	182,762,831	75.17%	33.84%	70.50%	0.1708	0.0022
21.5	145,634,676	72.87%	27.89%	67.21%	0.2023	0.0032
22.5	128,153,965	70.57%	22.40%	63.70%	0.2320	0.0047
23.5	114,221,883	68.38%	17.49%	59.98%	0.2590	0.0071
24.5	76,927,833	61.03%	13.21%	56.05%	0.2286	0.0025
25.5	52,640,102	57.36%	9.61%	51.96%	0.2280	0.0029
26.5	42,473,761	54.64%	6.67%	47.72%	0.2301	0.0048
27.5	34,904,626	52.86%	4.39%	43.40%	0.2349	0.0090
28.5	31,300,283	51.25%	2.70%	39.02%	0.2357	0.0149
29.5	30,453,144	50.04%	1.52%	34.67%	0.2354	0.0236
30.5	26,168,046	47.68%	0.76%	30.39%	0.2201	0.0299
31.5	24,293,557	45.69%	0.33%	26.25%	0.2058	0.0378
32.5	22,558,469	43.89%	0.11%	22.32%	0.1917	0.0465
33.5	21,254,096	41.77%	0.02%	18.65%	0.1743	0.0534
34.5	20,304,255	40.67%	0.00%	15.29%	0.1654	0.0644
35.5	19,249,572	38.83%	0.00%	12.28%	0.1508	0.0705
36.5	17,994,210	37.40%	0.00%	9.62%	0.1399	0.0772
37.5	17,177,372	35.70%	0.00%	7.33%	0.1274	0.0805
38.5	15,211,726	32.24%	0.00%	5.39%	0.1039	0.0721
39.5	14,326,320	30.79%	0.00%	3.79%	0.0948	0.0729
40.5	12,932,117	27.92%	0.00%	2.51%	0.0780	0.0646
41.5	8,738,792	19.51%	0.00%	1.53%	0.0381	0.0323
42.5	6,027,790	16.80%	0.00%	0.82%	0.0282	0.0255
43.5	5,024,832	14.68%	0.00%	0.36%	0.0216	0.0205
44.5	4,419,814	12.90%	0.00%	0.11%	0.0166	0.0164
45.5	3,802,498	11.06%	0.00%	0.01%	0.0122	0.0122
46.5	3,279,258	9.51%	0.00%	0.00%	0.0090	0.0090
47.5	3,050,863	8.80%	0.00%	0.00%	0.0077	0.0077
48.5	2,734,910	7.89%	0.00%	0.00%	0.0062	0.0062
49.5	2,374,838	6.93%	0.00%	0.00%	0.0048	0.0048
50.5	2,107,203	6.14%	0.00%	0.00%	0.0038	0.0038
51.5	1,889,213	5.50%	0.00%	0.00%	0.0030	0.0030
52.5	1,654,867	4.82%	0.00%	0.00%	0.0023	0.0023
53.5	1,551,042	4.51%	0.00%	0.00%	0.0020	0.0020
54.5	1,386,674	4.03%	0.00%	0.00%	0.0016	0.0016
55.5	1,141,138	3.32%	0.00%	0.00%	0.0011	0.0011
56.5	988,717	2.87%	0.00%	0.00%	0.0008	0.0008
57.5	866,893	2.51%	0.00%	0.00%	0.0006	0.0006
58.5	844,983	2.44%	0.00%	0.00%	0.0006	0.0006

Account 397 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**ComEd S2-18**	**AG R2-25**	**ComEd SSD**	**AG SSD**
59.5	641,780	1.85%	0.00%	0.00%	0.0003	0.0003
60.5	579,853	1.67%	0.00%	0.00%	0.0003	0.0003
61.5	455,840	1.32%	0.00%	0.00%	0.0002	0.0002
62.5	337,603	0.97%	0.00%	0.00%	0.0001	0.0001
63.5	219,297	0.63%	0.00%	0.00%	0.0000	0.0000
64.5	163,445	0.47%	0.00%	0.00%	0.0000	0.0000
65.5	100,354	0.29%	0.00%	0.00%	0.0000	0.0000
66.5	83,506	0.24%	0.00%	0.00%	0.0000	0.0000
67.5	57,712	0.17%	0.00%	0.00%	0.0000	0.0000
68.5	52,009	0.15%	0.00%	0.00%	0.0000	0.0000
69.5	49,940	0.15%	0.00%	0.00%	0.0000	0.0000
70.5	49,940	0.15%	0.00%	0.00%	0.0000	0.0000
71.5	47,757	0.14%	0.00%	0.00%	0.0000	0.0000
72.5	45,980	0.13%	0.00%	0.00%	0.0000	0.0000
73.5	45,980	0.13%	0.00%	0.00%	0.0000	0.0000
74.5	27,809	0.08%	0.00%	0.00%	0.0000	0.0000
75.5	27,809	0.08%	0.00%	0.00%	0.0000	0.0000
76.5	26,540	0.08%	0.00%	0.00%	0.0000	0.0000
77.5	24,166	0.07%	0.00%	0.00%	0.0000	0.0000
78.5	24,166	0.07%	0.00%	0.00%	0.0000	0.0000
79.5	24,166	0.07%	0.00%	0.00%	0.0000	0.0000
80.5	24,166	0.07%	0.00%	0.00%	0.0000	0.0000
81.5	24,166	0.07%	0.00%	0.00%	0.0000	0.0000
82.5	24,166	0.07%	0.00%	0.00%	0.0000	0.0000
83.5	2,613	0.01%	0.00%	0.00%	0.0000	0.0000
84.5	2,613	0.01%	0.00%	0.00%	0.0000	0.0000
85.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
86.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
87.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
88.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
89.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
90.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
91.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
92.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
93.5	453	0.00%	0.00%	0.00%	0.0000	0.0000
94.5			0.00%	0.00%		
Sum of Squared Differences				[8]	4.7639	0.9582
Up to 1% of Beginning Exposures				[9]	4.6405	0.8389

[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 368 Comparable Analysis

Account 368 - Line Transformers
Comparable Analysis

Company	Approved Life	
SWEPCO	50	[1]
OG&E	44	[2]
PSO	36	[3]
Duke	43	[4]
SCG&E	45	[5]
Average	**44**	

[1] Application of Southwestern Electric Power Company, Docket No. 46449, Order on Rehearing, pp. 33-34 (March 19, 2018).

[2] Final Order No. 662059, p. 8, Application of Oklahoma Gas and Electric Company, Docket No. PUD 201500273, before the Corporation Commission of Oklahoma (March 20, 2017).

[3] Final Order No. 672864, pp. 5-6, Application of Public Service Company of Oklahoma, Docket No. PUD 201700151, before the Corporation Commission of Oklahoma (January 31, 2018).

[4] Docket No. 2018-319-E, Duke Energy Carolinas, Order 2019-323, 5-1-19.

[5] Docket No. 2015-313-E, South Carolina Gas and Electric

ComEd
Electric Division
352.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

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	$532,828,454.83	$102,359.43	0.00019	100.00
0.5 - 1.5	$501,393,871.59	$12,582.00	0.00003	99.98
1.5 - 2.5	$351,005,421.68	$331,007.50	0.00094	99.98
2.5 - 3.5	$302,621,063.47	$53,595.05	0.00018	99.88
3.5 - 4.5	$256,837,568.41	$15,069.15	0.00006	99.87
4.5 - 5.5	$250,959,280.82	$309,677.59	0.00123	99.86
5.5 - 6.5	$241,653,789.86	$406,924.63	0.00168	99.74
6.5 - 7.5	$232,110,560.02	$521,500.00	0.00225	99.57
7.5 - 8.5	$220,860,375.98	$678,591.41	0.00307	99.35
8.5 - 9.5	$218,280,581.37	$263,842.76	0.00121	99.04
9.5 - 10.5	$190,329,100.17	$2,470,247.69	0.01298	98.92
10.5 - 11.5	$184,392,791.73	$1,510,036.31	0.00819	97.64
11.5 - 12.5	$132,861,813.47	$317,032.45	0.00239	96.84
12.5 - 13.5	$140,281,821.63	$976,860.28	0.00696	96.61
13.5 - 14.5	$127,011,284.83	$67,433.65	0.00053	95.93
14.5 - 15.5	$126,108,771.23	$128,198.22	0.00102	95.88
15.5 - 16.5	$123,586,973.97	$284,831.33	0.00230	95.78
16.5 - 17.5	$102,885,066.48	$394,234.96	0.00383	95.56
17.5 - 18.5	$98,745,122.69	$1,910,887.85	0.01935	95.20
18.5 - 19.5	$97,083,201.12	$186,657.38	0.00192	93.36
19.5 - 20.5	$90,832,034.07	$97,580.47	0.00107	93.18
20.5 - 21.5	$80,164,437.13	$291,656.43	0.00364	93.08
21.5 - 22.5	$73,410,042.26	$235,924.54	0.00321	92.74
22.5 - 23.5	$85,748,277.84	$358,728.22	0.00418	92.44
23.5 - 24.5	$77,218,619.75	$224,123.65	0.00290	92.05
24.5 - 25.5	$76,450,135.31	$136,111.58	0.00178	91.79
25.5 - 26.5	$59,542,206.48	$49,032.33	0.00082	91.62
26.5 - 27.5	$56,456,837.02	$89,864.29	0.00159	91.55
27.5 - 28.5	$54,364,640.39	$256,150.10	0.00471	91.40
28.5 - 29.5	$52,006,433.33	$66,845.72	0.00129	90.97
29.5 - 30.5	$50,094,659.66	$43,609.50	0.00087	90.85
30.5 - 31.5	$48,022,123.72	$664,988.38	0.01385	90.77
31.5 - 32.5	$46,576,822.23	$34,109.68	0.00073	89.52
32.5 - 33.5	$45,878,519.23	$25,832.23	0.00056	89.45
33.5 - 34.5	$46,138,901.00	$106,187.23	0.00230	89.40
34.5 - 35.5	$45,719,446.11	$260,545.50	0.00570	89.20
35.5 - 36.5	$43,201,106.89	$15,174.96	0.00035	88.69

ComEd
Electric Division
352.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

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	$41,366,972.60	$102,074.78	0.00247	88.66
37.5 - 38.5	$41,411,021.63	$138,363.94	0.00334	88.44
38.5 - 39.5	$35,276,491.95	$434,492.76	0.01232	88.14
39.5 - 40.5	$33,514,858.49	$212,920.56	0.00635	87.06
40.5 - 41.5	$32,338,184.28	$55,630.46	0.00172	86.50
41.5 - 42.5	$23,132,394.67	$214,138.33	0.00926	86.35
42.5 - 43.5	$21,564,953.35	$369,461.01	0.01713	85.56
43.5 - 44.5	$18,974,162.88	$157,103.02	0.00828	84.09
44.5 - 45.5	$16,720,033.08	$163,236.78	0.00976	83.39
45.5 - 46.5	$15,543,648.35	$343,920.61	0.02213	82.58
46.5 - 47.5	$13,538,666.98	$147,491.56	0.01089	80.75
47.5 - 48.5	$12,161,040.83	$34,527.57	0.00284	79.87
48.5 - 49.5	$9,375,972.21	$15,602.91	0.00166	79.65
49.5 - 50.5	$7,816,491.88	$35,697.55	0.00457	79.51
50.5 - 51.5	$7,305,456.28	$25,526.05	0.00349	79.15
51.5 - 52.5	$6,996,992.27	$17,627.11	0.00252	78.87
52.5 - 53.5	$6,787,630.95	$78,641.54	0.01159	78.67
53.5 - 54.5	$6,567,983.21	$23,157.20	0.00353	77.76
54.5 - 55.5	$6,447,205.16	$807,585.26	0.12526	77.49
55.5 - 56.5	$5,628,228.32	$9,855.49	0.00175	67.78
56.5 - 57.5	$5,624,313.22	$26,218.85	0.00466	67.66
57.5 - 58.5	$5,494,885.47	$95,790.29	0.01743	67.35
58.5 - 59.5	$5,157,899.02	$70,533.88	0.01367	66.17
59.5 - 60.5	$4,986,884.19	$6,684.73	0.00134	65.27
60.5 - 61.5	$4,735,328.65	$1,184.90	0.00025	65.18
61.5 - 62.5	$4,448,000.87	$404,808.02	0.09101	65.17
62.5 - 63.5	$3,733,938.40	$52,900.98	0.01417	59.23
63.5 - 64.5	$3,577,244.73	$308,527.84	0.08625	58.40
64.5 - 65.5	$2,714,041.43	$2,253.34	0.00083	53.36
65.5 - 66.5	$1,842,046.64	$2,708.00	0.00147	53.31
66.5 - 67.5	$1,262,827.67	$9,113.45	0.00722	53.24
67.5 - 68.5	$1,153,466.78	$11,974.24	0.01038	52.85
68.5 - 69.5	$967,174.27	$5,722.84	0.00592	52.30
69.5 - 70.5	$1,193,537.32	$57,415.83	0.04811	51.99
70.5 - 71.5	$1,065,123.58	$4,449.00	0.00418	49.49
71.5 - 72.5	$1,569,288.75	$10,503.44	0.00669	49.29
72.5 - 73.5	$1,551,263.25	$81,165.00	0.05232	48.96

ComEd
Electric Division
352.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	$1,271,769.50	$49,302.00	0.03877	46.39
74.5 - 75.5	$1,204,834.40	$0.00	0.00000	44.60
75.5 - 76.5	$1,160,777.69	$0.00	0.00000	44.60
76.5 - 77.5	$808,881.29	$843.62	0.00104	44.60
77.5 - 78.5	$786,885.70	$0.00	0.00000	44.55
78.5 - 79.5	$787,968.92	$0.00	0.00000	44.55
79.5 - 80.5	$787,180.00	$0.00	0.00000	44.55
80.5 - 81.5	$786,093.75	$0.00	0.00000	44.55
81.5 - 82.5	$782,997.27	$649.95	0.00083	44.55
82.5 - 83.5	$780,542.58	$0.00	0.00000	44.51
83.5 - 84.5	$779,839.27	$82.79	0.00011	44.51
84.5 - 85.5	$744,295.01	$804.93	0.00108	44.51
85.5 - 86.5	$723,651.35	$0.00	0.00000	44.46
86.5 - 87.5	$605,463.41	$0.00	0.00000	44.46
87.5 - 88.5	$500,072.92	$2,676.81	0.00535	44.46
88.5 - 89.5	$191,382.59	$2,584.86	0.01351	44.22
89.5 - 90.5	$37,211.31	$1,146.13	0.03080	43.62
90.5 - 91.5	($622,050.05)	$673.73	-0.00108	42.28
91.5 - 92.5	($630,629.20)	$0.00	0.00000	42.33
92.5 - 93.5	($350,193.21)	$1,547.74	-0.00442	42.33
93.5 - 94.5	($401,775.57)	$0.00	0.00000	42.51
94.5 - 95.5	($139,146.42)	$0.00	0.00000	42.51
95.5 - 96.5	($145,826.10)	$0.00	0.00000	42.51
96.5 - 97.5	($143,118.10)	$0.00	0.00000	42.51
97.5 - 98.5	($139,227.07)	$0.00	0.00000	42.51
98.5 - 99.5	($130,185.07)	$0.00	0.00000	42.51
99.5 - 100.5	($126,768.53)	$0.00	0.00000	42.51
100.5 - 101.5	($126,768.53)	$0.00	0.00000	42.51
101.5 - 102.5	($122,319.53)	$0.00	0.00000	42.51
102.5 - 103.5	($122,319.53)	$0.00	0.00000	42.51
103.5 - 104.5	($41,563.83)	$0.00	0.00000	42.51
104.5 - 105.5	($41,563.83)	$0.00	0.00000	42.51
105.5 - 106.5	$7,738.17	$0.00	0.00000	42.51
106.5 - 107.5	$7,738.17	$0.00	0.00000	42.51
107.5 - 108.5	$2,986.87	$0.00	0.00000	42.51
108.5 - 109.5	$2,986.87	$0.00	0.00000	42.51
109.5 - 110.5	$2,986.87	$0.00	0.00000	42.51

ComEd
Electric Division
352.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

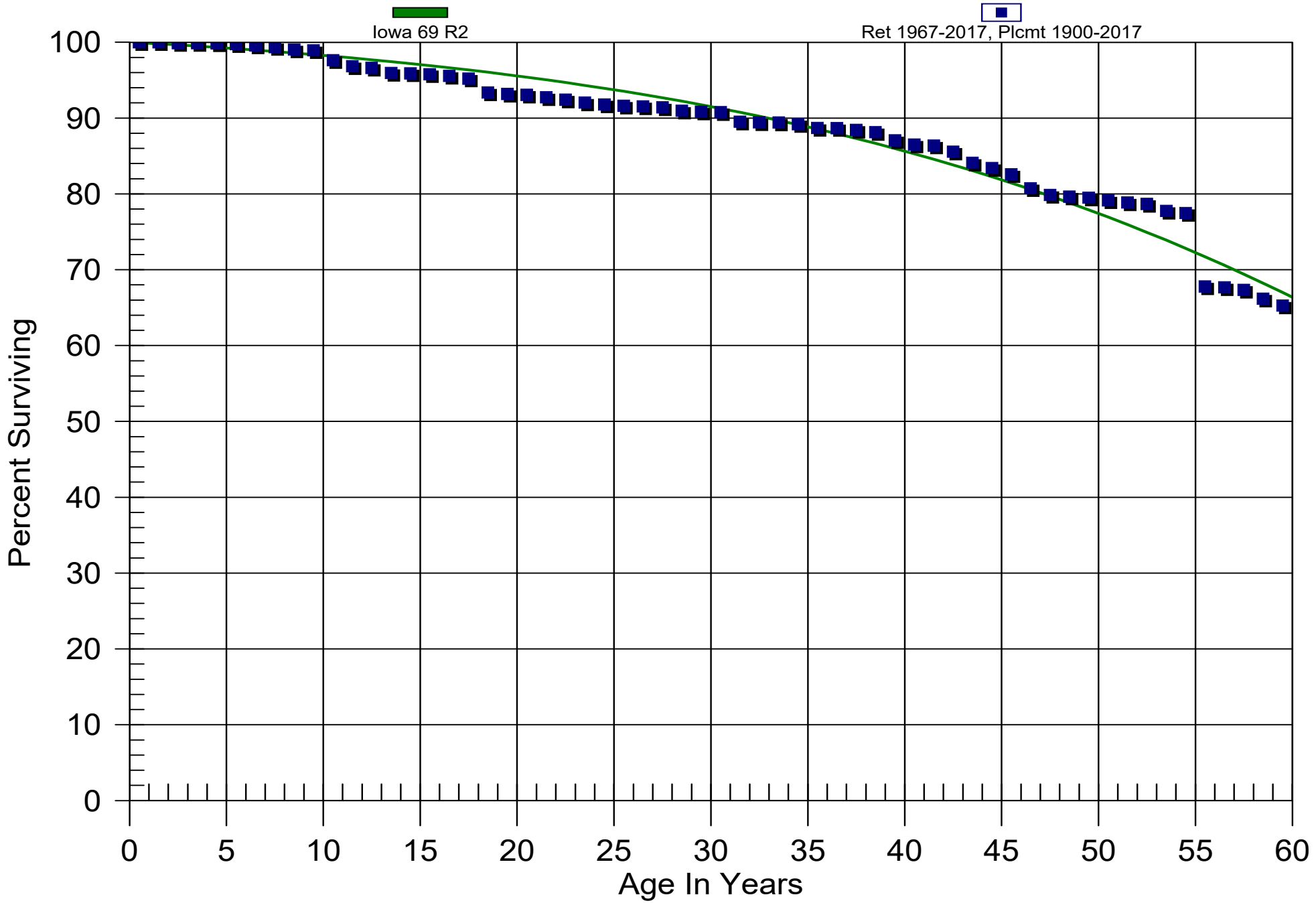
Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
110.5 - 111.5	$2,986.87	$0.00	0.00000	42.51
111.5 - 112.5	$2,986.87	$0.00	0.00000	42.51
112.5 - 113.5	$2,986.87	$0.00	0.00000	42.51
113.5 - 114.5	$2,986.87	$0.00	0.00000	42.51
114.5 - 115.5	$2,986.87	$0.00	0.00000	42.51
115.5 - 116.5	$2,986.87	$0.00	0.00000	42.51
116.5 - 117.5	$0.00	$0.00	0.00000	42.51

ComEd

Electric Division

352.00 Structures and Improvements

Original And Smooth Survivor Curves



ComEd
Electric Division
353.00 Station Equipment
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1898 TO 2017

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	$3,468,443,722.69	$12,641,202.41	0.00364	100.00
0.5 - 1.5	$3,259,208,573.79	$1,127,536.14	0.00035	99.64
1.5 - 2.5	$2,994,210,039.74	$5,346,965.95	0.00179	99.60
2.5 - 3.5	$2,793,651,121.25	$5,162,098.25	0.00185	99.42
3.5 - 4.5	$2,440,281,379.58	$9,639,441.25	0.00395	99.24
4.5 - 5.5	$2,345,949,234.70	$3,401,670.11	0.00145	98.85
5.5 - 6.5	$2,281,033,248.18	$5,350,770.21	0.00235	98.70
6.5 - 7.5	$2,097,664,757.57	$2,700,504.86	0.00129	98.47
7.5 - 8.5	$1,964,649,551.60	$4,685,901.17	0.00239	98.35
8.5 - 9.5	$1,879,388,011.68	$6,279,475.77	0.00334	98.11
9.5 - 10.5	$1,740,461,315.04	$5,218,734.64	0.00300	97.78
10.5 - 11.5	$1,712,306,015.83	$6,797,103.79	0.00397	97.49
11.5 - 12.5	$1,622,417,411.68	$5,388,554.29	0.00332	97.10
12.5 - 13.5	$1,593,726,209.58	$7,308,813.77	0.00459	96.78
13.5 - 14.5	$1,520,533,704.09	$7,977,868.38	0.00525	96.34
14.5 - 15.5	$1,469,601,803.09	$4,350,672.22	0.00296	95.83
15.5 - 16.5	$1,429,815,532.96	$10,581,858.68	0.00740	95.55
16.5 - 17.5	$1,265,056,468.87	$9,792,296.17	0.00774	94.84
17.5 - 18.5	$1,138,428,703.34	$6,183,192.69	0.00543	94.11
18.5 - 19.5	$1,086,742,431.34	$8,329,986.21	0.00767	93.60
19.5 - 20.5	$1,027,700,393.73	$4,273,427.71	0.00416	92.88
20.5 - 21.5	$982,503,602.37	$10,003,236.59	0.01018	92.49
21.5 - 22.5	$971,873,269.01	$4,187,838.77	0.00431	91.55
22.5 - 23.5	$927,748,103.68	$10,289,204.46	0.01109	91.16
23.5 - 24.5	$875,115,548.36	$10,374,647.87	0.01186	90.14
24.5 - 25.5	$789,947,235.85	$5,146,315.77	0.00651	89.08
25.5 - 26.5	$728,030,959.09	$4,658,897.59	0.00640	88.50
26.5 - 27.5	$687,873,749.10	$4,422,566.35	0.00643	87.93
27.5 - 28.5	$660,875,502.37	$6,740,481.05	0.01020	87.36
28.5 - 29.5	$627,443,340.54	$8,882,845.39	0.01416	86.47
29.5 - 30.5	$596,608,909.00	$4,845,151.83	0.00812	85.25
30.5 - 31.5	$566,776,677.85	$5,494,008.02	0.00969	84.56
31.5 - 32.5	$550,632,289.51	$6,388,981.81	0.01160	83.74
32.5 - 33.5	$528,003,424.36	$4,573,598.86	0.00866	82.77
33.5 - 34.5	$508,130,581.36	$4,041,188.75	0.00795	82.05
34.5 - 35.5	$501,441,424.66	$6,627,321.18	0.01322	81.40
35.5 - 36.5	$476,136,151.35	$2,553,853.39	0.00536	80.32

ComEd
Electric Division
353.00 Station Equipment
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1898 TO 2017

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	$452,849,897.42	$5,292,667.33	0.01169	79.89
37.5 - 38.5	$448,561,703.33	$10,304,754.96	0.02297	78.96
38.5 - 39.5	$413,944,491.54	$3,174,604.59	0.00767	77.14
39.5 - 40.5	$395,685,850.79	$8,694,501.46	0.02197	76.55
40.5 - 41.5	$360,346,343.67	$3,662,060.24	0.01016	74.87
41.5 - 42.5	$323,709,423.13	$4,005,043.74	0.01237	74.11
42.5 - 43.5	$300,044,625.55	$4,395,696.37	0.01465	73.19
43.5 - 44.5	$272,645,762.72	$4,160,465.20	0.01526	72.12
44.5 - 45.5	$249,530,514.25	$2,739,129.10	0.01098	71.02
45.5 - 46.5	$226,490,818.78	$4,702,030.56	0.02076	70.24
46.5 - 47.5	$191,760,710.80	$1,716,287.09	0.00895	68.78
47.5 - 48.5	$166,388,183.21	$2,281,022.20	0.01371	68.16
48.5 - 49.5	$143,658,171.68	$1,951,952.34	0.01359	67.23
49.5 - 50.5	$127,485,281.19	$1,281,706.90	0.01005	66.32
50.5 - 51.5	$118,123,792.27	$1,102,656.00	0.00933	65.65
51.5 - 52.5	$110,439,466.49	$718,487.52	0.00651	65.04
52.5 - 53.5	$104,993,791.68	$860,309.30	0.00819	64.61
53.5 - 54.5	$99,776,086.47	$795,551.50	0.00797	64.08
54.5 - 55.5	$94,555,187.74	$1,302,460.44	0.01377	63.57
55.5 - 56.5	$87,315,804.97	$1,596,957.93	0.01829	62.70
56.5 - 57.5	$83,596,949.89	$1,407,830.94	0.01684	61.55
57.5 - 58.5	$74,936,834.26	$941,354.83	0.01256	60.51
58.5 - 59.5	$68,013,258.75	$639,164.35	0.00940	59.75
59.5 - 60.5	$61,817,407.36	$401,251.93	0.00649	59.19
60.5 - 61.5	$56,828,177.08	$510,401.13	0.00898	58.81
61.5 - 62.5	$45,723,882.94	$424,412.92	0.00928	58.28
62.5 - 63.5	$40,365,399.80	$536,125.40	0.01328	57.74
63.5 - 64.5	$33,660,783.68	$192,621.52	0.00572	56.97
64.5 - 65.5	$28,814,936.65	$159,641.10	0.00554	56.65
65.5 - 66.5	$25,984,356.60	$59,101.58	0.00227	56.33
66.5 - 67.5	$20,632,400.53	$191,099.26	0.00926	56.20
67.5 - 68.5	$17,087,213.13	$206,418.60	0.01208	55.68
68.5 - 69.5	$14,488,783.04	$96,228.96	0.00664	55.01
69.5 - 70.5	$13,157,121.58	$744,676.51	0.05660	54.65
70.5 - 71.5	$11,966,185.24	$325,246.80	0.02718	51.55
71.5 - 72.5	$10,862,681.64	$114,330.21	0.01053	50.15
72.5 - 73.5	$10,363,269.94	$48,042.05	0.00464	49.62

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Electric Division
353.00 Station Equipment
Observed Life Table
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Placement Years 1898 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	$9,913,228.75	$77,371.46	0.00780	49.39
74.5 - 75.5	$9,542,633.74	$254,430.38	0.02666	49.01
75.5 - 76.5	$8,704,465.02	$35,949.00	0.00413	47.70
76.5 - 77.5	$8,065,654.91	$53,125.90	0.00659	47.50
77.5 - 78.5	$7,773,143.92	$11,859.53	0.00153	47.19
78.5 - 79.5	$7,217,611.41	$13,910.39	0.00193	47.12
79.5 - 80.5	$6,714,010.53	$7,487.47	0.00112	47.03
80.5 - 81.5	$6,613,351.97	$49,491.97	0.00748	46.98
81.5 - 82.5	$6,521,843.50	$31,011.26	0.00475	46.62
82.5 - 83.5	$6,447,990.74	$5,964.17	0.00092	46.40
83.5 - 84.5	$6,235,805.08	$17,947.72	0.00288	46.36
84.5 - 85.5	$5,909,431.68	$34,902.76	0.00591	46.23
85.5 - 86.5	$5,319,085.97	$34,485.64	0.00648	45.95
86.5 - 87.5	$4,375,714.31	$71,022.97	0.01623	45.66
87.5 - 88.5	$2,079,266.44	$28,583.00	0.01375	44.91
88.5 - 89.5	$1,295,669.21	$28,279.45	0.02183	44.30
89.5 - 90.5	$647,828.85	$0.00	0.00000	43.33
90.5 - 91.5	$467,050.74	$0.00	0.00000	43.33
91.5 - 92.5	$369,217.14	$239.18	0.00065	43.33
92.5 - 93.5	$117,589.23	$10,029.33	0.08529	43.30
93.5 - 94.5	($5,245.98)	$0.00	0.00000	39.61
94.5 - 95.5	($13,926.25)	$0.00	0.00000	39.61
95.5 - 96.5	($11,832.68)	$0.00	0.00000	39.61
96.5 - 97.5	($11,850.10)	$0.00	0.00000	39.61
97.5 - 98.5	($16,740.99)	$0.00	0.00000	39.61
98.5 - 99.5	($12,040.98)	$0.00	0.00000	39.61
99.5 - 100.5	($17,074.88)	$0.00	0.00000	39.61
100.5 - 101.5	($17,144.61)	$0.00	0.00000	39.61
101.5 - 102.5	($17,157.61)	$0.00	0.00000	39.61
102.5 - 103.5	($17,157.61)	$0.00	0.00000	39.61
103.5 - 104.5	($18,100.80)	$62.38	-0.00345	39.61
104.5 - 105.5	($18,366.30)	$0.00	0.00000	39.75
105.5 - 106.5	$4,260.93	$0.00	0.00000	39.75
106.5 - 107.5	$4,251.22	$0.00	0.00000	39.75
107.5 - 108.5	$4,251.22	$0.00	0.00000	39.75
108.5 - 109.5	$4,178.86	$0.00	0.00000	39.75
109.5 - 110.5	$1,757.52	$0.00	0.00000	39.75

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353.00 Station Equipment
Observed Life Table
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Placement Years 1898 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
110.5 - 111.5	$1,561.90	$17.59	0.01126	39.75
111.5 - 112.5	$1,348.69	$72.76	0.05395	39.30
112.5 - 113.5	$1,275.93	$0.00	0.00000	37.18

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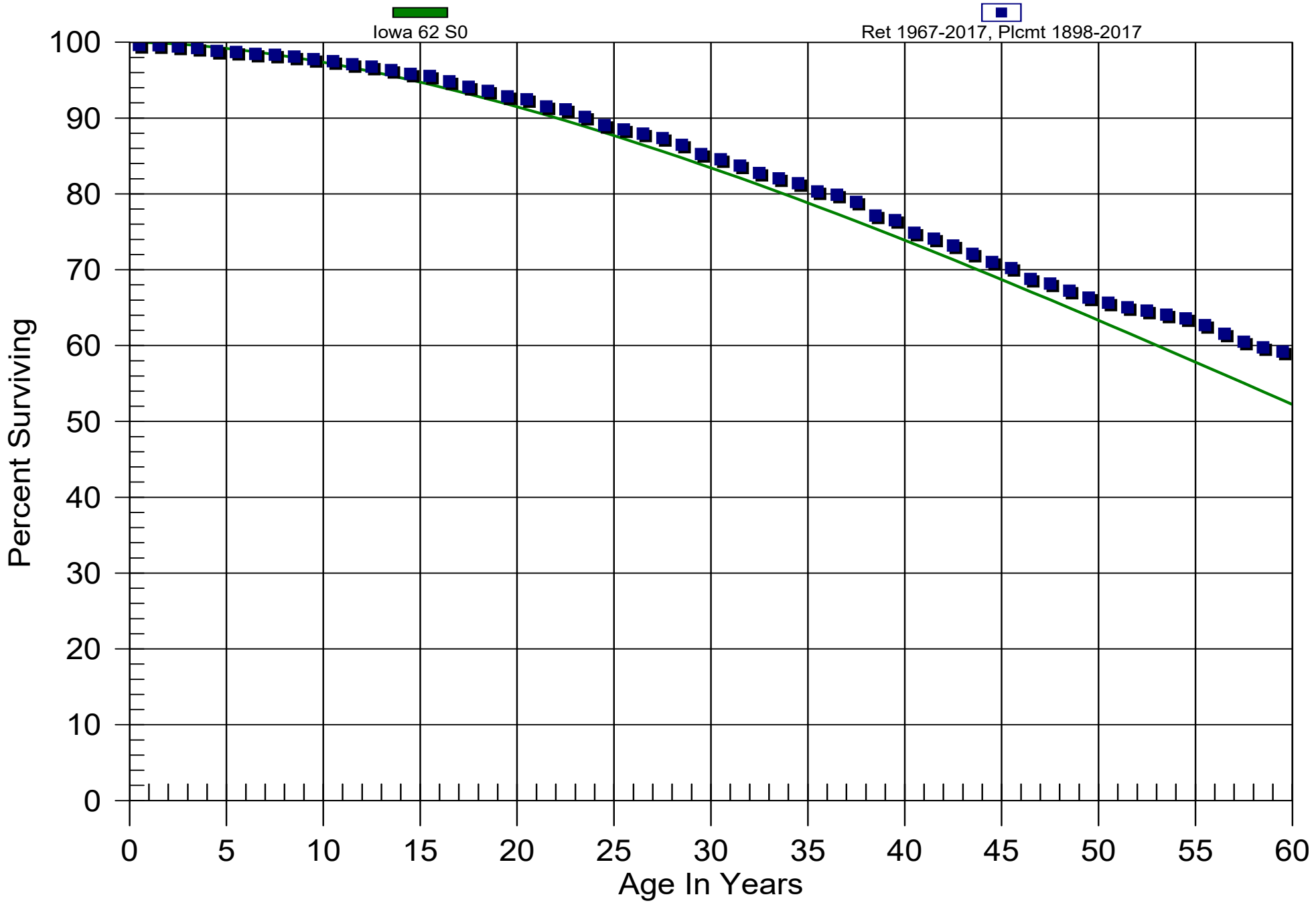
Electric Division
353.00 Station Equipment
Original And Smooth Survivor Curves



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Electric Division
356.00 Overhead Conductors and Devices
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1924 TO 2017

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	$636,541,961.37	$1,888,470.83	0.00297	100.00
0.5 - 1.5	$573,154,152.56	$1,071,308.37	0.00187	99.70
1.5 - 2.5	$542,014,673.67	$3,765,367.74	0.00695	99.52
2.5 - 3.5	$486,038,394.67	$5,243,465.32	0.01079	98.83
3.5 - 4.5	$428,866,029.13	$1,238,738.85	0.00289	97.76
4.5 - 5.5	$385,617,610.13	$2,367,526.71	0.00614	97.48
5.5 - 6.5	$375,239,950.19	$1,123,782.79	0.00299	96.88
6.5 - 7.5	$366,897,200.28	$899,521.90	0.00245	96.59
7.5 - 8.5	$355,969,663.45	$857,208.10	0.00241	96.35
8.5 - 9.5	$345,571,274.38	$1,467,664.06	0.00425	96.12
9.5 - 10.5	$324,524,853.52	$438,697.80	0.00135	95.71
10.5 - 11.5	$323,975,642.39	$388,860.24	0.00120	95.58
11.5 - 12.5	$319,960,932.23	$1,095,275.80	0.00342	95.47
12.5 - 13.5	$316,932,307.88	$1,770,530.66	0.00559	95.14
13.5 - 14.5	$327,173,530.64	$1,202,465.57	0.00368	94.61
14.5 - 15.5	$308,132,455.90	$182,840.18	0.00059	94.26
15.5 - 16.5	$284,667,101.63	$205,462.34	0.00072	94.21
16.5 - 17.5	$289,637,616.42	$286,874.37	0.00099	94.14
17.5 - 18.5	$257,156,727.04	$379,434.87	0.00148	94.04
18.5 - 19.5	$254,247,075.43	$388,718.70	0.00153	93.91
19.5 - 20.5	$264,045,987.80	$136,550.29	0.00052	93.76
20.5 - 21.5	$248,178,349.61	$758,705.76	0.00306	93.71
21.5 - 22.5	$233,855,332.14	$573,919.69	0.00245	93.43
22.5 - 23.5	$224,866,763.41	$122,046.81	0.00054	93.20
23.5 - 24.5	$222,359,868.08	$497,027.59	0.00224	93.15
24.5 - 25.5	$221,200,967.24	$71,185.65	0.00032	92.94
25.5 - 26.5	$215,041,823.96	$858,111.95	0.00399	92.91
26.5 - 27.5	$213,322,869.76	$361,190.67	0.00169	92.54
27.5 - 28.5	$210,842,510.59	$258,999.91	0.00123	92.38
28.5 - 29.5	$207,931,173.92	$1,013,394.52	0.00487	92.27
29.5 - 30.5	$195,607,380.32	$260,917.09	0.00133	91.82
30.5 - 31.5	$191,247,557.61	$74,973.24	0.00039	91.70
31.5 - 32.5	$189,296,258.96	$264,249.23	0.00140	91.66
32.5 - 33.5	$187,088,016.79	$287,350.19	0.00154	91.53
33.5 - 34.5	$180,569,650.86	$238,037.37	0.00132	91.39
34.5 - 35.5	$178,609,622.87	$150,882.93	0.00084	91.27
35.5 - 36.5	$168,282,686.74	$497,204.40	0.00295	91.19

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Electric Division
356.00 Overhead Conductors and Devices
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Retirement Expr. 1967 TO 2017
Placement Years 1924 TO 2017

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	$152,342,928.69	$1,241,686.48	0.00815	90.92
37.5 - 38.5	$151,486,009.76	$82,275.48	0.00054	90.18
38.5 - 39.5	$142,678,747.86	$240,007.97	0.00168	90.13
39.5 - 40.5	$141,122,402.96	$66,868.22	0.00047	89.98
40.5 - 41.5	$138,552,015.93	$669,792.92	0.00483	89.94
41.5 - 42.5	$117,515,281.16	$723,321.68	0.00616	89.51
42.5 - 43.5	$112,364,113.03	$237,772.60	0.00212	88.95
43.5 - 44.5	$100,032,276.10	$1,101,034.63	0.01101	88.77
44.5 - 45.5	$88,147,706.25	$58,703.22	0.00067	87.79
45.5 - 46.5	$78,087,305.94	$222,767.94	0.00285	87.73
46.5 - 47.5	$67,376,964.13	$274,944.25	0.00408	87.48
47.5 - 48.5	$63,648,917.62	$267,744.10	0.00421	87.12
48.5 - 49.5	$52,827,575.25	$61,872.91	0.00117	86.76
49.5 - 50.5	$48,191,262.91	$243,024.86	0.00504	86.66
50.5 - 51.5	$35,875,020.66	$295,832.72	0.00825	86.22
51.5 - 52.5	$31,777,491.56	$46,562.75	0.00147	85.51
52.5 - 53.5	$28,799,235.24	$27,827.96	0.00097	85.38
53.5 - 54.5	$26,190,987.54	$261,280.33	0.00998	85.30
54.5 - 55.5	$23,747,729.78	$436,895.49	0.01840	84.45
55.5 - 56.5	$21,538,297.47	$219,896.73	0.01021	82.89
56.5 - 57.5	$19,800,143.25	$50,625.69	0.00256	82.05
57.5 - 58.5	$18,453,155.63	$59,284.40	0.00321	81.84
58.5 - 59.5	$16,065,212.74	$157,337.29	0.00979	81.58
59.5 - 60.5	$13,284,074.06	$138,899.96	0.01046	80.78
60.5 - 61.5	$12,464,449.33	$77,834.56	0.00624	79.93
61.5 - 62.5	$11,950,544.61	$81,569.07	0.00683	79.43
62.5 - 63.5	$10,629,210.87	$27,911.08	0.00263	78.89
63.5 - 64.5	$9,287,819.34	$168,495.12	0.01814	78.68
64.5 - 65.5	$8,495,454.22	$28,242.85	0.00332	77.26
65.5 - 66.5	$8,222,705.70	$3,972.37	0.00048	77.00
66.5 - 67.5	$7,693,560.39	$47,478.46	0.00617	76.96
67.5 - 68.5	$6,869,115.65	$14,444.24	0.00210	76.49
68.5 - 69.5	$6,155,739.29	$26,395.36	0.00429	76.33
69.5 - 70.5	$5,591,466.80	$0.00	0.00000	76.00
70.5 - 71.5	$5,522,558.96	$598.36	0.00011	76.00
71.5 - 72.5	$5,518,680.39	$2.82	0.00000	75.99
72.5 - 73.5	$5,515,127.73	$8.70	0.00000	75.99

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Placement Years 1924 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	$5,496,130.10	$3,064.19	0.00056	75.99
74.5 - 75.5	$5,377,533.00	$23,121.82	0.00430	75.95
75.5 - 76.5	$5,300,623.94	$14,938.12	0.00282	75.62
76.5 - 77.5	$5,266,067.01	$2,136.79	0.00041	75.41
77.5 - 78.5	$5,260,099.80	$751.24	0.00014	75.38
78.5 - 79.5	$5,032,614.90	$118,629.04	0.02357	75.37
79.5 - 80.5	$4,743,193.54	$12,384.71	0.00261	73.59
80.5 - 81.5	$4,703,959.47	$734.73	0.00016	73.40
81.5 - 82.5	$4,703,074.01	$1,903.27	0.00040	73.39
82.5 - 83.5	$4,698,921.61	$26,668.98	0.00568	73.36
83.5 - 84.5	$4,588,770.48	$134.45	0.00003	72.94
84.5 - 85.5	$4,531,085.42	$15,071.52	0.00333	72.94
85.5 - 86.5	$4,299,436.90	$36,231.99	0.00843	72.70
86.5 - 87.5	$3,573,924.17	$4,854.40	0.00136	72.08
87.5 - 88.5	$2,789,201.11	$83,773.20	0.03003	71.99
88.5 - 89.5	$1,193,143.32	$24,715.71	0.02071	69.82
89.5 - 90.5	$202,329.53	$6.83	0.00003	68.38
90.5 - 91.5	$197,593.28	$423.71	0.00214	68.38
91.5 - 92.5	$181,078.57	$16.43	0.00009	68.23
92.5 - 93.5	$93,618.62	$0.00	0.00000	68.22

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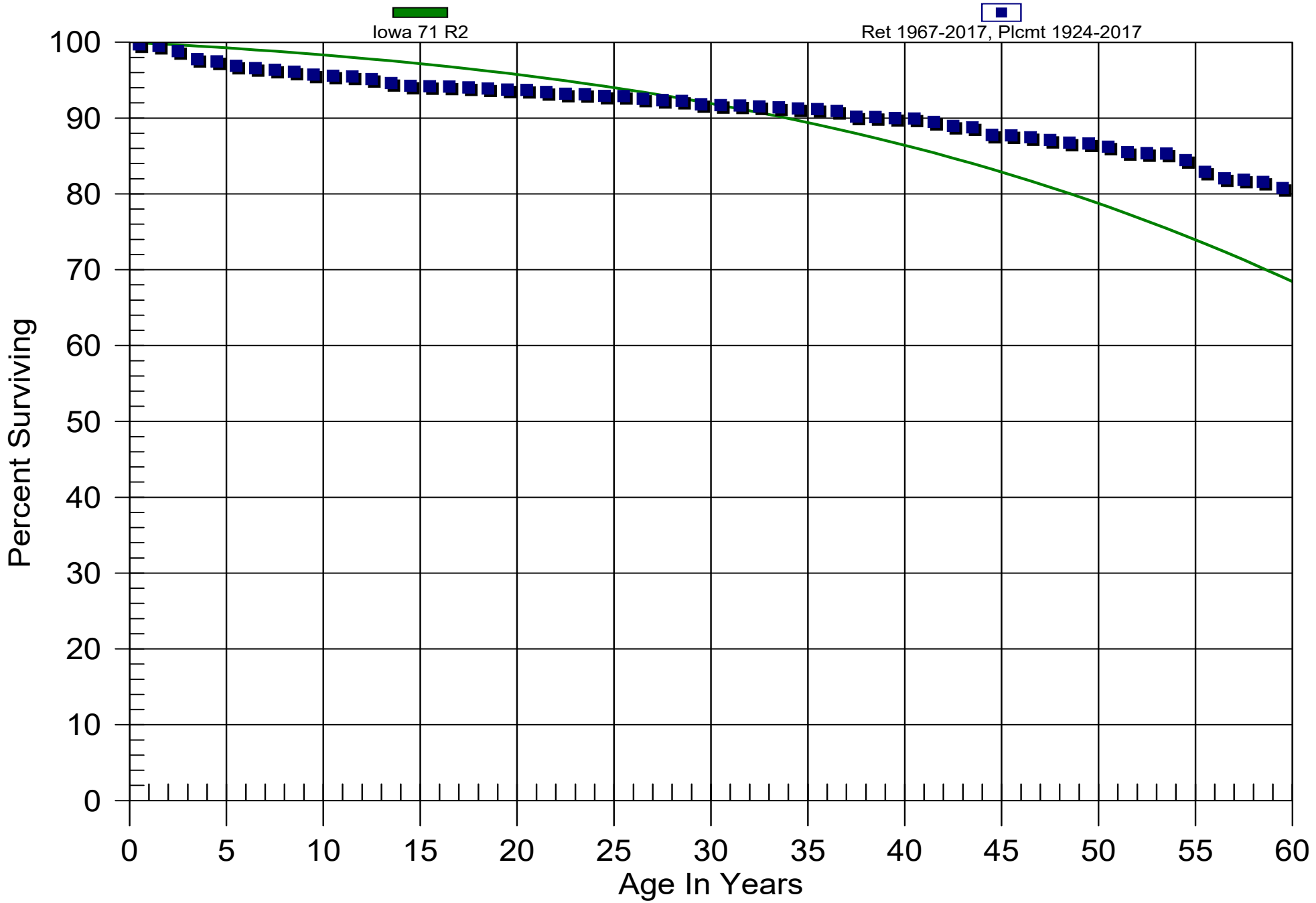
356.00 Overhead Conductors and Devices

Original And Smooth Survivor Curves



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Electric Division
358.00 Underground Conductors and Devices
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

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	$485,725,098.76	$77,634.12	0.00016	100.00
0.5 - 1.5	$489,920,150.53	$1,174,277.89	0.00240	99.98
1.5 - 2.5	$485,459,797.96	$3,619,623.04	0.00746	99.74
2.5 - 3.5	$454,607,557.45	$1,006,358.22	0.00221	99.00
3.5 - 4.5	$352,146,399.97	$2,989,045.67	0.00849	98.78
4.5 - 5.5	$344,373,305.59	$589,958.31	0.00171	97.94
5.5 - 6.5	$345,371,613.33	$343,945.61	0.00100	97.78
6.5 - 7.5	$328,759,015.43	$403,111.04	0.00123	97.68
7.5 - 8.5	$312,279,132.88	$334,104.27	0.00107	97.56
8.5 - 9.5	$305,521,500.99	$400,787.05	0.00131	97.45
9.5 - 10.5	$227,667,363.46	$714,785.91	0.00314	97.33
10.5 - 11.5	$224,315,931.62	$2,147,327.63	0.00957	97.02
11.5 - 12.5	$196,535,891.48	$527,593.44	0.00268	96.09
12.5 - 13.5	$197,858,896.02	$117,235.27	0.00059	95.83
13.5 - 14.5	$208,785,942.57	$758,671.94	0.00363	95.78
14.5 - 15.5	$180,160,321.70	$208,734.59	0.00116	95.43
15.5 - 16.5	$139,489,235.73	$343,140.28	0.00246	95.32
16.5 - 17.5	$139,827,757.22	$962,282.90	0.00688	95.08
17.5 - 18.5	$135,753,034.95	$154,630.36	0.00114	94.43
18.5 - 19.5	$136,978,969.31	$143,985.30	0.00105	94.32
19.5 - 20.5	$113,627,842.58	$233,552.70	0.00206	94.22
20.5 - 21.5	$132,505,554.72	$1,524,630.54	0.01151	94.03
21.5 - 22.5	$105,480,385.77	$259,862.52	0.00246	92.95
22.5 - 23.5	$102,795,138.24	$261,778.84	0.00255	92.72
23.5 - 24.5	$99,534,595.98	$219,937.96	0.00221	92.48
24.5 - 25.5	$96,369,910.24	$735,786.90	0.00764	92.28
25.5 - 26.5	$94,505,000.88	$256,374.93	0.00271	91.57
26.5 - 27.5	$100,174,649.15	$108,499.12	0.00108	91.32
27.5 - 28.5	$95,633,097.03	$365,801.34	0.00383	91.23
28.5 - 29.5	$95,173,877.51	$305,943.09	0.00321	90.88
29.5 - 30.5	$96,045,946.49	$553,271.58	0.00576	90.58
30.5 - 31.5	$95,029,482.66	$524,363.84	0.00552	90.06
31.5 - 32.5	$94,147,424.03	$249,185.93	0.00265	89.57
32.5 - 33.5	$92,966,126.30	$202,125.86	0.00217	89.33
33.5 - 34.5	$92,889,290.26	$666,728.81	0.00718	89.13
34.5 - 35.5	$91,245,716.43	$123,149.00	0.00135	88.49
35.5 - 36.5	$90,339,677.61	$1,181,333.66	0.01308	88.38

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Electric Division
358.00 Underground Conductors and Devices
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Placement Years 1900 TO 2017

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	$89,445,815.24	$1,028,529.14	0.01150	87.22
37.5 - 38.5	$88,682,489.13	$233,357.36	0.00263	86.22
38.5 - 39.5	$89,219,192.42	$118,357.64	0.00133	85.99
39.5 - 40.5	$85,810,867.44	$284,454.16	0.00331	85.88
40.5 - 41.5	$84,038,016.09	$89,492.89	0.00106	85.59
41.5 - 42.5	$82,613,955.41	$1,473,026.45	0.01783	85.50
42.5 - 43.5	$73,356,865.77	$1,152,585.75	0.01571	83.98
43.5 - 44.5	$59,428,789.84	$1,461,975.65	0.02460	82.66
44.5 - 45.5	$53,233,513.92	$183,861.49	0.00345	80.62
45.5 - 46.5	$48,456,210.97	$1,453,744.41	0.03000	80.34
46.5 - 47.5	$41,838,366.87	$2,661,701.69	0.06362	77.93
47.5 - 48.5	$37,466,159.12	$1,457,092.41	0.03889	72.98
48.5 - 49.5	$35,988,179.59	$682,264.77	0.01896	70.14
49.5 - 50.5	$34,165,016.27	$52,163.94	0.00153	68.81
50.5 - 51.5	$32,758,748.68	$835,941.02	0.02552	68.70
51.5 - 52.5	$29,546,950.61	$331,982.21	0.01124	66.95
52.5 - 53.5	$28,408,312.51	$96,389.71	0.00339	66.20
53.5 - 54.5	$27,816,566.03	$22,985.30	0.00083	65.97
54.5 - 55.5	$25,230,636.67	$1,242,048.51	0.04923	65.92
55.5 - 56.5	$22,847,181.31	$15,905.97	0.00070	62.67
56.5 - 57.5	$21,820,865.79	$194,901.75	0.00893	62.63
57.5 - 58.5	$21,408,376.65	$109,155.99	0.00510	62.07
58.5 - 59.5	$21,102,112.82	$256,302.28	0.01215	61.75
59.5 - 60.5	$18,586,780.59	$32,735.00	0.00176	61.00
60.5 - 61.5	$17,048,053.56	$33,319.65	0.00195	60.90
61.5 - 62.5	$16,430,953.81	$429,627.09	0.02615	60.78
62.5 - 63.5	$12,510,671.55	$782,632.75	0.06256	59.19
63.5 - 64.5	$9,430,230.70	$0.00	0.00000	55.49
64.5 - 65.5	$7,112,173.27	$214.58	0.00003	55.49
65.5 - 66.5	$6,273,365.50	$0.00	0.00000	55.48
66.5 - 67.5	$5,838,127.89	$736.44	0.00013	55.48
67.5 - 68.5	$5,763,522.65	$583,674.85	0.10127	55.48
68.5 - 69.5	$4,213,075.15	$2,946.01	0.00070	49.86
69.5 - 70.5	$4,157,124.91	$2,946.25	0.00071	49.82
70.5 - 71.5	$3,915,637.62	$3,010.82	0.00077	49.79
71.5 - 72.5	$3,909,763.29	$0.00	0.00000	49.75
72.5 - 73.5	$3,905,628.23	$0.00	0.00000	49.75

ComEd
Electric Division
358.00 Underground Conductors and Devices
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	$3,611,470.47	$0.00	0.00000	49.75
74.5 - 75.5	$3,535,302.74	$857.11	0.00024	49.75
75.5 - 76.5	$3,527,564.88	$0.00	0.00000	49.74
76.5 - 77.5	$3,411,184.70	$0.00	0.00000	49.74
77.5 - 78.5	$3,403,574.39	$0.00	0.00000	49.74
78.5 - 79.5	$3,384,002.41	$0.00	0.00000	49.74
79.5 - 80.5	$2,082,120.81	$0.00	0.00000	49.74
80.5 - 81.5	$2,078,814.98	$0.00	0.00000	49.74
81.5 - 82.5	$1,994,558.33	$0.00	0.00000	49.74
82.5 - 83.5	$1,994,167.99	$0.00	0.00000	49.74
83.5 - 84.5	$1,879,332.25	$0.00	0.00000	49.74
84.5 - 85.5	$1,821,636.80	$0.00	0.00000	49.74
85.5 - 86.5	$1,267,812.03	$0.00	0.00000	49.74
86.5 - 87.5	$1,126,263.97	$0.00	0.00000	49.74
87.5 - 88.5	$413,614.95	$0.00	0.00000	49.74
88.5 - 89.5	$403,520.62	$0.00	0.00000	49.74
89.5 - 90.5	$26,240.27	$0.00	0.00000	49.74
90.5 - 91.5	$26,240.27	$0.00	0.00000	49.74
91.5 - 92.5	$26,240.27	$0.00	0.00000	49.74
92.5 - 93.5	$26,240.27	$0.00	0.00000	49.74
93.5 - 94.5	$26,240.27	$0.00	0.00000	49.74
94.5 - 95.5	$26,240.27	$0.00	0.00000	49.74
95.5 - 96.5	$26,240.27	$0.00	0.00000	49.74
96.5 - 97.5	$26,240.27	$0.00	0.00000	49.74
97.5 - 98.5	$26,240.27	$0.00	0.00000	49.74
98.5 - 99.5	$26,240.27	$0.00	0.00000	49.74
99.5 - 100.5	$19,318.49	$0.00	0.00000	49.74
100.5 - 101.5	$19,318.49	$0.00	0.00000	49.74
101.5 - 102.5	$19,318.49	$0.00	0.00000	49.74
102.5 - 103.5	$19,318.49	$0.00	0.00000	49.74
103.5 - 104.5	$19,318.49	$0.00	0.00000	49.74
104.5 - 105.5	$19,318.49	$0.00	0.00000	49.74
105.5 - 106.5	$19,318.49	$0.00	0.00000	49.74
106.5 - 107.5	$19,318.49	$0.00	0.00000	49.74
107.5 - 108.5	$19,318.49	$0.00	0.00000	49.74
108.5 - 109.5	$19,318.49	$0.00	0.00000	49.74
109.5 - 110.5	$19,318.49	$0.00	0.00000	49.74

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Electric Division
358.00 Underground Conductors and Devices
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
110.5 - 111.5	$19,318.49	$0.00	0.00000	49.74
111.5 - 112.5	$19,318.49	$0.00	0.00000	49.74
112.5 - 113.5	$19,318.49	$0.00	0.00000	49.74
113.5 - 114.5	$19,318.49	$0.00	0.00000	49.74
114.5 - 115.5	$19,318.49	$0.00	0.00000	49.74
115.5 - 116.5	$19,318.49	$0.00	0.00000	49.74
116.5 - 117.5	$0.00	$0.00	0.00000	49.74

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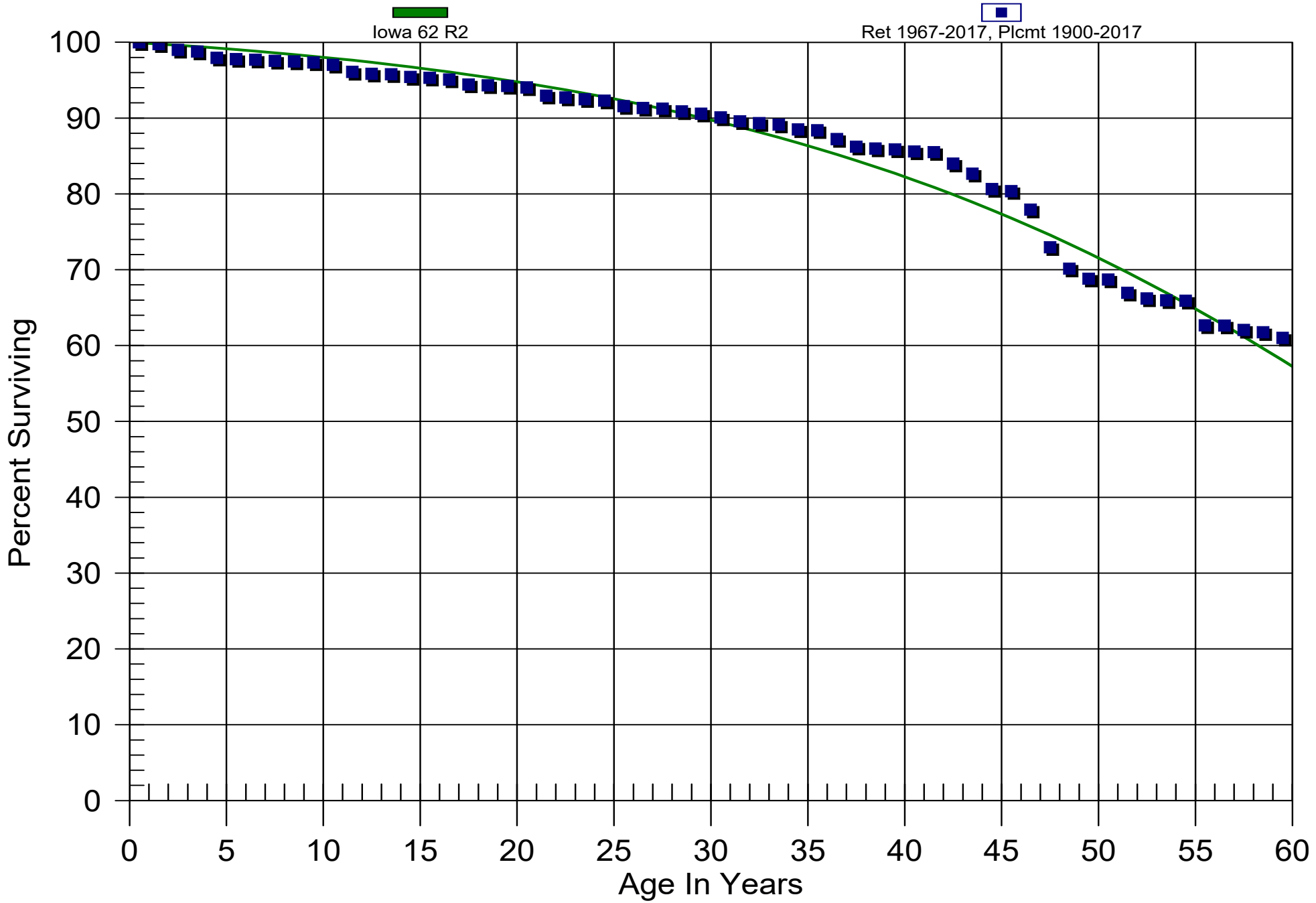
Electric Division

358.00 Underground Conductors and Devices

Original And Smooth Survivor Curves



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Electric Division
362.00 Station Equipment
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1892 TO 2017

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	$925,428,068.83	$1,417,250.86	0.00153	100.00
0.5 - 1.5	$935,911,648.88	$1,553,228.58	0.00166	99.85
1.5 - 2.5	$925,865,407.01	$1,737,272.96	0.00188	99.68
2.5 - 3.5	$915,979,334.14	$2,429,637.96	0.00265	99.49
3.5 - 4.5	$900,887,225.61	$2,174,767.29	0.00241	99.23
4.5 - 5.5	$897,730,307.69	$2,359,667.50	0.00263	98.99
5.5 - 6.5	$890,135,369.03	$3,625,131.85	0.00407	98.73
6.5 - 7.5	$872,806,491.01	$3,898,603.32	0.00447	98.33
7.5 - 8.5	$813,407,579.72	$3,506,362.81	0.00431	97.89
8.5 - 9.5	$753,150,920.70	$3,066,645.56	0.00407	97.47
9.5 - 10.5	$730,456,836.26	$2,165,948.76	0.00297	97.07
10.5 - 11.5	$707,628,947.01	$1,909,540.09	0.00270	96.78
11.5 - 12.5	$699,408,208.34	$1,535,582.04	0.00220	96.52
12.5 - 13.5	$674,765,683.13	$2,004,940.82	0.00297	96.31
13.5 - 14.5	$665,135,992.34	$2,885,530.90	0.00434	96.02
14.5 - 15.5	$642,280,127.30	$2,990,623.85	0.00466	95.61
15.5 - 16.5	$628,328,554.73	$3,904,766.65	0.00621	95.16
16.5 - 17.5	$614,183,677.53	$2,276,258.24	0.00371	94.57
17.5 - 18.5	$583,050,917.83	$3,561,285.35	0.00611	94.22
18.5 - 19.5	$569,901,601.56	$2,282,044.24	0.00400	93.64
19.5 - 20.5	$574,519,854.20	$2,416,382.12	0.00421	93.27
20.5 - 21.5	$543,778,785.20	$3,518,577.75	0.00647	92.88
21.5 - 22.5	$518,553,935.26	$2,423,190.57	0.00467	92.28
22.5 - 23.5	$500,471,141.01	$2,288,730.89	0.00457	91.84
23.5 - 24.5	$484,911,952.17	$4,435,155.74	0.00915	91.42
24.5 - 25.5	$469,607,153.76	$4,980,667.80	0.01061	90.59
25.5 - 26.5	$450,173,754.24	$2,332,033.66	0.00518	89.63
26.5 - 27.5	$412,518,626.38	$2,283,327.74	0.00554	89.16
27.5 - 28.5	$382,333,048.86	$1,906,617.14	0.00499	88.67
28.5 - 29.5	$357,447,617.82	$2,390,364.20	0.00669	88.23
29.5 - 30.5	$335,214,237.76	$2,618,396.25	0.00781	87.64
30.5 - 31.5	$313,488,706.84	$2,420,431.72	0.00772	86.95
31.5 - 32.5	$287,518,152.52	$1,859,193.06	0.00647	86.28
32.5 - 33.5	$269,319,603.18	$1,837,455.94	0.00682	85.72
33.5 - 34.5	$251,444,499.05	$2,621,245.19	0.01042	85.14
34.5 - 35.5	$236,470,005.53	$2,614,493.34	0.01106	84.25
35.5 - 36.5	$223,490,217.29	$2,254,818.91	0.01009	83.32

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Electric Division
362.00 Station Equipment
Observed Life Table
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Placement Years 1892 TO 2017

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	$213,022,081.53	$2,153,463.83	0.01011	82.48
37.5 - 38.5	$201,352,252.78	$1,595,019.62	0.00792	81.65
38.5 - 39.5	$194,434,207.72	$2,242,132.85	0.01153	81.00
39.5 - 40.5	$189,155,765.24	$1,504,966.75	0.00796	80.06
40.5 - 41.5	$186,657,040.01	$1,863,629.82	0.00998	79.43
41.5 - 42.5	$181,448,118.42	$2,718,244.19	0.01498	78.63
42.5 - 43.5	$170,792,159.43	$2,087,318.84	0.01222	77.46
43.5 - 44.5	$163,950,664.36	$1,750,706.79	0.01068	76.51
44.5 - 45.5	$157,985,865.21	$2,202,790.43	0.01394	75.69
45.5 - 46.5	$149,518,294.28	$1,489,672.53	0.00996	74.64
46.5 - 47.5	$142,302,750.90	$1,297,279.10	0.00912	73.89
47.5 - 48.5	$136,262,839.22	$1,351,764.69	0.00992	73.22
48.5 - 49.5	$128,827,835.44	$1,611,867.98	0.01251	72.49
49.5 - 50.5	$123,448,574.95	$1,401,119.02	0.01135	71.59
50.5 - 51.5	$118,941,245.31	$1,258,350.45	0.01058	70.77
51.5 - 52.5	$114,413,280.33	$1,086,275.78	0.00949	70.03
52.5 - 53.5	$112,215,959.90	$1,048,536.41	0.00934	69.36
53.5 - 54.5	$108,181,049.86	$1,265,506.41	0.01170	68.71
54.5 - 55.5	$104,090,944.02	$828,626.33	0.00796	67.91
55.5 - 56.5	$98,562,732.07	$775,056.11	0.00786	67.37
56.5 - 57.5	$92,282,192.71	$891,633.53	0.00966	66.84
57.5 - 58.5	$86,673,123.20	$632,109.60	0.00729	66.19
58.5 - 59.5	$82,792,071.92	$635,167.76	0.00767	65.71
59.5 - 60.5	$74,645,551.61	$790,892.71	0.01060	65.21
60.5 - 61.5	$64,823,081.93	$594,523.69	0.00917	64.52
61.5 - 62.5	$58,084,892.47	$720,359.16	0.01240	63.92
62.5 - 63.5	$52,084,215.86	$507,678.05	0.00975	63.13
63.5 - 64.5	$46,103,823.99	$1,010,430.28	0.02192	62.52
64.5 - 65.5	$39,445,367.65	$410,196.60	0.01040	61.15
65.5 - 66.5	$33,725,529.56	$374,703.56	0.01111	60.51
66.5 - 67.5	$29,537,559.01	$297,320.72	0.01007	59.84
67.5 - 68.5	$24,952,472.81	$252,981.58	0.01014	59.23
68.5 - 69.5	$20,065,080.85	$268,258.76	0.01337	58.63
69.5 - 70.5	$16,861,451.82	$133,307.00	0.00791	57.85
70.5 - 71.5	$15,161,174.46	$184,401.68	0.01216	57.39
71.5 - 72.5	$14,343,345.02	$97,195.53	0.00678	56.69
72.5 - 73.5	$13,864,043.08	$122,041.02	0.00880	56.31

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Electric Division
362.00 Station Equipment
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1892 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	$13,520,981.52	$138,782.44	0.01026	55.81
74.5 - 75.5	$12,774,906.89	$176,009.54	0.01378	55.24
75.5 - 76.5	$11,539,650.31	$105,527.16	0.00914	54.48
76.5 - 77.5	$10,046,480.42	$77,052.33	0.00767	53.98
77.5 - 78.5	$8,814,483.49	$142,852.62	0.01621	53.57
78.5 - 79.5	$7,859,562.20	$81,200.36	0.01033	52.70
79.5 - 80.5	$7,026,753.07	$51,163.08	0.00728	52.16
80.5 - 81.5	$6,416,815.03	$134,348.66	0.02094	51.78
81.5 - 82.5	$5,969,591.39	$70,861.16	0.01187	50.69
82.5 - 83.5	$5,715,951.92	$56,766.93	0.00993	50.09
83.5 - 84.5	$5,537,764.72	$59,274.34	0.01070	49.59
84.5 - 85.5	$5,429,493.55	$41,456.03	0.00764	49.06
85.5 - 86.5	$5,266,743.56	$59,936.71	0.01138	48.69
86.5 - 87.5	$4,641,372.04	$68,733.59	0.01481	48.13
87.5 - 88.5	$3,854,726.43	$16,827.75	0.00437	47.42
88.5 - 89.5	$3,236,300.41	$54,508.32	0.01684	47.21
89.5 - 90.5	$2,326,602.38	$10,372.48	0.00446	46.42
90.5 - 91.5	$1,648,331.69	$56,951.92	0.03455	46.21
91.5 - 92.5	$901,571.74	$20,822.60	0.02310	44.61
92.5 - 93.5	$617,230.61	$9,591.71	0.01554	43.58
93.5 - 94.5	$442,287.89	$2,336.96	0.00528	42.91
94.5 - 95.5	$270,661.48	$7,712.52	0.02850	42.68
95.5 - 96.5	$239,076.23	$6,443.44	0.02695	41.46
96.5 - 97.5	$204,550.57	$2,391.21	0.01169	40.35
97.5 - 98.5	$189,587.15	$76.63	0.00040	39.88
98.5 - 99.5	$179,075.23	$3,430.26	0.01916	39.86
99.5 - 100.5	$157,873.49	$489.26	0.00310	39.10
100.5 - 101.5	$136,686.88	$449.59	0.00329	38.97
101.5 - 102.5	$120,072.25	$2,716.32	0.02262	38.85
102.5 - 103.5	$103,099.10	$3,858.63	0.03743	37.97
103.5 - 104.5	$94,853.69	$0.00	0.00000	36.55
104.5 - 105.5	$84,992.25	$394.76	0.00464	36.55
105.5 - 106.5	$80,614.40	$247.22	0.00307	36.38
106.5 - 107.5	$77,724.89	$0.00	0.00000	36.27
107.5 - 108.5	$72,337.33	$123.86	0.00171	36.27
108.5 - 109.5	$6,395.25	$0.00	0.00000	36.20
109.5 - 110.5	$5,493.10	$56.39	0.01027	36.20

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Electric Division
362.00 Station Equipment
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1892 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
110.5 - 111.5	$5,436.71	$106.93	0.01967	35.83
111.5 - 112.5	$4,029.92	$0.00	0.00000	35.13
112.5 - 113.5	$3,943.22	$0.00	0.00000	35.13
113.5 - 114.5	$3,893.74	$65.15	0.01673	35.13
114.5 - 115.5	$3,828.59	$12.66	0.00331	34.54
115.5 - 116.5	$3,815.93	$430.92	0.11293	34.42
116.5 - 117.5	$4,273.92	$1.95	0.00046	30.54
117.5 - 118.5	$0.00	$0.00	0.00000	30.52
118.5 - 119.5	$0.00	$0.00	0.00000	30.52
119.5 - 120.5	$0.00	$0.00	0.00000	30.52
120.5 - 121.5	$0.00	$0.00	0.00000	30.52
121.5 - 122.5	$0.00	$0.00	0.00000	30.52
122.5 - 123.5	$0.00	$0.00	0.00000	30.52
123.5 - 124.5	$0.00	$0.00	0.00000	30.52
124.5 - 125.5	$0.00	$0.00	0.00000	30.52

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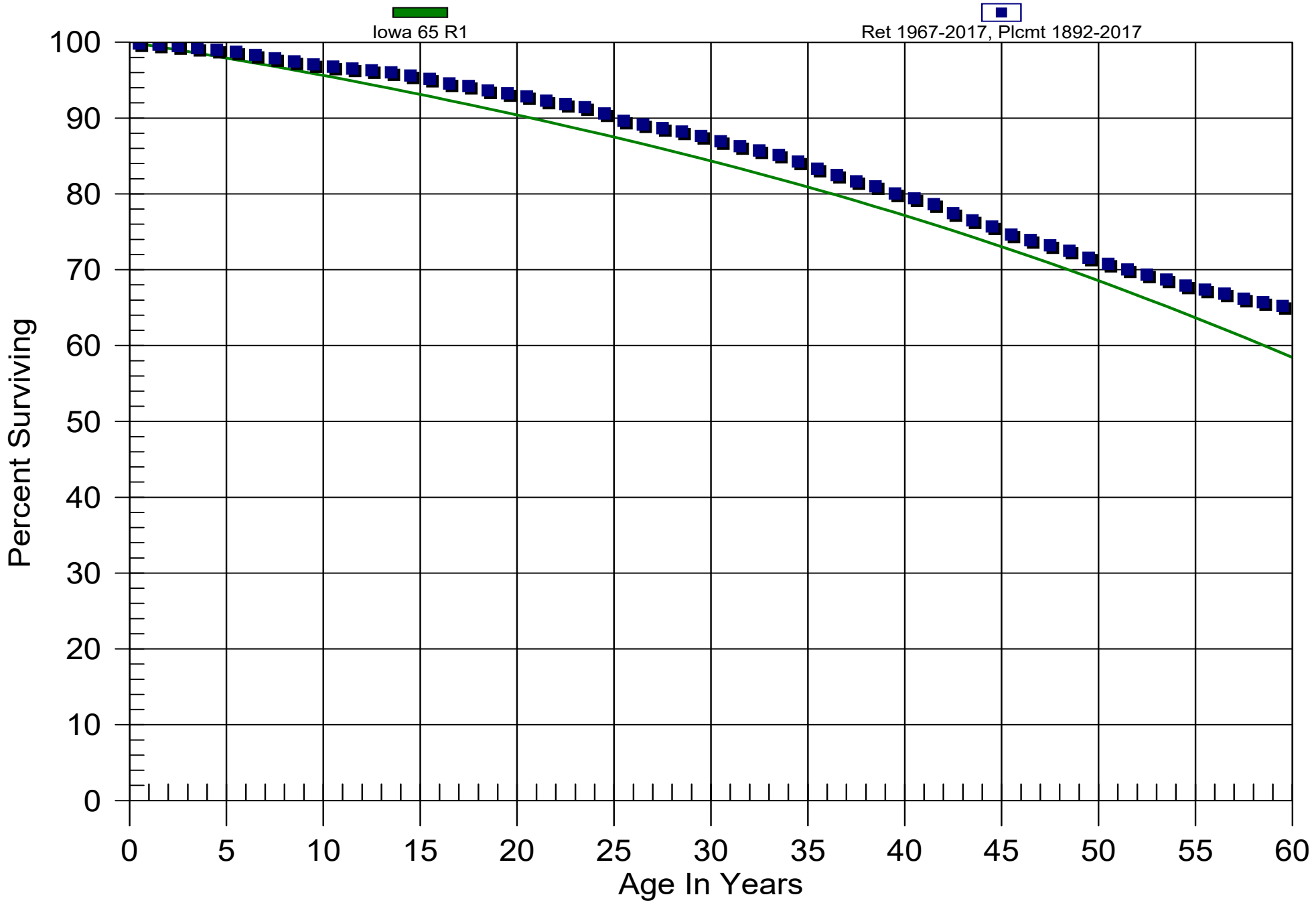
Electric Division
362.00 Station Equipment
Original And Smooth Survivor Curves



ComEd
Electric Division
362.02 Station Equipment - HVD
Observed Life Table
Retirement Expr. 1999 TO 2017
Placement Years 1898 TO 2017

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	$1,504,824,273.43	$1,480,474.58	0.00098	100.00
0.5 - 1.5	$1,445,082,595.36	$2,571,803.99	0.00178	99.90
1.5 - 2.5	$1,279,695,053.15	$3,033,207.21	0.00237	99.72
2.5 - 3.5	$1,230,838,764.31	$3,393,593.30	0.00276	99.49
3.5 - 4.5	$1,251,427,584.98	$2,093,576.21	0.00167	99.21
4.5 - 5.5	$1,145,113,562.19	$2,827,575.86	0.00247	99.05
5.5 - 6.5	$1,112,097,071.82	$1,554,317.95	0.00140	98.80
6.5 - 7.5	$1,101,023,320.70	$2,127,571.52	0.00193	98.66
7.5 - 8.5	$1,096,192,777.09	$2,796,325.55	0.00255	98.47
8.5 - 9.5	$1,137,716,415.21	$2,227,875.85	0.00196	98.22
9.5 - 10.5	$1,106,477,614.96	$2,886,848.29	0.00261	98.03
10.5 - 11.5	$1,049,366,024.93	$2,985,570.48	0.00285	97.77
11.5 - 12.5	$1,036,249,050.94	$3,895,498.82	0.00376	97.50
12.5 - 13.5	$1,004,171,912.11	$3,572,647.29	0.00356	97.13
13.5 - 14.5	$981,576,458.90	$1,374,775.93	0.00140	96.78
14.5 - 15.5	$892,857,499.40	$1,674,636.72	0.00188	96.65
15.5 - 16.5	$748,175,610.47	$1,915,411.39	0.00256	96.47
16.5 - 17.5	$634,556,509.41	$1,846,453.19	0.00291	96.22
17.5 - 18.5	$493,353,336.03	$1,424,658.57	0.00289	95.94
18.5 - 19.5	$473,489,125.18	$1,986,964.64	0.00420	95.66
19.5 - 20.5	$429,467,003.15	$3,904,413.41	0.00909	95.26
20.5 - 21.5	$415,690,667.32	$5,844,086.17	0.01406	94.40
21.5 - 22.5	$386,320,917.25	$1,852,661.06	0.00480	93.07
22.5 - 23.5	$330,393,999.70	$699,060.64	0.00212	92.62
23.5 - 24.5	$339,737,291.09	$2,127,847.83	0.00626	92.43
24.5 - 25.5	$310,373,226.38	$2,718,479.09	0.00876	91.85
25.5 - 26.5	$288,245,865.58	$1,928,017.27	0.00669	91.04
26.5 - 27.5	$270,884,899.43	$2,557,082.40	0.00944	90.43
27.5 - 28.5	$231,134,294.31	$735,747.07	0.00318	89.58
28.5 - 29.5	$215,798,986.19	$1,817,341.58	0.00842	89.30
29.5 - 30.5	$227,541,243.77	$1,433,100.35	0.00630	88.54
30.5 - 31.5	$238,839,539.02	$2,542,545.88	0.01065	87.99
31.5 - 32.5	$242,202,827.87	$1,272,203.57	0.00525	87.05
32.5 - 33.5	$244,166,658.58	$1,586,883.27	0.00650	86.59
33.5 - 34.5	$244,945,117.79	$1,864,449.75	0.00761	86.03
34.5 - 35.5	$241,572,371.57	$1,498,371.68	0.00620	85.37
35.5 - 36.5	$236,873,062.55	$1,301,592.06	0.00549	84.84

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Electric Division
362.02 Station Equipment - HVD
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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	$230,901,671.46	$1,980,782.31	0.00858	84.38
37.5 - 38.5	$225,445,672.29	$2,041,220.11	0.00905	83.65
38.5 - 39.5	$226,302,392.93	$1,269,382.51	0.00561	82.90
39.5 - 40.5	$210,793,605.47	$1,993,799.44	0.00946	82.43
40.5 - 41.5	$203,108,379.91	$1,517,527.58	0.00747	81.65
41.5 - 42.5	$194,454,583.17	$2,769,424.79	0.01424	81.04
42.5 - 43.5	$176,877,478.58	$1,789,331.04	0.01012	79.89
43.5 - 44.5	$170,167,251.01	$2,466,860.93	0.01450	79.08
44.5 - 45.5	$147,768,557.02	$1,618,785.48	0.01095	77.93
45.5 - 46.5	$142,452,627.08	$1,372,444.27	0.00963	77.08
46.5 - 47.5	$125,415,731.07	$3,066,671.47	0.02445	76.34
47.5 - 48.5	$112,160,088.56	$899,982.74	0.00802	74.47
48.5 - 49.5	$101,108,982.11	$1,633,702.73	0.01616	73.87
49.5 - 50.5	$88,831,504.65	$520,656.24	0.00586	72.68
50.5 - 51.5	$79,343,265.71	$1,115,233.82	0.01406	72.25
51.5 - 52.5	$74,475,498.55	$808,769.14	0.01086	71.24
52.5 - 53.5	$68,893,415.63	$955,203.00	0.01386	70.46
53.5 - 54.5	$65,054,674.19	$1,185,240.91	0.01822	69.49
54.5 - 55.5	$59,881,398.90	$1,747,353.52	0.02918	68.22
55.5 - 56.5	$55,467,980.23	$2,023,812.87	0.03649	66.23
56.5 - 57.5	$50,262,246.98	$967,684.44	0.01925	63.81
57.5 - 58.5	$47,098,276.39	$838,416.04	0.01780	62.59
58.5 - 59.5	$42,140,019.19	$999,937.93	0.02373	61.47
59.5 - 60.5	$38,445,974.32	$303,373.90	0.00789	60.01
60.5 - 61.5	$35,878,872.70	$955,905.32	0.02664	59.54
61.5 - 62.5	$33,452,750.42	$904,543.60	0.02704	57.95
62.5 - 63.5	$25,618,106.84	$494,919.38	0.01932	56.39
63.5 - 64.5	$20,937,762.37	$1,146,660.86	0.05477	55.30
64.5 - 65.5	$14,206,387.23	$172,013.67	0.01211	52.27
65.5 - 66.5	$13,097,317.91	$255,132.62	0.01948	51.64
66.5 - 67.5	$11,396,432.20	$214,347.79	0.01881	50.63
67.5 - 68.5	$6,564,008.10	$185,229.54	0.02822	49.68
68.5 - 69.5	$5,813,783.91	$109,989.17	0.01892	48.28
69.5 - 70.5	$6,399,027.27	$104,842.97	0.01638	47.36
70.5 - 71.5	$6,292,263.15	$124,676.58	0.01981	46.59
71.5 - 72.5	$6,198,428.38	$69,008.20	0.01113	45.66
72.5 - 73.5	$6,228,677.18	$102,738.04	0.01649	45.15

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Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	$5,997,436.32	$208,721.56	0.03480	44.41
74.5 - 75.5	$5,694,352.25	$84,725.30	0.01488	42.86
75.5 - 76.5	$5,336,827.16	$30,264.76	0.00567	42.23
76.5 - 77.5	$4,681,254.72	$113,423.21	0.02423	41.99
77.5 - 78.5	$4,354,782.21	$34,271.75	0.00787	40.97
78.5 - 79.5	$4,175,236.10	$49,972.60	0.01197	40.65
79.5 - 80.5	$3,831,214.59	$20,744.29	0.00541	40.16
80.5 - 81.5	$3,004,262.67	$55,753.36	0.01856	39.94
81.5 - 82.5	$2,792,747.99	$57,929.74	0.02074	39.20
82.5 - 83.5	$2,732,641.87	$42,509.65	0.01556	38.39
83.5 - 84.5	$2,599,291.28	$19,723.22	0.00759	37.79
84.5 - 85.5	$2,484,600.55	$39,447.55	0.01588	37.51
85.5 - 86.5	$2,285,027.32	$39,805.27	0.01742	36.91
86.5 - 87.5	$2,042,897.89	$28,783.79	0.01409	36.27
87.5 - 88.5	$1,313,941.81	$18,823.48	0.01433	35.76
88.5 - 89.5	$853,245.66	$19,130.94	0.02242	35.24
89.5 - 90.5	$520,650.38	$36,150.58	0.06943	34.45
90.5 - 91.5	$284,859.63	$17,002.41	0.05969	32.06
91.5 - 92.5	$212,546.76	$9,720.00	0.04573	30.15
92.5 - 93.5	$119,239.55	$6,946.34	0.05826	28.77
93.5 - 94.5	$97,261.26	$5,741.04	0.05903	27.09
94.5 - 95.5	$36,130.88	$475.85	0.01317	25.49
95.5 - 96.5	$28,584.64	$76.97	0.00269	25.16
96.5 - 97.5	$24,880.48	$5,466.98	0.21973	25.09
97.5 - 98.5	$20,153.29	$135.31	0.00671	19.58
98.5 - 99.5	$23,457.27	$505.27	0.02154	19.45
99.5 - 100.5	$21,838.16	$0.00	0.00000	19.03
100.5 - 101.5	$17,442.93	$395.29	0.02266	19.03
101.5 - 102.5	$16,661.87	$0.00	0.00000	18.60
102.5 - 103.5	$15,241.55	$0.00	0.00000	18.60
103.5 - 104.5	$14,636.70	$0.00	0.00000	18.60
104.5 - 105.5	$14,356.02	$0.00	0.00000	18.60
105.5 - 106.5	$12,518.18	$0.00	0.00000	18.60
106.5 - 107.5	$5,924.71	$0.00	0.00000	18.60
107.5 - 108.5	$5,826.66	$0.00	0.00000	18.60
108.5 - 109.5	$5,826.66	$3,268.45	0.56095	18.60
109.5 - 110.5	$1,374.93	$0.00	0.00000	8.16

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Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
110.5 - 111.5	$1,374.93	$128.92	0.09376	8.16
111.5 - 112.5	$1,246.01	$0.00	0.00000	7.40

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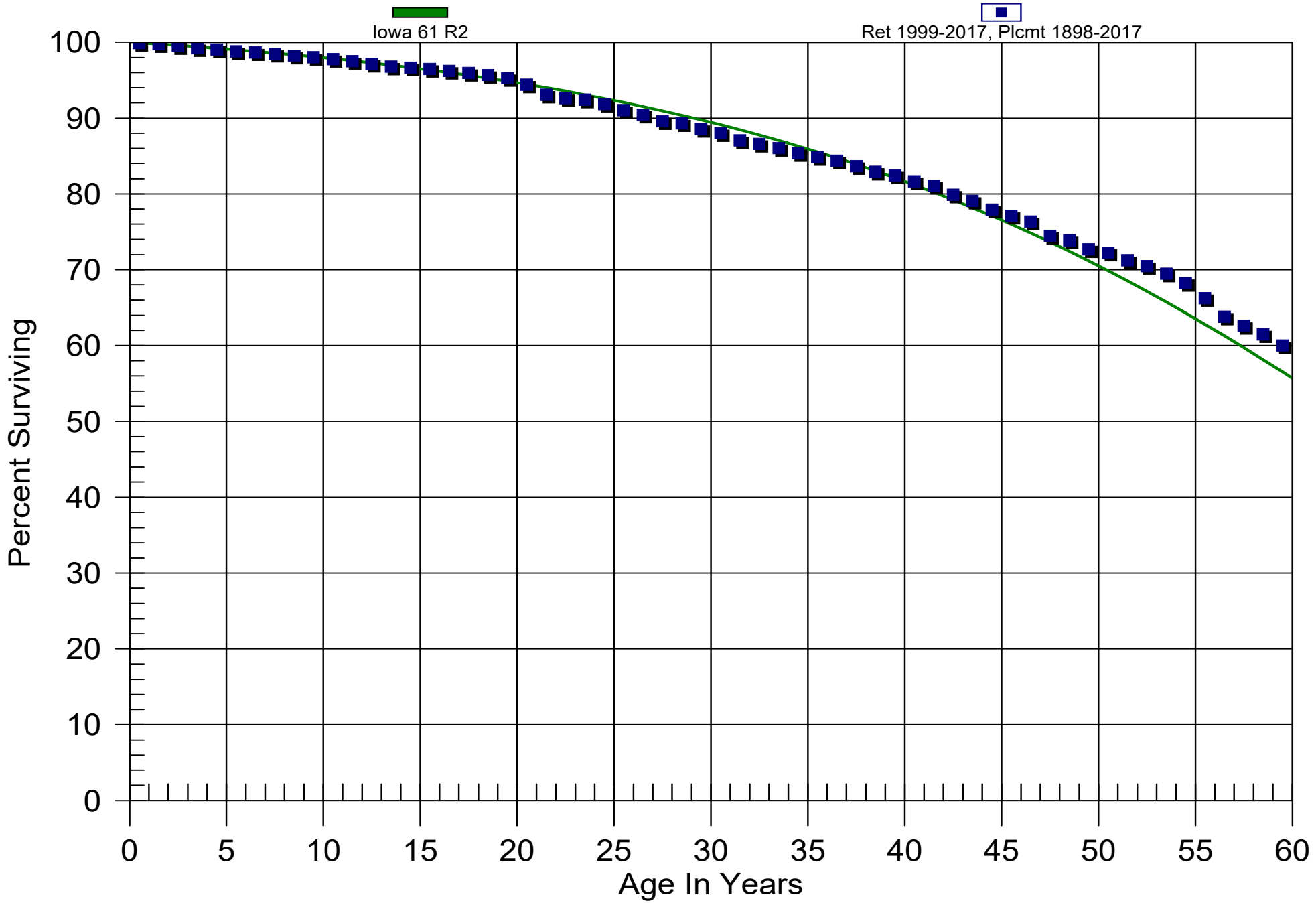
362.02 Station Equipment - HVD

Original And Smooth Survivor Curves



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Electric Division
373.00 Street Lighting and Signal Systems
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1900 TO 2017

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	$208,595,970.18	$225,945.32	0.00108	100.00
0.5 - 1.5	$192,709,569.76	$663,279.28	0.00344	99.89
1.5 - 2.5	$177,896,978.55	$435,418.00	0.00245	99.55
2.5 - 3.5	$174,145,433.18	$1,080,207.85	0.00620	99.30
3.5 - 4.5	$167,429,098.51	$1,546,825.78	0.00924	98.69
4.5 - 5.5	$161,077,012.43	$1,239,627.86	0.00770	97.78
5.5 - 6.5	$155,480,007.42	$867,947.60	0.00558	97.02
6.5 - 7.5	$150,941,956.53	$1,382,923.26	0.00916	96.48
7.5 - 8.5	$145,730,665.48	$2,130,973.93	0.01462	95.60
8.5 - 9.5	$137,551,863.16	$1,631,044.67	0.01186	94.20
9.5 - 10.5	$124,281,936.57	$2,255,507.36	0.01815	93.08
10.5 - 11.5	$108,832,645.45	$2,573,947.16	0.02365	91.39
11.5 - 12.5	$96,020,460.48	$1,639,663.87	0.01708	89.23
12.5 - 13.5	$85,855,934.95	$1,883,761.41	0.02194	87.71
13.5 - 14.5	$80,023,827.33	$1,915,871.92	0.02394	85.78
14.5 - 15.5	$73,185,250.66	$1,440,366.47	0.01968	83.73
15.5 - 16.5	$69,164,572.19	$1,604,199.95	0.02319	82.08
16.5 - 17.5	$72,034,201.11	$1,881,783.55	0.02612	80.18
17.5 - 18.5	$67,998,695.45	$1,088,963.68	0.01601	78.08
18.5 - 19.5	$54,042,869.52	$768,467.62	0.01422	76.83
19.5 - 20.5	$49,681,781.66	$811,657.51	0.01634	75.74
20.5 - 21.5	$45,302,779.53	$684,989.23	0.01512	74.50
21.5 - 22.5	$42,276,342.69	$972,531.80	0.02300	73.38
22.5 - 23.5	$36,295,458.27	$853,284.45	0.02351	71.69
23.5 - 24.5	$29,384,346.31	$481,846.02	0.01640	70.00
24.5 - 25.5	$26,173,330.90	$654,941.52	0.02502	68.86
25.5 - 26.5	$20,337,550.32	$530,992.12	0.02611	67.13
26.5 - 27.5	$15,815,394.76	$371,679.73	0.02350	65.38
27.5 - 28.5	$14,251,872.50	$463,514.13	0.03252	63.84
28.5 - 29.5	$11,767,785.83	$254,076.30	0.02159	61.77
29.5 - 30.5	$10,636,802.46	$365,447.17	0.03436	60.43
30.5 - 31.5	$9,889,840.88	$233,201.89	0.02358	58.36
31.5 - 32.5	$9,302,384.47	$166,940.12	0.01795	56.98
32.5 - 33.5	$8,904,890.40	$186,404.97	0.02093	55.96
33.5 - 34.5	$8,523,040.92	$230,822.94	0.02708	54.79
34.5 - 35.5	$7,485,860.77	$119,091.11	0.01591	53.30
35.5 - 36.5	$7,146,465.48	$125,874.76	0.01761	52.46

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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	$6,757,275.51	$77,554.39	0.01148	51.53
37.5 - 38.5	$6,476,567.74	$64,282.68	0.00993	50.94
38.5 - 39.5	$6,228,934.92	$58,334.94	0.00937	50.43
39.5 - 40.5	$6,009,889.40	$70,427.17	0.01172	49.96
40.5 - 41.5	$5,799,682.80	$84,580.88	0.01458	49.38
41.5 - 42.5	$5,646,493.55	$138,798.30	0.02458	48.66
42.5 - 43.5	$5,374,961.49	$180,624.73	0.03360	47.46
43.5 - 44.5	$5,038,778.75	$222,462.51	0.04415	45.87
44.5 - 45.5	$4,585,025.94	$214,742.71	0.04684	43.84
45.5 - 46.5	$3,936,863.13	$212,265.87	0.05392	41.79
46.5 - 47.5	$3,538,011.30	$285,858.58	0.08080	39.53
47.5 - 48.5	$2,644,018.44	$346,876.53	0.13119	36.34
48.5 - 49.5	$1,548,517.05	$291,437.08	0.18820	31.57
49.5 - 50.5	($67,452.21)	$10,286.05	-0.15249	25.63
50.5 - 51.5	($1,375,836.08)	$10,843.52	-0.00788	29.54
51.5 - 52.5	($1,087,873.30)	$11,579.12	-0.01064	29.77
52.5 - 53.5	($1,040,126.77)	$10,760.08	-0.01034	30.09
53.5 - 54.5	($739,580.71)	$7,891.49	-0.01067	30.40
54.5 - 55.5	($475,180.83)	$3,427.34	-0.00721	30.72
55.5 - 56.5	($189,811.05)	$586.95	-0.00309	30.95
56.5 - 57.5	($171,061.20)	$395.29	-0.00231	31.04
57.5 - 58.5	($142,375.97)	$353.77	-0.00248	31.11
58.5 - 59.5	($116,044.61)	$245.04	-0.00211	31.19
59.5 - 60.5	($83,839.58)	$120.99	-0.00144	31.26
60.5 - 61.5	($56,080.32)	$119.14	-0.00212	31.30
61.5 - 62.5	($58,923.90)	$0.00	0.00000	31.37
62.5 - 63.5	($55,400.10)	$25.69	-0.00046	31.37
63.5 - 64.5	($49,933.86)	$0.00	0.00000	31.38
64.5 - 65.5	($48,447.33)	$0.00	0.00000	31.38
65.5 - 66.5	($37,342.23)	$0.00	0.00000	31.38
66.5 - 67.5	($12,559.92)	$0.00	0.00000	31.38
67.5 - 68.5	($28,307.23)	$0.00	0.00000	31.38
68.5 - 69.5	($20,518.67)	$48.37	-0.00236	31.38
69.5 - 70.5	($8,150.38)	$0.00	0.00000	31.46
70.5 - 71.5	($3,746.53)	$48.37	-0.01291	31.46
71.5 - 72.5	($8,635.30)	$16.12	-0.00187	31.86
72.5 - 73.5	($7,118.62)	$132.51	-0.01861	31.92

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Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	($5,775.53)	$503.41	-0.08716	32.52
74.5 - 75.5	($4,770.32)	$113.50	-0.02379	35.35
75.5 - 76.5	$846.32	$161.86	0.19125	36.19
76.5 - 77.5	($1,843.87)	$220.48	-0.11957	29.27
77.5 - 78.5	($4,338.58)	$0.14	-0.00003	32.77
78.5 - 79.5	($4,062.63)	$0.00	0.00000	32.77
79.5 - 80.5	($3,795.74)	$136.40	-0.03594	32.77
80.5 - 81.5	($3,657.88)	$0.00	0.00000	33.95
81.5 - 82.5	($3,651.86)	$0.00	0.00000	33.95
82.5 - 83.5	($3,960.18)	$0.00	0.00000	33.95
83.5 - 84.5	($3,828.14)	$0.00	0.00000	33.95
84.5 - 85.5	($3,688.76)	$0.00	0.00000	33.95
85.5 - 86.5	($3,549.38)	$0.00	0.00000	33.95
86.5 - 87.5	($584.52)	$0.00	0.00000	33.95
87.5 - 88.5	($2,292.84)	$0.00	0.00000	33.95
88.5 - 89.5	($1,790.42)	$0.00	0.00000	33.95
89.5 - 90.5	($1,290.35)	$0.00	0.00000	33.95
90.5 - 91.5	($787.93)	$0.00	0.00000	33.95
91.5 - 92.5	($870.38)	$0.00	0.00000	33.95
92.5 - 93.5	($868.04)	$0.00	0.00000	33.95
93.5 - 94.5	($868.04)	$0.00	0.00000	33.95
94.5 - 95.5	($868.04)	$0.00	0.00000	33.95
95.5 - 96.5	($868.04)	$0.00	0.00000	33.95
96.5 - 97.5	$2,035.54	$0.00	0.00000	33.95
97.5 - 98.5	$0.00	$0.00	0.00000	33.95
98.5 - 99.5	$0.00	$0.00	0.00000	33.95
99.5 - 100.5	$0.00	$0.00	0.00000	33.95
100.5 - 101.5	$0.00	$0.00	0.00000	33.95
101.5 - 102.5	$0.00	$0.00	0.00000	33.95
102.5 - 103.5	$0.00	$0.00	0.00000	33.95
103.5 - 104.5	$0.00	$0.00	0.00000	33.95
104.5 - 105.5	$0.00	$0.00	0.00000	33.95
105.5 - 106.5	$0.00	$0.00	0.00000	33.95
106.5 - 107.5	$0.00	$0.00	0.00000	33.95
107.5 - 108.5	$0.00	$0.00	0.00000	33.95
108.5 - 109.5	$0.00	$0.00	0.00000	33.95
109.5 - 110.5	$0.00	$0.00	0.00000	33.95

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Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
110.5 - 111.5	$0.00	$0.00	0.00000	33.95
111.5 - 112.5	$0.00	$0.00	0.00000	33.95
112.5 - 113.5	$0.00	$0.00	0.00000	33.95
113.5 - 114.5	$0.00	$0.00	0.00000	33.95
114.5 - 115.5	$0.00	$0.00	0.00000	33.95
115.5 - 116.5	$0.00	$0.00	0.00000	33.95
116.5 - 117.5	$0.00	$0.00	0.00000	33.95

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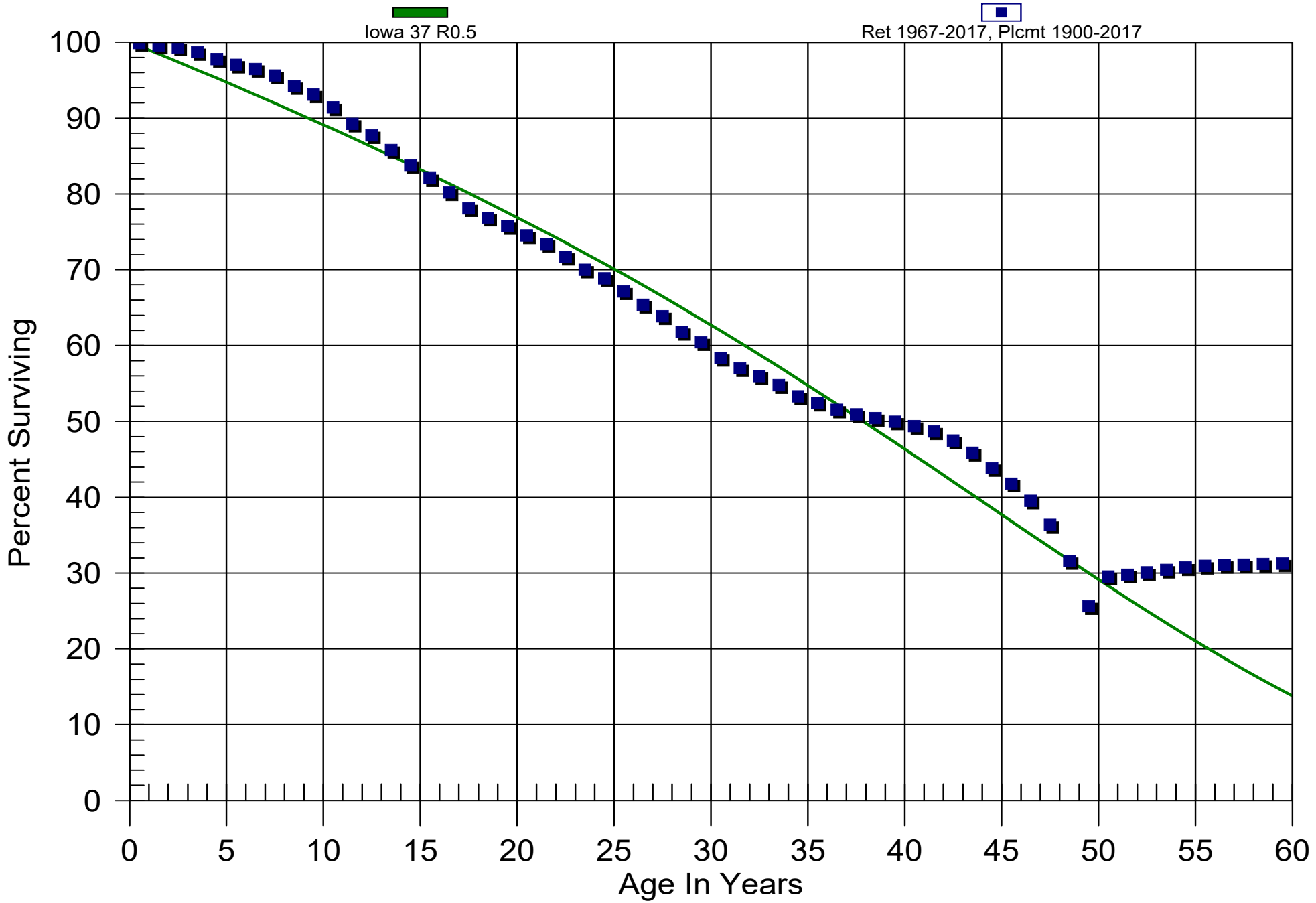
373.00 Street Lighting and Signal Systems
Original And Smooth Survivor Curves



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390.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1896 TO 2017

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	$621,572,751.44	$129,402.54	0.00021	100.00
0.5 - 1.5	$530,168,719.02	$327,974.33	0.00062	99.98
1.5 - 2.5	$441,111,498.83	$439,469.08	0.00100	99.92
2.5 - 3.5	$400,195,127.88	$1,082,086.37	0.00270	99.82
3.5 - 4.5	$381,841,618.29	$1,833,617.14	0.00480	99.55
4.5 - 5.5	$329,497,892.52	$1,343,256.05	0.00408	99.07
5.5 - 6.5	$297,986,950.74	$3,413,698.02	0.01146	98.67
6.5 - 7.5	$283,125,345.81	$995,784.29	0.00352	97.54
7.5 - 8.5	$275,699,865.50	$1,307,732.24	0.00474	97.19
8.5 - 9.5	$269,534,573.04	$2,303,300.14	0.00855	96.73
9.5 - 10.5	$264,699,184.03	$1,797,378.96	0.00679	95.91
10.5 - 11.5	$246,339,923.51	$2,079,126.26	0.00844	95.25
11.5 - 12.5	$235,547,794.57	$1,561,819.04	0.00663	94.45
12.5 - 13.5	$229,893,601.09	$2,462,077.42	0.01071	93.82
13.5 - 14.5	$222,389,716.15	$2,374,783.18	0.01068	92.82
14.5 - 15.5	$214,392,316.16	$7,725,790.52	0.03604	91.83
15.5 - 16.5	$196,686,333.45	$2,811,701.97	0.01430	88.52
16.5 - 17.5	$185,502,019.73	$2,020,018.16	0.01089	87.25
17.5 - 18.5	$168,922,904.38	$2,032,859.19	0.01203	86.30
18.5 - 19.5	$176,374,054.47	$3,823,182.20	0.02168	85.26
19.5 - 20.5	$169,541,076.31	$1,558,719.79	0.00919	83.42
20.5 - 21.5	$155,481,225.58	$1,181,890.96	0.00760	82.65
21.5 - 22.5	$144,494,303.07	$890,421.09	0.00616	82.02
22.5 - 23.5	$142,107,364.46	$1,421,558.28	0.01000	81.52
23.5 - 24.5	$123,002,654.07	$1,813,451.04	0.01474	80.70
24.5 - 25.5	$92,536,731.51	$920,508.31	0.00995	79.51
25.5 - 26.5	$87,737,639.74	$1,593,265.25	0.01816	78.72
26.5 - 27.5	$82,165,336.17	$1,755,114.06	0.02136	77.29
27.5 - 28.5	$77,023,165.07	$406,738.50	0.00528	75.64
28.5 - 29.5	$58,146,458.62	$676,603.83	0.01164	75.24
29.5 - 30.5	$57,135,310.93	$639,118.61	0.01119	74.36
30.5 - 31.5	$54,552,619.35	$479,821.39	0.00880	73.53
31.5 - 32.5	$53,200,477.05	$366,579.42	0.00689	72.89
32.5 - 33.5	$51,516,065.80	$235,934.90	0.00458	72.38
33.5 - 34.5	$50,138,734.31	$79,116.74	0.00158	72.05
34.5 - 35.5	$47,287,749.48	$926,110.31	0.01958	71.94
35.5 - 36.5	$39,506,675.20	$381,984.25	0.00967	70.53

ComEd
Electric Division
390.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1896 TO 2017

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	$36,560,922.66	$502,479.76	0.01374	69.85
37.5 - 38.5	$35,503,705.70	$72,600.14	0.00204	68.89
38.5 - 39.5	$36,313,210.54	$768,736.74	0.02117	68.75
39.5 - 40.5	$27,100,326.60	$312,843.58	0.01154	67.29
40.5 - 41.5	$26,473,610.49	$139,316.60	0.00526	66.51
41.5 - 42.5	$25,846,306.34	$151,607.92	0.00587	66.16
42.5 - 43.5	$25,490,360.84	$112,353.05	0.00441	65.78
43.5 - 44.5	$25,116,647.22	$124,231.66	0.00495	65.49
44.5 - 45.5	$23,923,302.35	$150,348.27	0.00628	65.16
45.5 - 46.5	$23,275,589.07	$117,100.43	0.00503	64.75
46.5 - 47.5	$18,607,901.80	$70,235.88	0.00377	64.43
47.5 - 48.5	$18,382,845.35	$960,402.60	0.05224	64.18
48.5 - 49.5	$15,285,628.78	$396,673.99	0.02595	60.83
49.5 - 50.5	$13,022,728.74	$254,109.16	0.01951	59.25
50.5 - 51.5	$12,827,520.65	$79,413.81	0.00619	58.10
51.5 - 52.5	$12,756,367.80	$22,998.20	0.00180	57.74
52.5 - 53.5	$12,615,015.22	$120,530.78	0.00955	57.63
53.5 - 54.5	$12,127,433.53	$22,395.45	0.00185	57.08
54.5 - 55.5	$12,056,733.75	$85,685.37	0.00711	56.98
55.5 - 56.5	$11,949,839.22	$56,831.18	0.00476	56.57
56.5 - 57.5	$11,611,646.63	$12,126.18	0.00104	56.30
57.5 - 58.5	$11,122,973.76	$71,336.99	0.00641	56.24
58.5 - 59.5	$10,589,121.84	$91,048.76	0.00860	55.88
59.5 - 60.5	$9,821,671.46	$8,467.99	0.00086	55.40
60.5 - 61.5	$5,509,260.79	$65,648.67	0.01192	55.35
61.5 - 62.5	$4,871,382.27	$23,018.67	0.00473	54.69
62.5 - 63.5	$4,679,939.76	$79,793.76	0.01705	54.44
63.5 - 64.5	$4,165,987.51	$261,737.51	0.06283	53.51
64.5 - 65.5	$3,853,196.57	$606,972.49	0.15752	50.15
65.5 - 66.5	$3,083,841.19	$11,212.28	0.00364	42.25
66.5 - 67.5	$3,160,459.90	$27,574.76	0.00872	42.09
67.5 - 68.5	$2,981,145.65	$139,560.14	0.04681	41.73
68.5 - 69.5	$2,767,341.72	$147,782.68	0.05340	39.77
69.5 - 70.5	$2,299,543.73	$561.99	0.00024	37.65
70.5 - 71.5	$2,249,768.57	$8,791.47	0.00391	37.64
71.5 - 72.5	$1,357,500.49	$8,577.60	0.00632	37.49
72.5 - 73.5	$1,303,966.67	$88.91	0.00007	37.26

ComEd
Electric Division
390.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1896 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
73.5 - 74.5	$1,300,791.25	$64.65	0.00005	37.25
74.5 - 75.5	$1,331,697.22	$84.94	0.00006	37.25
75.5 - 76.5	$1,173,557.78	$12,522.22	0.01067	37.25
76.5 - 77.5	$1,125,443.31	$24.44	0.00002	36.85
77.5 - 78.5	$1,109,099.95	$28.89	0.00003	36.85
78.5 - 79.5	$1,101,632.44	$1,516.62	0.00138	36.85
79.5 - 80.5	$1,094,205.97	$28.90	0.00003	36.80
80.5 - 81.5	$1,089,682.34	$7,535.24	0.00692	36.80
81.5 - 82.5	$1,080,770.76	$74,701.64	0.06912	36.54
82.5 - 83.5	$1,005,617.45	$2,046.37	0.00203	34.02
83.5 - 84.5	$1,000,609.15	$269.16	0.00027	33.95
84.5 - 85.5	$997,869.90	$181.21	0.00018	33.94
85.5 - 86.5	$778,571.21	$13,290.60	0.01707	33.93
86.5 - 87.5	($122,756.82)	$0.00	0.00000	33.35
87.5 - 88.5	($262,107.84)	$17.45	-0.00007	33.35
88.5 - 89.5	$162,662.75	$46,034.05	0.28300	33.36
89.5 - 90.5	$63,797.96	$0.00	0.00000	23.92
90.5 - 91.5	$40,963.67	$0.00	0.00000	23.92
91.5 - 92.5	$35,085.90	$0.00	0.00000	23.92
92.5 - 93.5	$35,081.68	$0.00	0.00000	23.92
93.5 - 94.5	$34,589.20	$0.00	0.00000	23.92
94.5 - 95.5	$34,147.18	$0.00	0.00000	23.92
95.5 - 96.5	$34,147.18	$28.37	0.00083	23.92
96.5 - 97.5	$31,380.60	$0.00	0.00000	23.90
97.5 - 98.5	$26,629.30	$0.00	0.00000	23.90
98.5 - 99.5	$26,629.30	$0.00	0.00000	23.90
99.5 - 100.5	$26,629.30	$48.59	0.00182	23.90
100.5 - 101.5	$26,553.96	$0.00	0.00000	23.85
101.5 - 102.5	$26,454.58	$0.00	0.00000	23.85
102.5 - 103.5	$23,410.15	$0.00	0.00000	23.85
103.5 - 104.5	$23,410.15	$13.66	0.00058	23.85
104.5 - 105.5	$23,396.49	$0.00	0.00000	23.84
105.5 - 106.5	$23,239.37	$0.00	0.00000	23.84
106.5 - 107.5	$16,843.37	$0.00	0.00000	23.84
107.5 - 108.5	$16,843.37	$0.00	0.00000	23.84
108.5 - 109.5	$16,843.37	$0.00	0.00000	23.84
109.5 - 110.5	$16,843.37	$0.00	0.00000	23.84

ComEd
Electric Division
390.00 Structures and Improvements
Observed Life Table
Retirement Expr. 1967 TO 2017
Placement Years 1896 TO 2017

Age Interval	*$ Surviving At Beginning of Age Interval*	*$ Retired During The Age Interval*	*Retirement Ratio*	*% Surviving At Beginning of Age Interval*
110.5 - 111.5	$16,843.37	$0.00	0.00000	23.84
111.5 - 112.5	$16,843.37	$0.00	0.00000	23.84
112.5 - 113.5	$5,380.30	$4.23	0.00079	23.84
113.5 - 114.5	$5,376.07	$0.00	0.00000	23.82
114.5 - 115.5	$2,595.61	$616.23	0.23741	23.82
115.5 - 116.5	($64.54)	$0.00	0.00000	18.16
116.5 - 117.5	$12.66	$0.00	0.00000	18.16
117.5 - 118.5	$0.00	$0.00	0.00000	18.16
118.5 - 119.5	$0.00	$0.00	0.00000	18.16
119.5 - 120.5	$0.00	$0.00	0.00000	18.16
120.5 - 121.5	$0.00	$0.00	0.00000	18.16

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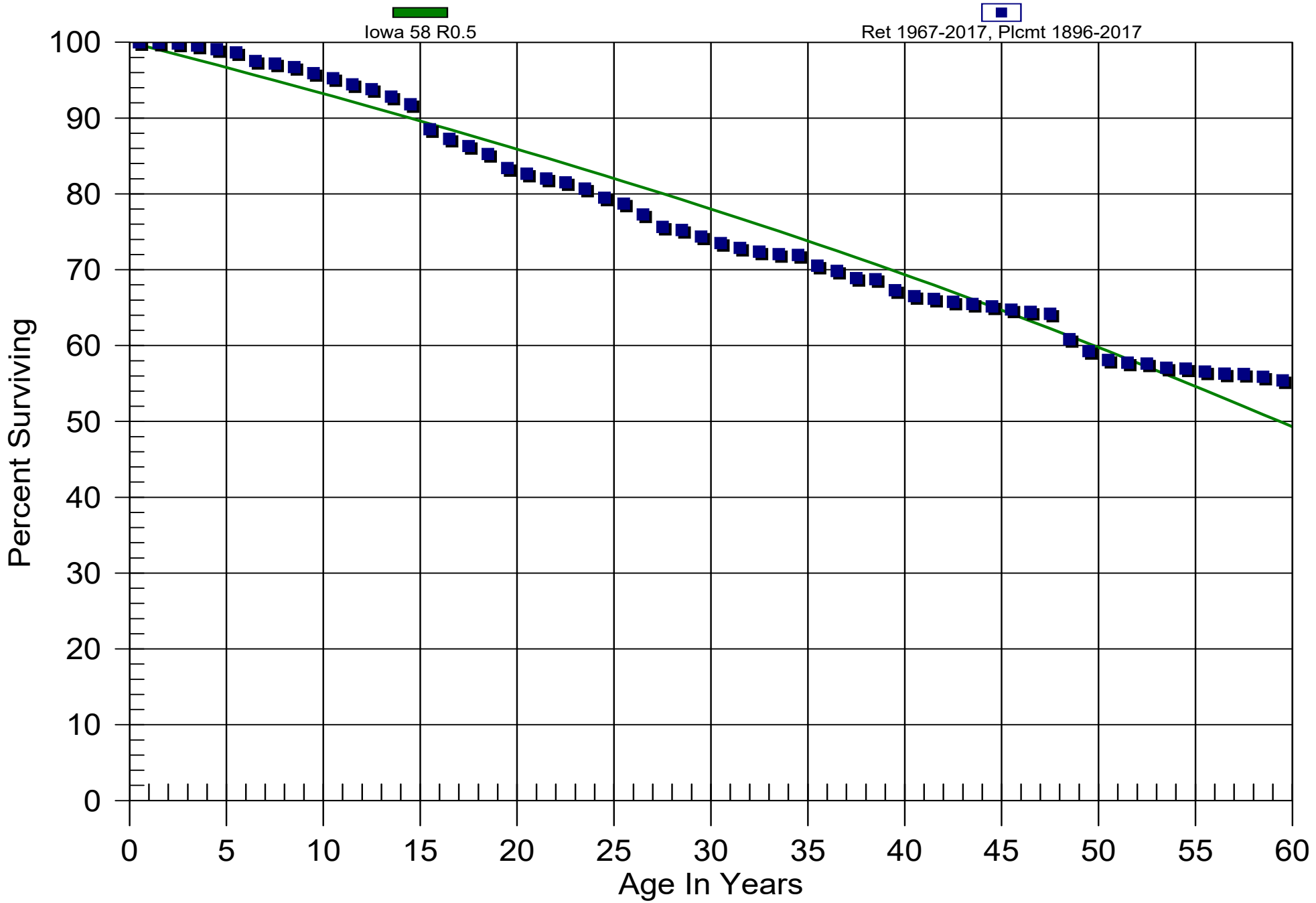
390.00 Structures and Improvements

Original And Smooth Survivor Curves



ComEd
Electric Division
352.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *69* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1910	4,751.30	69.00	68.86	5.64	388.21
1922	1.00	69.00	0.01	9.15	0.13
1924	50,067.21	69.00	725.61	9.76	7,084.53
1925	1,024.95	69.00	14.85	10.07	149.55
1926	7,905.42	69.00	114.57	10.38	1,189.68
1927	657,770.94	69.00	9,532.89	10.70	101,978.95
1928	76,986.82	69.00	1,115.75	11.02	12,297.08
1929	12,230.83	69.00	177.26	11.35	2,011.13
1930	12,246.66	69.00	177.49	11.68	2,072.89
1931	102,189.22	69.00	1,481.00	12.02	17,794.60
1932	323.80	69.00	4.69	12.36	58.00
1933	1,958.08	69.00	28.38	12.71	360.64
1935	636.52	69.00	9.22	13.43	123.88
1936	1,375.92	69.00	19.94	13.80	275.15
1937	1,605.61	69.00	23.27	14.18	329.87
1938	994.70	69.00	14.42	14.56	209.90
1939	4,771.68	69.00	69.15	14.95	1,034.07
1940	15,677.14	69.00	227.20	15.35	3,488.34
1941	1,152.82	69.00	16.71	15.76	263.34
1942	1,040.39	69.00	15.08	16.18	243.93
1943	6,684.36	69.00	96.87	16.60	1,608.36
1944	4,175.07	69.00	60.51	17.03	1,030.74
1945	6,641.29	69.00	96.25	17.48	1,682.16
1946	270.57	69.00	3.92	17.93	70.29
1947	12,130.06	69.00	175.80	18.39	3,232.09
1948	26,586.18	69.00	385.31	18.85	7,263.59
1949	81,174.62	69.00	1,176.44	19.33	22,738.26

ComEd
Electric Division
352.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *69* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1950	106,573.32	69.00	1,544.54	19.81	30,599.61
1951	31,591.78	69.00	457.85	20.31	9,296.78
1952	5,190.67	69.00	75.23	20.81	1,565.18
1953	542,173.10	69.00	7,857.57	21.32	167,500.22
1954	105,583.88	69.00	1,530.20	21.84	33,412.45
1955	191,126.27	69.00	2,769.94	22.36	61,939.62
1956	107,911.50	69.00	1,563.93	22.90	35,812.47
1957	5,849.77	69.00	84.78	23.44	1,987.41
1958	41,021.66	69.00	594.52	24.00	14,266.35
1959	13,376.31	69.00	193.86	24.56	4,760.56
1960	24,247.68	69.00	351.41	25.13	8,830.25
1961	33,143.70	69.00	480.34	25.70	12,347.06
1962	46,764.34	69.00	677.74	26.29	17,819.05
1963	21,088.66	69.00	305.63	26.89	8,217.01
1964	198,191.63	69.00	2,872.34	27.49	78,948.50
1965	32,832.78	69.00	475.84	28.10	13,370.05
1966	263,635.50	69.00	3,820.80	28.71	109,712.43
1967	364,576.26	69.00	5,283.70	29.34	155,034.62
1968	899,153.88	69.00	13,031.19	29.97	390,599.96
1969	2,048,958.61	69.00	29,694.99	30.62	909,161.34
1970	638,958.25	69.00	9,260.25	31.26	289,513.71
1971	1,219,395.69	69.00	17,672.37	31.92	564,121.61
1972	425,534.62	69.00	6,167.16	32.58	200,947.60
1973	2,257,986.78	69.00	32,724.38	33.25	1,088,237.54
1974	1,794,703.55	69.00	26,010.15	33.93	882,564.71
1975	1,192,238.12	69.00	17,278.78	34.61	598,096.44
1976	8,909,859.71	69.00	129,128.15	35.31	4,559,201.39

ComEd
Electric Division
352.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *69* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1977	677,284.72	69.00	9,815.70	36.00	353,409.13
1978	1,855,065.06	69.00	26,884.95	36.71	986,966.11
1979	3,372,966.59	69.00	48,883.48	37.42	1,829,277.74
1980	296,062.21	69.00	4,290.75	38.14	163,650.37
1981	1,988,054.75	69.00	28,812.33	38.86	1,119,760.55
1982	1,761,773.55	69.00	25,532.90	39.60	1,010,988.43
1983	140,212.21	69.00	2,032.06	40.33	81,956.91
1984	392,959.76	69.00	5,695.06	41.07	233,917.57
1985	138,402.84	69.00	2,005.83	41.82	83,893.45
1986	421,366.71	69.00	6,106.75	42.58	260,018.31
1987	1,582,149.96	69.00	22,929.67	43.34	993,803.06
1988	559,800.70	69.00	8,113.04	44.11	357,845.36
1989	126,981.11	69.00	1,840.30	44.88	82,595.17
1990	712,425.15	69.00	10,324.98	45.66	471,428.58
1991	1,632,975.25	69.00	23,666.26	46.44	1,099,153.06
1992	2,561,388.38	69.00	37,121.50	47.23	1,753,356.42
1993	1,301,420.18	69.00	18,861.13	48.03	905,836.61
1994	3,453,241.77	69.00	50,046.89	48.83	2,443,716.80
1995	1,561,485.59	69.00	22,630.18	49.63	1,123,207.19
1996	333,879.47	69.00	4,838.82	50.45	244,095.86
1997	5,103,238.86	69.00	73,959.84	51.26	3,791,213.75
1998	5,195,385.85	69.00	75,295.30	52.08	3,921,570.24
1999	2,032,350.70	69.00	29,454.30	52.91	1,558,366.01
2000	5,696,676.88	69.00	82,560.37	53.74	4,436,770.17
2001	20,493,397.38	69.00	297,005.19	54.58	16,209,068.16
2002	8,644,735.74	69.00	125,285.78	55.42	6,942,863.31
2003	1,152,880.88	69.00	16,708.39	56.26	940,033.43

ComEd
Electric Division
352.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *69* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	11,379,995.52	69.00	164,927.15	57.11	9,419,014.43
2005	2,895,767.65	69.00	41,967.57	57.97	2,432,682.68
2006	51,408,666.04	69.00	745,051.69	58.82	43,826,885.07
2007	404,106.68	69.00	5,856.61	59.69	349,570.55
2008	24,499,822.18	69.00	355,069.20	60.56	21,501,321.40
2009	839,003.60	69.00	12,159.45	61.43	746,930.07
2010	8,265,258.76	69.00	119,786.13	62.30	7,463,106.30
2011	9,130,612.09	69.00	132,327.46	63.18	8,361,022.06
2012	9,782,467.83	69.00	141,774.62	64.07	9,083,247.86
2013	9,982,370.56	69.00	144,671.76	64.96	9,397,239.06
2014	42,248,534.16	69.00	612,296.41	65.85	40,318,876.91
2015	45,750,181.75	69.00	663,044.83	66.74	44,254,125.85
2016	142,808,459.42	69.00	2,069,683.82	67.64	140,002,006.21
2017	31,935,253.58	69.00	462,828.87	68.55	31,725,436.14
Total	487,133,103.25	69.00	7,059,886.40	61.29	432,717,069.59

Composite Average Remaining Life ... 61.29 Years

ComEd
Electric Division
353.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *S0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1906	195.62	62.00	3.16	4.62	14.57
1908	72.36	62.00	1.17	5.37	6.27
1917	69.73	62.00	1.12	8.79	9.88
1923	7,860.18	62.00	126.78	11.12	1,409.34
1926	1,009.87	62.00	16.29	12.30	200.33
1927	134,587.09	62.00	2,170.76	12.69	27,556.52
1928	126,128.04	62.00	2,034.32	13.09	26,632.45
1929	101,236.09	62.00	1,632.84	13.49	22,029.04
1930	161,290.26	62.00	2,601.46	13.89	36,136.37
1931	86,221.11	62.00	1,390.66	14.29	19,877.47
1932	86,622.73	62.00	1,397.14	14.70	20,531.93
1933	32,660.56	62.00	526.78	15.10	7,954.31
1934	702.58	62.00	11.33	15.51	175.72
1935	1,344.70	62.00	21.69	15.91	345.14
1936	12,863.22	62.00	207.47	16.32	3,386.36
1937	14,583.72	62.00	235.22	16.73	3,935.95
1938	273,736.65	62.00	4,415.11	17.14	75,695.80
1939	5,366.70	62.00	86.56	17.56	1,519.90
1940	128,822.41	62.00	2,077.78	17.97	37,345.82
1941	30,506.60	62.00	492.04	18.39	9,049.04
1942	102,109.30	62.00	1,646.93	18.81	30,978.43
1943	16,568.50	62.00	267.23	19.23	5,138.94
1944	9,986.65	62.00	161.08	19.65	3,165.58
1945	39,483.79	62.00	636.84	20.08	12,785.52
1946	2,656.11	62.00	42.84	20.50	878.34
1947	63,421.63	62.00	1,022.93	20.93	21,410.61
1948	8,748.06	62.00	141.10	21.36	3,013.90

ComEd
Electric Division
353.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *S0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1949	1,015,515.48	62.00	16,379.29	21.79	356,940.61
1950	673,468.24	62.00	10,862.40	22.23	241,429.82
1951	294,113.51	62.00	4,743.77	22.66	107,503.87
1952	169,057.08	62.00	2,726.73	23.10	62,988.43
1953	3,032,847.20	62.00	48,916.92	23.54	1,151,533.18
1954	898,931.18	62.00	14,498.90	23.98	347,728.93
1955	1,559,021.55	62.00	25,145.52	24.43	614,254.51
1956	375,033.58	62.00	6,048.93	24.88	150,468.13
1957	703,501.76	62.00	11,346.81	25.32	287,354.45
1958	2,368,798.54	62.00	38,206.45	25.78	984,838.16
1959	1,392,532.58	62.00	22,460.21	26.23	589,161.28
1960	777,554.52	62.00	12,541.21	26.69	334,704.24
1961	293,220.89	62.00	4,729.37	27.15	128,393.93
1962	2,326,947.12	62.00	37,531.43	27.61	1,036,260.08
1963	1,027,190.44	62.00	16,567.60	28.08	465,149.53
1964	970,150.66	62.00	15,647.60	28.54	446,645.89
1965	2,982,480.49	62.00	48,104.55	29.01	1,395,745.39
1966	2,676,517.86	62.00	43,169.67	29.49	1,273,031.71
1967	4,603,716.57	62.00	74,253.53	29.97	2,225,096.76
1968	8,266,445.03	62.00	133,329.83	30.45	4,059,392.60
1969	8,051,292.37	62.00	129,859.62	30.93	4,016,549.40
1970	10,763,266.50	62.00	173,601.16	31.42	5,453,915.30
1971	22,377,615.37	62.00	360,929.47	31.91	11,516,152.47
1972	9,109,906.07	62.00	146,934.05	32.40	4,760,791.79
1973	9,878,572.46	62.00	159,331.90	32.90	5,241,690.24
1974	13,747,802.70	62.00	221,738.87	33.40	7,405,938.56
1975	7,988,044.29	62.00	128,839.49	33.90	4,368,142.16

ComEd
Electric Division
353.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *S0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1976	28,846,934.79	62.00	465,273.39	34.41	16,011,520.03
1977	11,681,268.07	62.00	188,407.65	34.93	6,580,400.84
1978	12,640,774.29	62.00	203,883.56	35.44	7,226,259.28
1979	14,114,277.80	62.00	227,649.76	35.97	8,187,431.45
1980	1,136,916.96	62.00	18,337.38	36.49	669,152.89
1981	17,798,321.63	62.00	287,069.86	37.02	10,627,719.33
1982	13,933,551.72	62.00	224,734.82	37.56	8,440,385.00
1983	1,332,416.32	62.00	21,490.60	38.10	818,718.21
1984	10,289,585.67	62.00	165,961.15	38.64	6,413,154.16
1985	8,729,891.33	62.00	140,804.77	39.19	5,518,608.68
1986	2,316,524.67	62.00	37,363.32	39.75	1,485,143.65
1987	15,895,218.17	62.00	256,374.62	40.31	10,334,672.05
1988	7,443,105.12	62.00	120,050.15	40.88	4,907,311.12
1989	9,849,316.40	62.00	158,860.03	41.45	6,584,972.03
1990	6,309,974.70	62.00	101,773.84	42.03	4,277,705.09
1991	12,744,991.32	62.00	205,564.49	42.62	8,760,488.80
1992	19,046,416.75	62.00	307,200.43	43.21	13,274,229.04
1993	36,693,478.73	62.00	591,830.62	43.81	25,927,364.61
1994	16,962,646.04	62.00	273,591.21	44.42	12,152,080.65
1995	41,121,300.14	62.00	663,247.13	45.03	29,867,457.12
1996	7,407,483.48	62.00	119,475.60	45.65	5,454,477.33
1997	21,973,054.72	62.00	354,404.30	46.29	16,403,668.47
1998	32,704,018.29	62.00	527,484.45	46.92	24,752,145.79
1999	40,634,284.77	62.00	655,392.04	47.57	31,178,432.03
2000	105,201,736.91	62.00	1,696,803.11	48.23	81,837,832.26
2001	81,930,869.84	62.00	1,321,466.34	48.90	64,614,838.84
2002	50,383,247.98	62.00	812,633.46	49.58	40,286,534.84

ComEd
Electric Division
353.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *S0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	40,721,754.35	62.00	656,802.84	50.26	33,013,766.24
2004	47,412,806.96	62.00	764,723.10	50.96	38,972,403.14
2005	21,487,674.99	62.00	346,575.59	51.68	17,909,521.68
2006	66,437,819.22	62.00	1,071,578.30	52.40	56,148,251.02
2007	16,801,164.36	62.00	270,986.67	53.14	14,399,470.91
2008	120,769,015.89	62.00	1,947,888.39	53.89	104,971,767.24
2009	31,192,998.56	62.00	503,113.15	54.65	27,497,648.94
2010	94,803,751.01	62.00	1,529,093.57	55.44	84,772,532.39
2011	160,349,599.29	62.00	2,586,285.23	56.24	145,454,677.78
2012	71,765,677.78	62.00	1,157,511.55	57.06	66,045,518.31
2013	93,010,636.83	62.00	1,500,172.36	57.90	86,858,449.47
2014	308,779,003.77	62.00	4,980,309.16	58.76	292,629,374.36
2015	172,132,810.93	62.00	2,776,337.14	59.65	165,597,658.43
2016	269,124,927.46	62.00	4,340,726.94	60.56	262,883,034.82
2017	138,617,824.67	62.00	2,235,772.55	61.51	137,515,476.40
Total	2,402,301,470.98	62.00	38,746,818.50	52.82	2,046,655,239.68

Composite Average Remaining Life ... 52.82 Years

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *71* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1924	93,618.62	71.00	1,318.57	10.89	14,358.99
1925	2,780.11	71.00	39.16	11.21	438.82
1926	4,075.42	71.00	57.40	11.53	661.99
1927	1,039.60	71.00	14.64	11.86	173.67
1928	955,728.97	71.00	13,460.95	12.20	164,179.79
1929	573,122.86	71.00	8,072.14	12.54	101,214.08
1930	291,216.05	71.00	4,101.63	12.88	52,842.75
1931	221,843.87	71.00	3,124.56	13.24	41,359.15
1933	57,550.61	71.00	810.57	13.96	11,316.61
1935	2,249.13	71.00	31.68	14.71	466.10
1936	4,636.32	71.00	65.30	15.10	986.10
1938	170,792.32	71.00	2,405.52	15.90	38,242.82
1940	3,425.53	71.00	48.25	16.73	806.98
1941	16,932.81	71.00	238.49	17.15	4,090.53
1942	46,819.10	71.00	659.42	17.59	11,596.86
1943	1,762.26	71.00	24.82	18.03	447.47
1944	335.25	71.00	4.72	18.48	87.25
1945	182.06	71.00	2.56	18.94	48.56
1947	51,630.11	71.00	727.18	19.88	14,457.25
1948	403,063.17	71.00	5,676.94	20.36	115,608.16
1949	187,904.34	71.00	2,646.54	20.86	55,200.66
1950	305,958.86	71.00	4,309.27	21.36	92,038.04
1951	204,369.96	71.00	2,878.44	21.87	62,940.76
1952	94,832.31	71.00	1,335.66	22.39	29,899.25
1953	207,061.80	71.00	2,916.36	22.91	66,814.92
1954	1,044,460.39	71.00	14,710.68	23.45	344,902.36
1955	304,587.71	71.00	4,289.96	23.99	102,906.34

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *71* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1956	32,973.33	71.00	464.41	24.54	11,395.34
1957	604,902.87	71.00	8,519.74	25.10	213,827.43
1958	2,104,702.90	71.00	29,643.65	25.66	760,771.87
1959	548,829.07	71.00	7,729.97	26.24	202,836.74
1960	695,663.78	71.00	9,798.06	26.82	262,810.72
1961	631,797.70	71.00	8,898.54	27.41	243,928.63
1962	975,469.91	71.00	13,738.99	28.01	384,871.21
1963	1,266,434.53	71.00	17,837.07	28.62	510,470.39
1964	1,390,287.41	71.00	19,581.48	29.23	572,448.95
1965	2,196,757.95	71.00	30,940.20	29.86	923,728.52
1966	2,368,955.79	71.00	33,365.51	30.48	1,017,081.45
1967	12,002,108.89	71.00	169,043.48	31.12	5,260,959.89
1968	3,373,339.71	71.00	47,511.74	31.76	1,509,200.06
1969	9,009,614.01	71.00	126,895.74	32.42	4,113,660.06
1970	3,035,185.43	71.00	42,749.01	33.08	1,413,934.12
1971	9,359,877.48	71.00	131,829.02	33.74	4,448,132.47
1972	9,111,920.40	71.00	128,336.67	34.41	4,416,538.22
1973	4,111,003.59	71.00	57,901.35	35.09	2,031,858.81
1974	11,686,860.07	71.00	164,603.36	35.78	5,889,416.41
1975	4,362,123.03	71.00	61,438.24	36.47	2,240,734.19
1976	19,930,383.01	71.00	280,709.11	37.17	10,434,439.98
1977	2,107,158.20	71.00	29,678.23	37.88	1,124,125.14
1978	1,689,708.88	71.00	23,798.67	38.59	918,345.52
1979	9,852,676.96	71.00	138,769.84	39.31	5,454,817.50
1980	268,202.76	71.00	3,777.50	40.03	151,222.02
1981	15,985,848.49	71.00	225,152.38	40.76	9,178,212.68
1982	10,713,119.41	71.00	150,888.73	41.50	6,262,034.80

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *71* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1983	1,391,913.99	71.00	19,604.39	42.24	828,144.99
1984	6,158,425.03	71.00	86,738.22	42.99	3,729,181.69
1985	1,396,143.21	71.00	19,663.95	43.75	860,248.04
1986	1,360,366.87	71.00	19,160.06	44.51	852,798.84
1987	4,003,288.93	71.00	56,384.25	45.27	2,552,791.35
1988	10,570,878.75	71.00	148,885.34	46.05	6,855,508.56
1989	2,912,321.73	71.00	41,018.54	46.82	1,920,677.90
1990	1,752,583.96	71.00	24,684.24	47.61	1,175,132.21
1991	858,458.97	71.00	12,090.95	48.40	585,153.39
1992	43,450.35	71.00	611.98	49.19	30,102.44
1993	601,436.13	71.00	8,470.92	49.99	423,431.84
1994	1,335,089.97	71.00	18,804.05	50.79	955,097.62
1995	5,318,092.09	71.00	74,902.57	51.60	3,864,993.75
1996	9,274,061.08	71.00	130,620.34	52.42	6,846,530.47
1997	7,242,571.91	71.00	102,007.87	53.23	5,430,279.22
1998	1,932,867.06	71.00	27,223.43	54.06	1,471,658.90
1999	2,593,749.04	71.00	36,531.61	54.89	2,005,108.11
2000	22,137,356.07	71.00	311,793.18	55.72	17,372,969.14
2001	5,198,345.08	71.00	73,215.99	56.56	4,141,008.84
2002	1,218,608.16	71.00	17,163.46	57.40	985,198.91
2003	10,756,338.32	71.00	151,497.45	58.25	8,824,566.54
2004	3,591,410.70	71.00	50,583.16	59.10	2,989,481.30
2005	5,858,279.83	71.00	82,510.83	59.96	4,946,989.43
2006	8,808,180.32	71.00	124,058.65	60.82	7,544,898.26
2007	5,192,363.65	71.00	73,131.75	61.68	4,510,862.20
2008	20,732,018.28	71.00	291,999.72	62.55	18,264,855.65
2009	9,468,719.27	71.00	133,362.00	63.42	8,458,295.30

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *71* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	10,811,070.71	71.00	152,268.32	64.30	9,790,827.02
2011	10,357,122.20	71.00	145,874.69	65.18	9,508,389.64
2012	9,443,782.66	71.00	133,010.78	66.07	8,787,519.86
2013	47,002,544.30	71.00	662,006.46	66.96	44,325,092.37
2014	51,238,195.94	71.00	721,663.41	67.85	48,963,276.03
2015	59,075,054.03	71.00	832,041.49	68.74	57,197,206.04
2016	35,098,614.93	71.00	494,345.78	69.64	34,428,211.30
2017	61,640,121.66	71.00	868,169.14	70.55	61,246,495.27
Total	581,041,710.28	71.00	8,183,671.09	56.69	463,952,871.78

Composite Average Remaining Life ... 56.69 Years

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1928	0.03	62.00	0.00	7.13	0.00
1931	16.71	62.00	0.27	8.02	2.16
1932	4,266.95	62.00	68.82	8.32	572.47
1936	1,038.46	62.00	16.75	9.56	160.05
1940	1,580.11	62.00	25.49	10.87	277.14
1941	2,313.94	62.00	37.32	11.22	418.73
1944	685.22	62.00	11.05	12.30	135.94
1950	1,995.62	62.00	32.19	14.68	472.54
1951	1,233.73	62.00	19.90	15.11	300.66
1952	126,358.29	62.00	2,038.03	15.55	31,683.82
1953	179,740.76	62.00	2,899.04	15.99	46,366.39
1954	42,188.88	62.00	680.46	16.45	11,193.92
1955	1,731,159.01	62.00	27,921.85	16.92	472,318.72
1956	642.30	62.00	10.36	17.39	180.17
1957	1,237,472.80	62.00	19,959.19	17.88	356,787.70
1958	1,697,481.34	62.00	27,378.66	18.37	502,991.87
1959	22,712.19	62.00	366.32	18.88	6,914.98
1960	7,676.32	62.00	123.81	19.39	2,400.65
1961	338,250.02	62.00	5,455.63	19.91	108,644.31
1962	179,020.95	62.00	2,887.43	20.45	59,035.22
1963	2,808,221.42	62.00	45,293.78	20.99	950,699.33
1965	509,682.88	62.00	8,220.67	22.10	181,696.67
1966	1,011,229.32	62.00	16,310.11	22.67	369,819.47
1967	336,318.78	62.00	5,424.48	23.25	126,143.93
1968	64,411.20	62.00	1,038.89	23.84	24,769.69
1971	4,328,200.72	62.00	69,809.51	25.66	1,791,550.02
1972	2,630,318.46	62.00	42,424.38	26.29	1,115,262.00

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **62** ***Survivor Curve:*** **R2**

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	2,312,700.40	62.00	37,301.53	26.92	1,004,151.51
1974	11,243,578.80	62.00	181,347.59	27.56	4,998,315.87
1975	5,911,615.56	62.00	95,348.40	28.21	2,689,762.44
1976	1,520,577.18	62.00	24,525.38	28.87	708,022.79
1977	752,171.98	62.00	12,131.78	29.54	358,317.65
1978	2,403,986.90	62.00	38,773.89	30.21	1,171,278.79
1979	65,146.02	62.00	1,050.74	30.89	32,457.98
1980	187,907.95	62.00	3,030.77	31.58	95,712.43
1981	620,574.73	62.00	10,009.24	32.28	323,061.90
1982	448,144.95	62.00	7,228.13	32.98	238,394.38
1983	8,296.23	62.00	133.81	33.69	4,508.30
1984	14,955.88	62.00	241.22	34.41	8,300.97
1985	8,149.12	62.00	131.44	35.14	4,618.51
1986	300,118.60	62.00	4,840.61	35.87	173,636.71
1987	654,565.81	62.00	10,557.49	36.61	386,527.80
1988	73,185.88	62.00	1,180.41	37.36	44,096.99
1989	35,794.75	62.00	577.33	38.11	22,003.31
1990	6,575,131.04	62.00	106,050.23	38.87	4,122,459.51
1992	581,867.43	62.00	9,384.94	40.41	379,267.77
1993	6,857.35	62.00	110.60	41.19	4,555.75
1994	2,681,233.97	62.00	43,245.60	41.98	1,815,328.48
1995	5,217,779.88	62.00	84,157.53	42.77	3,599,376.01
1996	22,111,155.64	62.00	356,630.65	43.57	15,537,059.03
1997	1,621,487.20	62.00	26,152.95	44.37	1,160,427.36
1998	22,716,979.88	62.00	366,401.98	45.18	16,554,277.95
1999	21,463,676.41	62.00	346,187.46	46.00	15,922,977.00
2000	25,938,383.95	62.00	418,359.98	46.82	19,586,255.09

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	10,650,460.76	62.00	171,781.19	47.64	8,184,028.26
2002	35,805,622.83	62.00	577,508.60	48.47	27,994,700.60
2003	19,547,151.63	62.00	315,275.85	49.31	15,547,077.96
2004	9,312,349.86	62.00	150,198.81	50.15	7,533,145.14
2005	2,392,372.91	62.00	38,586.56	51.00	1,968,025.74
2006	29,028,667.77	62.00	468,203.15	51.85	24,278,530.34
2007	5,337,248.25	62.00	86,084.43	52.71	4,537,804.21
2008	79,355,213.68	62.00	1,279,919.59	53.58	68,573,733.33
2009	4,860,243.12	62.00	78,390.82	54.44	4,267,869.01
2010	15,302,429.34	62.00	246,812.76	55.32	13,652,799.04
2011	17,696,444.09	62.00	285,425.80	56.19	16,039,104.41
2012	3,058,828.04	62.00	49,335.81	57.07	2,815,825.26
2013	3,362,299.88	62.00	54,230.51	57.96	3,143,256.08
2014	101,226,493.31	62.00	1,632,681.28	58.85	96,084,281.27
2015	22,115,792.45	62.00	356,705.44	59.75	21,311,639.04
2016	18,401,848.07	62.00	296,803.26	60.64	17,999,550.37
2017	719,583.21	62.00	11,606.15	61.55	714,324.18
Total	530,913,289.10	62.00	8,563,096.11	50.42	431,751,645.10

Composite Average Remaining Life ... 50.42 Years

ComEd
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1900	4,271.97	65.00	65.72	4.33	284.55
1904	49.48	65.00	0.76	5.52	4.20
1905	86.70	65.00	1.33	5.81	7.75
1906	1,559.77	65.00	24.00	6.11	146.71
1908	831.50	65.00	12.79	6.71	85.78
1909	65,979.24	65.00	1,015.05	7.01	7,117.72
1910	5,387.56	65.00	82.88	7.32	606.41
1911	2,859.84	65.00	44.00	7.63	335.63
1912	977.42	65.00	15.04	7.94	119.37
1913	10,053.70	65.00	154.67	8.26	1,277.09
1914	4,631.94	65.00	71.26	8.57	610.91
1915	13,538.01	65.00	208.27	8.90	1,853.25
1916	4,432.36	65.00	68.19	9.22	628.77
1917	19,931.23	65.00	306.63	9.55	2,929.21
1918	6,260.91	65.00	96.32	9.88	951.92
1919	2,410.49	65.00	37.08	10.22	379.06
1920	10,136.62	65.00	155.95	10.56	1,646.63
1921	21,115.29	65.00	324.84	10.90	3,541.41
1922	20,751.38	65.00	319.25	11.25	3,591.57
1923	130,257.46	65.00	2,003.92	11.60	23,246.22
1924	132,279.76	65.00	2,035.04	11.96	24,331.44
1925	223,904.58	65.00	3,444.62	12.31	42,417.27
1926	584,902.37	65.00	8,998.33	12.68	114,078.24
1927	464,536.75	65.00	7,146.59	13.04	93,215.16
1928	645,801.29	65.00	9,935.22	13.41	133,279.36
1929	372,350.37	65.00	5,728.36	13.79	78,985.37
1930	510,381.63	65.00	7,851.88	14.17	111,245.58

ComEd
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1931	307,026.95	65.00	4,723.40	14.55	68,725.16
1932	46,612.55	65.00	717.10	14.94	10,711.82
1933	22,797.16	65.00	350.72	15.33	5,375.83
1934	102,946.20	65.00	1,583.76	15.72	24,901.84
1935	161,445.14	65.00	2,483.73	16.12	40,045.70
1936	203,523.51	65.00	3,131.07	16.53	51,747.79
1937	455,274.54	65.00	7,004.09	16.94	118,620.58
1938	528,979.38	65.00	8,137.99	17.35	141,184.19
1939	580,712.20	65.00	8,933.87	17.77	158,722.76
1940	900,068.81	65.00	13,846.95	18.19	251,854.71
1941	955,465.88	65.00	14,699.20	18.62	273,628.39
1942	416,579.29	65.00	6,408.79	19.05	122,065.95
1943	389,382.22	65.00	5,990.38	19.48	116,708.51
1944	128,074.79	65.00	1,970.34	19.92	39,256.60
1945	180,965.30	65.00	2,784.03	20.37	56,708.44
1946	519,092.48	65.00	7,985.89	20.82	166,267.17
1947	969,983.20	65.00	14,922.54	21.28	317,489.52
1948	1,793,860.59	65.00	27,597.34	21.74	599,860.74
1949	2,734,717.54	65.00	42,071.79	22.20	934,076.90
1950	2,420,123.27	65.00	37,231.97	22.67	844,134.13
1951	2,200,194.86	65.00	33,848.52	23.15	783,537.72
1952	3,462,696.14	65.00	53,271.25	23.63	1,258,735.85
1953	3,369,165.48	65.00	51,832.35	24.12	1,249,953.09
1954	3,295,923.92	65.00	50,705.58	24.61	1,247,662.22
1955	3,521,228.72	65.00	54,171.74	25.10	1,359,879.39
1956	4,427,891.29	65.00	68,120.13	25.60	1,744,161.63
1957	5,643,357.36	65.00	86,819.26	26.11	2,267,027.20

ComEd
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***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	2,434,734.04	65.00	37,456.75	26.62	997,233.23
1959	1,561,158.43	65.00	24,017.37	27.14	651,885.19
1960	2,894,454.19	65.00	44,529.23	27.67	1,231,933.98
1961	3,234,278.78	65.00	49,757.21	28.19	1,402,846.60
1962	2,323,188.34	65.00	35,740.69	28.73	1,026,766.04
1963	1,867,997.80	65.00	28,737.89	29.27	841,070.10
1964	2,731,415.11	65.00	42,020.99	29.81	1,252,737.97
1965	2,368,665.77	65.00	36,440.33	30.36	1,106,384.76
1966	2,576,523.51	65.00	39,638.08	30.92	1,225,516.76
1967	2,883,844.18	65.00	44,366.01	31.48	1,396,533.99
1968	3,143,370.34	65.00	48,358.64	32.04	1,549,626.46
1969	5,186,625.75	65.00	79,792.75	32.61	2,602,427.59
1970	3,264,797.71	65.00	50,226.72	33.19	1,667,144.37
1971	4,602,815.45	65.00	70,811.22	33.77	2,391,512.11
1972	6,281,983.50	65.00	96,644.10	34.36	3,320,795.58
1973	4,146,986.88	65.00	63,798.61	34.95	2,229,984.98
1974	4,219,790.64	65.00	64,918.65	35.55	2,307,863.60
1975	7,562,869.79	65.00	116,349.67	36.15	4,206,344.67
1976	3,485,176.75	65.00	53,617.10	36.76	1,970,905.92
1977	2,636,512.41	65.00	40,560.97	37.37	1,515,812.19
1978	4,118,102.15	65.00	63,354.24	37.99	2,406,629.53
1979	7,186,542.27	65.00	110,560.13	38.61	4,268,567.21
1980	9,845,830.87	65.00	151,471.50	39.23	5,942,715.02
1981	9,677,903.14	65.00	148,888.04	39.86	5,935,253.45
1982	11,679,083.06	65.00	179,674.85	40.50	7,276,307.68
1983	12,829,922.57	65.00	197,379.74	41.14	8,119,455.29
1984	16,400,378.73	65.00	252,308.81	41.78	10,540,829.49

ComEd
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***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	16,131,110.81	65.00	248,166.31	42.42	10,528,348.92
1986	29,778,855.53	65.00	458,127.70	43.07	19,733,740.06
1987	23,561,778.59	65.00	362,482.14	43.73	15,850,550.16
1988	20,849,288.39	65.00	320,752.30	44.39	14,236,632.04
1989	25,609,753.72	65.00	393,988.86	45.04	17,747,171.35
1990	28,726,602.15	65.00	441,939.48	45.71	20,200,478.86
1991	35,583,373.68	65.00	547,426.31	46.37	25,386,648.87
1992	16,651,344.09	65.00	256,169.75	47.04	12,051,340.04
1993	9,805,659.28	65.00	150,853.48	47.72	7,198,092.17
1994	11,849,677.47	65.00	182,299.33	48.39	8,821,651.01
1995	13,713,816.80	65.00	210,977.86	49.07	10,352,165.37
1996	20,397,328.75	65.00	313,799.21	49.75	15,610,814.45
1997	27,025,096.77	65.00	415,762.97	50.43	20,966,518.46
1998	2,830,329.70	65.00	43,542.72	51.11	2,225,640.51
1999	9,342,892.52	65.00	143,734.13	51.80	7,445,530.71
2000	16,151,729.02	65.00	248,483.50	52.49	13,042,708.31
2001	10,735,709.34	65.00	165,161.68	53.18	8,783,421.11
2002	15,983,563.82	65.00	245,896.40	53.87	13,247,421.50
2003	14,506,122.75	65.00	223,166.96	54.57	12,178,356.76
2004	10,462,094.80	65.00	160,952.30	55.27	8,895,664.92
2005	14,837,149.07	65.00	228,259.57	55.97	12,775,916.73
2006	16,898,883.64	65.00	259,977.98	56.67	14,734,190.21
2007	23,750,472.96	65.00	365,385.08	57.38	20,966,739.77
2008	32,718,265.00	65.00	503,348.54	58.09	29,240,567.89
2009	25,648,413.62	65.00	394,583.62	58.81	23,203,879.51
2010	25,107,624.63	65.00	386,263.94	59.52	22,991,021.51
2011	27,181,871.91	65.00	418,174.85	60.24	25,191,615.91

ComEd
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: ***65*** ***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	22,888,986.61	65.00	352,131.69	60.96	21,467,671.32
2013	15,405,804.16	65.00	237,007.95	61.69	14,621,171.34
2014	22,214,920.57	65.00	341,761.64	62.42	21,332,939.25
2015	29,398,798.55	65.00	452,280.77	63.15	28,562,895.09
2016	37,904,865.79	65.00	583,140.91	63.89	37,256,853.79
2017	36,685,933.17	65.00	564,388.45	64.63	36,476,125.95
Total	874,480,838.21	65.00	13,453,300.46	49.62	667,609,528.03

Composite Average Remaining Life ... 49.62 Years

ComEd
Electric Division
362.02 Station Equipment - HVD
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *61* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1910	98.05	61.00	1.61	1.51	2.43
1911	6,593.47	61.00	108.09	1.80	194.20
1912	1,837.84	61.00	30.13	2.04	61.50
1913	280.68	61.00	4.60	2.31	10.61
1914	604.85	61.00	9.92	2.59	25.72
1915	1,420.32	61.00	23.28	2.86	66.56
1916	385.77	61.00	6.32	3.13	19.82
1917	5,640.91	61.00	92.47	3.42	316.72
1918	1,113.84	61.00	18.26	3.70	67.58
1919	350.92	61.00	5.75	3.98	22.92
1920	446.27	61.00	7.32	4.28	31.29
1921	3,627.19	61.00	59.46	4.56	271.16
1922	7,070.39	61.00	115.91	4.86	562.99
1923	55,389.34	61.00	908.02	5.14	4,666.59
1924	15,031.95	61.00	246.42	5.43	1,337.13
1925	83,587.21	61.00	1,370.28	5.72	7,841.71
1926	55,310.46	61.00	906.73	6.01	5,447.78
1927	199,687.17	61.00	3,273.55	6.30	20,614.87
1928	323,166.17	61.00	5,297.79	6.59	34,933.05
1929	442,314.73	61.00	7,251.04	6.88	49,907.65
1930	725,709.24	61.00	11,896.84	7.18	85,366.57
1931	199,465.95	61.00	3,269.92	7.47	24,440.37
1932	161,742.15	61.00	2,651.50	7.77	20,599.76
1933	91,521.03	61.00	1,500.34	8.07	12,113.24
1934	93,680.48	61.00	1,535.74	8.37	12,858.16
1935	7,123.74	61.00	116.78	8.68	1,013.33
1936	162,694.15	61.00	2,667.11	8.99	23,978.70

ComEd
Electric Division
362.02 Station Equipment - HVD
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *61* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1937	810,942.46	61.00	13,294.10	9.30	123,667.70
1938	301,737.52	61.00	4,946.50	9.62	47,589.88
1939	145,540.94	61.00	2,385.91	9.95	23,734.64
1940	206,620.39	61.00	3,387.21	10.28	34,810.03
1941	689,463.48	61.00	11,302.65	10.61	119,959.56
1942	405,239.76	61.00	6,643.26	10.96	72,798.40
1943	93,096.17	61.00	1,526.16	11.31	17,258.05
1944	376,700.58	61.00	6,175.40	11.67	72,043.48
1945	170,185.43	61.00	2,789.92	12.03	33,570.23
1946	405,502.70	61.00	6,647.57	12.41	82,472.62
1947	466,963.94	61.00	7,655.13	12.79	97,903.60
1948	469,206.66	61.00	7,691.89	13.18	101,379.13
1949	1,714,165.61	61.00	28,101.00	13.58	381,607.81
1950	4,559,879.89	61.00	74,751.93	13.99	1,045,675.31
1951	1,999,124.30	61.00	32,772.44	14.41	472,147.00
1952	1,084,350.13	61.00	17,776.18	14.83	263,699.41
1953	5,668,041.98	61.00	92,918.47	15.27	1,418,941.66
1954	4,265,922.19	61.00	69,932.97	15.72	1,099,185.34
1955	7,138,949.96	61.00	117,031.66	16.17	1,892,872.13
1956	2,521,846.44	61.00	41,341.64	16.64	687,892.02
1957	2,766,259.92	61.00	45,348.40	17.12	776,152.58
1958	2,877,578.51	61.00	47,173.29	17.60	830,219.00
1959	4,472,474.41	61.00	73,319.06	18.10	1,326,741.44
1960	3,396,313.46	61.00	55,677.12	18.60	1,035,646.96
1961	3,609,246.85	61.00	59,167.82	19.11	1,130,949.78
1962	2,934,102.20	61.00	48,099.91	19.64	944,668.18
1963	4,517,011.30	61.00	74,049.17	20.17	1,493,892.26

ComEd
Electric Division
362.02 Station Equipment - HVD
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **61** ***Survivor Curve:*** **R2**

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1964	3,799,182.67	61.00	62,281.52	20.72	1,290,272.89
1965	5,454,914.81	61.00	89,424.60	21.27	1,902,157.60
1966	5,134,957.97	61.00	84,179.42	21.83	1,837,997.34
1967	9,392,988.13	61.00	153,983.00	22.41	3,450,045.12
1968	13,692,852.85	61.00	224,472.40	22.99	5,160,120.82
1969	18,382,035.25	61.00	301,344.04	23.58	7,104,658.18
1970	11,757,340.31	61.00	192,742.77	24.18	4,660,099.74
1971	17,887,436.84	61.00	293,235.89	24.79	7,268,565.19
1972	16,878,484.86	61.00	276,695.74	25.40	7,029,028.82
1973	22,796,290.77	61.00	373,708.69	26.03	9,728,099.16
1974	18,917,248.89	61.00	310,118.01	26.67	8,269,923.11
1975	17,645,628.81	61.00	289,271.84	27.31	7,899,800.31
1976	12,228,683.50	61.00	200,469.69	27.96	5,605,629.70
1977	12,178,392.87	61.00	199,645.26	28.62	5,714,516.17
1978	18,146,546.46	61.00	297,483.58	29.29	8,713,507.83
1979	4,338,132.85	61.00	71,116.74	29.97	2,131,245.35
1980	7,099,807.17	61.00	116,389.97	30.65	3,567,715.31
1981	8,268,469.39	61.00	135,548.32	31.34	4,248,694.35
1982	10,083,529.25	61.00	165,303.32	32.05	5,297,187.89
1983	3,628,180.70	61.00	59,478.21	32.75	1,947,981.89
1984	5,219,759.39	61.00	85,569.60	33.47	2,863,788.81
1985	3,284,817.88	61.00	53,849.33	34.19	1,841,123.13
1986	5,230,935.80	61.00	85,752.82	34.92	2,994,352.48
1987	6,863,858.83	61.00	112,521.98	35.66	4,012,087.62
1988	6,476,044.21	61.00	106,164.38	36.40	3,864,390.76
1989	25,305,744.76	61.00	414,847.18	37.15	15,411,332.05
1990	57,920,616.41	61.00	949,515.79	37.91	35,993,749.18

ComEd
Electric Division
362.02 Station Equipment - HVD
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: ***61*** ***Survivor Curve:*** ***R2***

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1991	34,487,788.43	61.00	565,372.08	38.67	21,863,880.09
1992	33,364,030.47	61.00	546,949.87	39.44	21,572,379.38
1993	46,911,988.72	61.00	769,046.96	40.22	30,930,143.47
1994	6,167,029.14	61.00	101,098.57	41.00	4,145,100.44
1995	61,487,902.14	61.00	1,007,995.72	41.79	42,125,249.74
1996	32,324,956.49	61.00	529,915.92	42.59	22,567,671.79
1997	30,224,819.48	61.00	495,487.53	43.39	21,498,094.10
1998	43,971,082.32	61.00	720,835.51	44.20	31,858,245.86
1999	36,777,660.68	61.00	602,910.87	45.01	27,137,130.17
2000	145,940,573.32	61.00	2,392,462.08	45.83	109,642,951.35
2001	77,284,543.42	61.00	1,266,956.37	46.65	59,108,786.77
2002	96,940,278.36	61.00	1,589,180.68	47.48	75,462,200.23
2003	37,683,793.23	61.00	617,765.47	48.32	29,850,571.83
2004	48,418,610.03	61.00	793,745.60	49.16	39,022,282.89
2005	50,448,348.18	61.00	827,019.91	50.01	41,358,508.03
2006	44,198,131.05	61.00	724,557.61	50.86	36,851,296.49
2007	62,783,470.38	61.00	1,029,234.49	51.72	53,229,810.65
2008	77,825,797.70	61.00	1,275,829.37	52.58	67,081,679.93
2009	56,865,798.07	61.00	932,223.73	53.45	49,824,110.77
2010	34,617,224.56	61.00	567,493.98	54.32	30,825,477.69
2011	40,241,465.31	61.00	659,694.40	55.19	36,411,353.01
2012	44,817,804.91	61.00	734,716.17	56.08	41,199,894.10
2013	74,733,123.82	61.00	1,225,129.93	56.96	69,785,587.20
2014	85,505,458.83	61.00	1,401,725.12	57.85	81,091,484.76
2015	63,615,313.79	61.00	1,042,871.23	58.75	61,264,556.27
2016	170,367,417.95	61.00	2,792,901.09	59.64	166,582,030.34
2017	147,633,284.70	61.00	2,420,211.37	60.55	146,536,700.47

ComEd
Electric Division
362.02 Station Equipment - HVD
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: ***61*** ***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	2,094,362,938.56	61.00	34,333,727.69	46.73	1,604,569,499.27

Composite Average Remaining Life ... ***46.73 Years***

ComEd
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	37,245.54	0.00	0.00	0.00	0.00
1974	40,378.60	0.00	0.00	0.00	0.00
1975	13,801.78	43.00	320.97	0.50	160.49
1976	36,090.18	43.00	839.31	1.50	1,258.96
1977	26,151.66	43.00	608.18	2.50	1,520.45
1979	5,437.36	43.00	126.45	4.50	569.03
1980	90,397.20	43.00	2,102.26	5.50	11,562.43
1981	20,367.87	43.00	473.67	6.50	3,078.86
1982	59,394.90	43.00	1,381.28	7.50	10,359.58
1983	76,482.41	43.00	1,778.66	8.50	15,118.62
1984	25,779,283.32	43.00	599,518.22	9.50	5,695,423.06
1985	31,804,649.20	43.00	739,643.00	10.50	7,766,251.55
1986	32,260,783.15	43.00	750,250.77	11.50	8,627,883.87
1987	36,417,710.36	43.00	846,923.50	12.50	10,586,543.71
1988	38,129,761.13	43.00	886,738.63	13.50	11,970,971.52
1989	43,362,895.19	43.00	1,008,439.42	14.50	14,622,371.63
1990	52,108,673.75	43.00	1,211,829.62	15.50	18,783,359.14
1991	42,426,992.00	43.00	986,674.23	16.50	16,280,124.84
1992	40,201,926.45	43.00	934,928.52	17.50	16,361,249.14
1993	26,710,958.11	43.00	621,185.07	18.50	11,491,923.84
1994	37,378,205.11	43.00	869,260.58	19.50	16,950,581.39
1995	38,924,685.63	43.00	905,225.25	20.50	18,557,117.57
1996	29,763,254.91	43.00	692,168.72	21.50	14,881,627.46
1997	34,361,366.65	43.00	799,101.55	22.50	17,979,784.88
1998	18,825,958.23	43.00	437,812.98	23.50	10,288,605.08
1999	26,689,522.91	43.00	620,686.58	24.50	15,206,821.19
2000	25,359,298.60	43.00	589,751.13	25.50	15,038,653.82

ComEd
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *SQ*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	25,873,019.47	43.00	601,698.13	26.50	15,945,000.37
2002	36,394,171.87	43.00	846,376.09	27.50	23,275,342.48
2003	25,931,261.65	43.00	603,052.60	28.50	17,186,999.00
2004	30,173,611.36	43.00	701,711.89	29.50	20,700,500.82
2005	32,799,503.46	43.00	762,779.15	30.50	23,264,764.08
2006	65,633,780.49	43.00	1,526,366.99	31.50	48,080,560.13
2007	65,250,300.13	43.00	1,517,448.84	32.50	49,317,087.31
2008	68,668,457.26	43.00	1,596,940.87	33.50	53,497,519.03
2009	36,501,678.63	43.00	848,876.25	34.50	29,286,230.53
2010	47,494,746.07	43.00	1,104,528.98	35.50	39,210,778.73
2011	80,414,549.69	43.00	1,870,105.81	36.50	68,258,861.95
2012	47,816,282.51	43.00	1,112,006.57	37.50	41,700,246.38
2013	45,476,232.28	43.00	1,057,586.80	38.50	40,717,091.69
2014	45,071,311.48	43.00	1,048,170.03	39.50	41,402,716.36
2015	33,711,218.81	43.00	783,981.83	40.50	31,751,264.23
2016	62,322,733.19	43.00	1,449,365.89	41.50	60,148,684.36
2017	65,295,476.32	43.00	1,518,499.45	42.50	64,536,226.60
Total	1,395,740,006.87	41.05	32,457,264.71	27.71	899,412,796.09

Composite Average Remaining Life ... 27.71 Years

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *37* ***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)*
1920	2,035.54	0.00	0.00	0.00	0.00
1921	165.89	0.00	0.00	0.00	0.00
1922	165.89	0.00	0.00	0.00	0.00
1923	165.89	0.00	0.00	0.00	0.00
1924	165.89	0.00	0.00	0.00	0.00
1925	163.55	0.00	0.00	0.00	0.00
1926	299.20	0.00	0.00	0.00	0.00
1927	299.20	0.00	0.00	0.00	0.00
1928	299.20	0.00	0.00	0.00	0.00
1929	299.20	0.00	0.00	0.00	0.00
1930	2,509.94	0.00	0.00	0.00	0.00
1931	77.60	0.00	0.00	0.00	0.00
1932	77.60	0.00	0.00	0.00	0.00
1933	77.60	0.00	0.00	0.00	0.00
1934	77.60	0.00	0.00	0.00	0.00
1935	520.46	0.00	0.00	0.00	0.00
1936	515.17	0.00	0.00	0.00	0.00
1937	515.17	0.00	0.00	0.00	0.00
1938	478.22	0.00	0.00	0.00	0.00
1939	515.17	0.00	0.00	0.00	0.00
1940	3,065.48	0.00	0.00	0.00	0.00
1941	5,859.57	0.00	0.00	0.00	0.00
1942	1,695.33	0.00	0.00	0.00	0.00
1943	1,695.33	0.00	0.00	0.00	0.00
1944	1,695.33	37.00	45.82	0.50	22.91
1945	1,638.13	37.00	44.27	0.82	36.50
1946	8,070.72	37.00	218.12	1.27	277.96

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *37* ***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)*
1947	11,874.90	37.00	320.93	1.74	557.63
1948	7,528.53	37.00	203.47	2.20	447.34
1949	8,551.87	37.00	231.12	2.66	613.93
1950	32,087.75	37.00	867.20	3.11	2,693.46
1951	15,204.76	37.00	410.92	3.55	1,457.72
1952	7,737.93	37.00	209.13	3.98	831.86
1953	9,913.29	37.00	267.92	4.40	1,178.96
1954	7,971.22	37.00	215.43	4.82	1,037.86
1955	7,853.80	37.00	212.26	5.23	1,109.36
1956	14,143.93	37.00	382.25	5.63	2,152.46
1957	18,022.56	37.00	487.08	6.03	2,938.75
1958	15,428.91	37.00	416.98	6.43	2,681.55
1959	17,959.83	37.00	485.38	6.83	3,313.67
1960	19,460.89	37.00	525.95	7.22	3,798.60
1961	29,885.28	37.00	807.68	7.62	6,153.27
1962	109,384.80	37.00	2,956.24	8.01	23,690.96
1963	197,839.37	37.00	5,346.81	8.41	44,970.94
1964	167,820.40	37.00	4,535.52	8.81	39,959.02
1965	334,769.86	37.00	9,047.50	9.21	83,335.99
1966	180,081.70	37.00	4,866.89	9.61	46,793.32
1967	717,037.46	37.00	19,378.67	10.02	194,205.83
1968	1,196,188.31	37.00	32,328.21	10.43	337,262.85
1969	1,080,498.24	37.00	29,201.57	10.85	316,744.85
1970	834,657.06	37.00	22,557.46	11.27	254,122.83
1971	343,376.25	37.00	9,280.09	11.69	108,475.17
1972	354,085.05	37.00	9,569.51	12.12	115,954.16
1973	218,627.47	37.00	5,908.63	12.55	74,154.35

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *37* ***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)*
1974	151,220.96	37.00	4,086.90	12.99	53,083.02
1975	131,678.13	37.00	3,558.74	13.43	47,802.45
1976	165,785.14	37.00	4,480.51	13.88	62,198.16
1977	140,252.88	37.00	3,790.48	14.34	54,344.85
1978	160,734.44	37.00	4,344.01	14.80	64,283.81
1979	185,022.09	37.00	5,000.41	15.27	76,333.89
1980	203,233.22	37.00	5,492.59	15.74	86,447.16
1981	265,422.30	37.00	7,173.31	16.22	116,337.74
1982	217,497.62	37.00	5,878.10	16.70	98,187.86
1983	806,358.23	37.00	21,792.65	17.20	374,749.38
1984	195,382.70	37.00	5,280.42	17.69	93,432.15
1985	228,987.72	37.00	6,188.63	18.20	112,626.07
1986	356,743.75	37.00	9,641.36	18.71	180,388.56
1987	381,161.53	37.00	10,301.28	19.23	198,062.19
1988	870,536.15	37.00	23,527.13	19.75	464,656.45
1989	2,019,836.65	37.00	54,588.15	20.28	1,107,002.86
1990	1,187,194.05	37.00	32,085.13	20.81	667,831.17
1991	3,949,295.60	37.00	106,733.75	21.35	2,279,277.87
1992	5,132,205.90	37.00	138,703.11	21.90	3,037,797.05
1993	2,651,152.94	37.00	71,650.12	22.45	1,608,785.85
1994	5,725,345.43	37.00	154,733.31	23.01	3,560,395.33
1995	4,602,378.62	37.00	124,383.98	23.57	2,931,984.47
1996	1,960,268.30	37.00	52,978.25	24.14	1,278,829.64
1997	2,053,512.49	37.00	55,498.27	24.71	1,371,350.95
1998	13,708.92	37.00	370.50	25.28	9,367.88
1999	5,357,835.68	37.00	144,800.98	25.86	3,745,080.62
2000	4,232,683.45	37.00	114,392.59	26.45	3,025,237.34

ComEd
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, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *37* ***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)*
2001	2,079,967.58	37.00	56,213.25	27.03	1,519,519.27
2002	3,044,967.42	37.00	82,293.36	27.62	2,272,935.92
2003	5,892,187.29	37.00	159,242.38	28.21	4,492,384.41
2004	6,552,261.11	37.00	177,081.55	28.80	5,100,704.36
2005	7,113,570.15	37.00	192,251.50	29.40	5,652,077.59
2006	4,482,174.68	37.00	121,135.35	30.00	3,633,651.58
2007	4,064,502.79	37.00	109,847.34	30.60	3,360,834.84
2008	3,338,718.94	37.00	90,232.29	31.20	2,814,870.96
2009	6,045,494.82	37.00	163,385.67	31.80	5,195,376.30
2010	3,833,756.27	37.00	103,611.18	32.40	3,357,257.20
2011	3,709,139.71	37.00	100,243.29	33.01	3,308,863.45
2012	4,764,671.75	37.00	128,770.12	33.62	4,328,820.30
2013	4,865,246.29	37.00	131,488.25	34.23	4,500,453.69
2014	5,625,181.55	37.00	152,026.28	34.84	5,296,530.44
2015	2,666,397.03	37.00	72,062.10	35.45	2,554,900.45
2016	13,909,283.28	37.00	375,912.59	36.07	13,559,668.73
2017	14,715,311.40	37.00	397,696.32	36.69	14,591,808.97
Total	146,039,402.24	27.94	3,946,276.50	28.87	113,917,507.29

Composite Average Remaining Life ... 28.87 Years

ComEd
Electric Division
390.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *58* ***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)*
1900	12.66	0.00	0.00	0.00	0.00
1902	2,043.92	58.00	35.24	0.50	17.62
1903	2,780.46	58.00	47.94	0.83	39.76
1916	100.38	58.00	1.73	6.72	11.63
1927	14,954.00	58.00	257.82	11.17	2,879.82
1928	376,013.79	58.00	6,482.87	11.57	74,975.02
1929	42,972.52	58.00	740.89	11.96	8,862.67
1930	55,362.80	58.00	954.51	12.36	11,795.29
1931	876,787.97	58.00	15,116.74	12.75	192,792.91
1932	171.42	58.00	2.96	13.15	38.87
1933	20.78	58.00	0.36	13.55	4.85
1934	36.54	58.00	0.63	13.95	8.79
1935	451.67	58.00	7.79	14.35	111.75
1936	25.13	58.00	0.43	14.76	6.39
1937	2,048.31	58.00	35.32	15.16	535.36
1938	1,089.11	58.00	18.78	15.57	292.29
1939	2,922.10	58.00	50.38	15.98	804.85
1940	12,480.85	58.00	215.18	16.39	3,526.35
1941	7,106.81	58.00	122.53	16.80	2,058.67
1942	145,162.06	58.00	2,502.75	17.22	43,092.86
1943	1,019.22	58.00	17.57	17.64	309.94
1944	2,796.29	58.00	48.21	18.06	870.71
1945	36,426.03	58.00	628.02	18.49	11,609.52
1946	258,654.75	58.00	4,459.48	18.91	84,348.13
1947	29,425.08	58.00	507.32	19.35	9,814.71
1948	311,304.08	58.00	5,367.21	19.78	106,169.78
1949	44,647.81	58.00	769.77	20.22	15,564.54

ComEd
Electric Division
390.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *58* ***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)*
1950	43,754.81	58.00	754.38	20.66	15,586.58
1951	88,188.15	58.00	1,520.46	21.11	32,091.96
1952	129,475.49	58.00	2,232.29	21.56	48,118.91
1953	30,355.18	58.00	523.35	22.01	11,518.27
1954	98,011.06	58.00	1,689.81	22.46	37,961.48
1955	134,842.98	58.00	2,324.83	22.92	53,296.47
1956	498,816.21	58.00	8,600.11	23.39	201,147.18
1957	4,127,738.07	58.00	71,166.51	23.86	1,697,803.02
1958	107,064.16	58.00	1,845.90	24.33	44,907.18
1959	324,710.60	58.00	5,598.35	24.80	138,860.98
1960	353,717.20	58.00	6,098.45	25.28	154,191.01
1961	37,892.48	58.00	653.31	25.77	16,833.89
1962	31,991.98	58.00	551.58	26.25	14,481.27
1963	30,835.35	58.00	531.63	26.75	14,219.16
1964	364,197.35	58.00	6,279.14	27.24	171,055.49
1965	119,893.02	58.00	2,067.08	27.74	57,342.53
1966	20,254.00	58.00	349.20	28.24	9,863.05
1967	80,764.99	58.00	1,392.47	28.75	40,037.06
1968	1,858,608.97	58.00	32,044.36	29.26	937,750.97
1969	2,162,182.66	58.00	37,278.29	29.78	1,110,113.62
1970	149,064.78	58.00	2,570.03	30.30	77,868.97
1971	2,771,053.23	58.00	47,775.85	30.82	1,472,563.52
1972	811,612.78	58.00	13,993.05	31.35	438,676.35
1973	1,276,079.53	58.00	22,000.94	31.88	701,391.99
1974	382,465.18	58.00	6,594.10	32.42	213,748.34
1975	120,712.74	58.00	2,081.21	32.95	68,583.62
1976	251,040.10	58.00	4,328.19	33.50	144,973.00

ComEd
Electric Division
390.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *58* ***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)*
1977	117,964.61	58.00	2,033.83	34.04	69,233.72
1978	8,430,963.43	58.00	145,358.61	34.59	5,028,001.03
1979	534,314.29	58.00	9,212.14	35.14	323,741.27
1980	215,272.67	58.00	3,711.53	35.70	132,494.55
1981	3,005,534.95	58.00	51,818.56	36.26	1,878,808.73
1982	8,625,359.77	58.00	148,710.21	36.82	5,475,470.23
1983	747,701.93	58.00	12,891.16	37.38	481,934.79
1984	1,120,551.83	58.00	19,319.48	37.95	733,222.70
1985	1,286,889.18	58.00	22,187.31	38.52	854,733.77
1986	784,472.68	58.00	13,525.13	39.10	528,793.43
1987	1,804,347.06	58.00	31,108.83	39.67	1,234,166.43
1988	356,875.91	58.00	6,152.91	40.25	247,662.57
1989	18,418,347.46	58.00	317,551.54	40.83	12,966,310.14
1990	2,121,322.45	58.00	36,573.81	41.42	1,514,707.40
1991	3,945,862.21	58.00	68,030.78	42.00	2,857,263.18
1992	3,607,150.42	58.00	62,191.04	42.59	2,648,504.38
1993	28,190,739.13	58.00	486,037.77	43.18	20,984,825.07
1994	944,921.13	58.00	16,291.43	43.77	712,994.98
1995	1,166,983.98	58.00	20,120.02	44.36	892,465.42
1996	10,064,518.06	58.00	173,522.80	44.95	7,799,929.39
1997	11,976,053.10	58.00	206,479.66	45.55	9,404,130.16
1998	14,384,170.77	58.00	247,998.12	46.14	11,442,751.44
1999	3,295,580.38	58.00	56,819.25	46.74	2,655,596.23
2000	4,635,588.84	58.00	79,922.39	47.34	3,783,188.62
2001	10,754,476.94	58.00	185,418.41	47.93	8,888,019.17
2002	8,747,990.66	58.00	150,824.49	48.53	7,320,241.72
2003	14,628,339.92	58.00	252,207.85	49.14	12,392,557.00

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Electric Division
390.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *58* ***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)*
2004	10,982,451.53	58.00	189,348.93	49.74	9,417,989.81
2005	4,204,008.79	58.00	72,481.50	50.34	3,648,864.59
2006	5,196,378.92	58.00	89,591.00	50.95	4,564,398.39
2007	17,253,119.98	58.00	297,461.80	51.55	15,335,142.82
2008	8,489,009.31	58.00	146,359.38	52.16	7,634,219.91
2009	9,826,565.29	58.00	169,420.24	52.77	8,940,165.07
2010	7,520,121.16	58.00	129,654.74	53.38	6,920,898.85
2011	11,619,313.11	58.00	200,329.09	53.99	10,815,977.76
2012	25,915,019.02	58.00	446,801.98	54.60	24,397,168.11
2013	23,615,734.20	58.00	407,159.91	55.22	22,482,566.84
2014	18,213,919.61	58.00	314,026.99	55.83	17,533,384.60
2015	53,478,480.14	58.00	922,024.83	56.45	52,049,579.82
2016	90,330,607.72	58.00	1,557,393.98	57.07	88,880,117.21
2017	75,698,244.46	58.00	1,305,116.76	57.69	75,292,595.90
Total	544,887,406.59	57.39	9,394,427.54	51.06	479,660,346.13

Composite Average Remaining Life ... 51.06 Years

ComEd
Electric Division
397.00 Communication Equipment - SCADA
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1950	855.57	0.00	0.00	0.00	0.00
1968	47,603.56	0.00	0.00	0.00	0.00
1974	239,273.43	25.00	9,570.80	0.84	8,031.05
1975	1,507,616.58	25.00	60,303.82	1.09	65,651.29
1976	312,542.35	25.00	12,501.52	1.35	16,926.97
1977	41,507.51	25.00	1,660.28	1.63	2,705.07
1978	194,602.43	25.00	7,783.99	1.91	14,873.94
1979	391,979.07	25.00	15,678.94	2.20	34,430.95
1980	72,507.73	25.00	2,900.27	2.48	7,202.13
1981	627,644.47	25.00	25,105.43	2.77	69,602.93
1982	273,962.39	25.00	10,958.34	3.06	33,582.39
1983	610,364.29	25.00	24,414.23	3.36	82,073.43
1984	323,110.30	25.00	12,924.23	3.67	47,387.71
1985	1,050,750.93	25.00	42,029.45	3.98	167,365.16
1986	895,189.61	25.00	35,807.08	4.31	154,368.04
1987	2,990,412.56	25.00	119,614.82	4.66	556,951.83
1988	213,947.69	25.00	8,557.79	5.02	42,957.05
1989	3,018,301.68	25.00	120,730.37	5.40	652,334.31
1990	6,316,281.02	25.00	252,647.70	5.81	1,467,481.13
1991	7,789,373.89	25.00	311,570.59	6.24	1,943,024.79
1992	19,889,082.14	25.00	795,552.13	6.69	5,320,181.60
1993	25,190,884.29	25.00	1,007,621.24	7.16	7,216,956.62
1994	10,195,010.33	25.00	407,794.69	7.66	3,124,224.33
1995	13,089,421.33	25.00	523,569.51	8.18	4,284,907.98
1996	31,643,063.02	25.00	1,265,704.77	8.73	11,050,100.31
1997	60,074,237.85	25.00	2,402,935.82	9.30	22,347,178.27
1998	8,303,181.86	25.00	332,122.62	9.89	3,285,407.77

ComEd
Electric Division
397.00 Communication Equipment - SCADA
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1999	7,156,889.45	25.00	286,271.56	10.51	3,007,679.95
2000	27,604,549.08	25.00	1,104,166.48	11.14	12,302,577.40
2001	21,587,782.18	25.00	863,499.18	11.80	10,187,690.63
2002	19,915,688.79	25.00	796,616.38	12.47	9,937,163.87
2003	88,246,830.96	25.00	3,529,823.74	13.17	46,485,732.55
2004	40,028,402.53	25.00	1,601,113.65	13.88	22,228,342.69
2005	17,523,495.03	25.00	700,929.97	14.61	10,243,671.28
2006	17,241,426.86	25.00	689,647.40	15.36	10,594,913.83
2007	2,319,055.73	25.00	92,760.93	16.13	1,496,011.03
2008	5,700,972.39	25.00	228,035.70	16.91	3,855,669.02
2009	4,558,150.21	25.00	182,323.45	17.70	3,227,845.53
2010	17,589,598.75	25.00	703,574.08	18.51	13,026,199.71
2011	34,799,787.81	25.00	1,391,971.99	19.34	26,918,974.02
2012	25,093,298.15	25.00	1,003,717.85	20.18	20,251,623.73
2013	5,025,635.15	25.00	201,022.59	21.03	4,226,981.85
2014	10,967,254.19	25.00	438,684.02	21.89	9,603,022.21
2015	33,195,873.15	25.00	1,327,816.30	22.77	30,228,292.17
2016	24,208,171.88	25.00	968,313.30	23.65	22,902,064.70
2017	3,526,037.47	25.00	141,039.52	24.55	3,462,266.26
Total	601,591,607.64	23.91	24,061,388.51	13.56	326,182,629.46

Composite Average Remaining Life ... 13.56 Years