STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC PURSUANT TO IND. CODE §§ 8-1-2-42, 8-1-2-42.7 AND 8-1-2-61 FOR (1) AUTHORITY TO MODIFY ITS RETAIL RATES AND CHARGES FOR GAS UTILITY SERVICE THROUGH A PHASE IN OF RATES; (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES, GENERAL RULES AND REGULATIONS, AND RIDERS (BOTH EXISTING AND NEW); (3) APPROVAL OF A NEW SALES RECONCILIATION ADJUSTMENT MECHANISM; (4) APPROVAL OF REVISED GAS DEPRECIATION RATES APPLICABLE TO ITS GAS PLANT IN SERVICE; (5) APPROVAL OF NECESSARY AND APPROPRIATE ACCOUNTING RELIEF, INCLUDING BUT NOT LIMITED TO APPROVAL OF CERTAIN DEFERRAL MECHANISMS FOR PENSION, OTHER POST-RETIREMENT BENEFITS, AND LINE LOCATE EXPENSES; AND (6) TO THE EXTENT NECESSARY, APPROVAL OF ANY OF THE RELIEF REQUESTED HEREIN PURSUANT TO IND. CODE CH. 8-1-2.5.	)	**CAUSE NO. 45967**

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR'S

PUBLIC'S EXHIBIT NO. 7 – TESTIMONY OF OUCC WITNESS DAVID J. GARRETT

January 31, 2024

Respectfully submitted,

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I. INTRODUCTION

Q. State your name and occupation.

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

Q. Summarize your educational background and professional experience.

A. I received a B.B.A. degree with a major in Finance, an M.B.A. degree, and a Juris Doctor degree from the University of Oklahoma. I worked in private legal practice for several years before accepting a position as assistant general counsel at the Oklahoma Corporation Commission in 2011, 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] Attachment DJG-1.

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

A. I am testifying on behalf of the Indiana Office of Utility Consumer Counselor ("OUCC") regarding the depreciation rates proposed by the petitioner in this Cause, Northern Indiana Public Service Company LLC ("NIPSCO" or "Company"). Specifically, I respond to the direct testimony of Company witness John Spanos, who sponsors NIPSCO's depreciation study.

II. EXECUTIVE SUMMARY

Q. Summarize the key points of your testimony.

A. In this case, the Company is proposing a substantial increase in its annual depreciation accrual in the amount of $22 million, which represents an increase of 23% based on projected plant balances at December 31, 2024.[2] In this case, Mr. Spanos is recommending revised depreciation rates for NIPSCO's gas plant as of December 31, 2022; he is also recommending depreciation rates for the Company's forecasted gas plant in service as of December 31, 2024. Likewise, the depreciation rates proposed in my testimony and exhibits include adjustments to Mr. Spanos's recommended depreciation rates for NIPSCO's gas plant as of 2022 and 2024. The following figure summarizes my proposed adjustments.[3]

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[2] *See* Attachment DJG-2.

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

Figure 1:
Depreciation Proposal Summary

Accrual Adjustment - 2022 Study

Plant Function	Company Proposed Accrual	OUCC Proposed Accrual	**OUCC Accrual Adjustment**
Underground Storage	1,319,575	1,319,151	(424)
Other Storage Plant	1,307,904	1,310,080	2,176
Transmission	11,955,982	11,365,107	(590,875)
Distribution	72,659,363	54,411,286	(18,248,077)
General	2,607,724	2,608,473	749
Total Plant Studied	$ 89,850,548	$ 71,014,097	**$ (18,836,451)**

Accrual Adjustment - 2024 Study

Plant Function	Company Proposed Accrual	OUCC Proposed Accrual	**OUCC Accrual Adjustment**
Underground Storage	3,035,526	3,035,971	445
Other Storage Plant	1,473,479	1,477,045	3,566
Transmission	22,754,310	21,643,675	(1,110,635)
Distribution	86,753,055	65,765,316	(20,987,739)
General	2,938,535	2,945,346	6,811
Total Plant Studied	116,954,905	94,867,354	**(22,087,551)**

My proposed adjustments for 2022 and 2024 are based on different service life parameters for several of the Company's transmission and distribution accounts, as discussed in more detail in my testimony.[4]

[4] *See* Attachments DJG-3 through DJG-6.

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

A. Under the regulatory model we use, the utility is allowed to recover the original cost of its prudent investments required to provide service. Depreciation systems are designed to allocate those costs in a systematic and rational manner – specifically, over the service lives of the utility's assets. If depreciation rates are overestimated (i.e., service lives are underestimated), it may unintentionally incent economic inefficiency. When an asset is fully depreciated and no longer in rate base, but still being used, a utility may be incented to retire and replace the asset to increase rate base, even though the retired asset may not have reached the end of its economic useful life. If, on the other hand, an asset must be retired and taken out of service before it is fully depreciated, there are regulatory mechanisms that can ensure the utility fully recovers its prudent investment in the retired asset. Thus, it is preferable for regulators to ensure that assets are not depreciated before the end of their economic useful lives.

III. REGULATORY STANDARDS

Q. Please 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 "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."[5] The *Lindheimer* Court also recognized that the original

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

cost of plant assets, rather than present value or some other measure, is the proper basis for calculating depreciation expense.[6] 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.[7]

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

IV. SERVICE LIFE ANALYSIS

Q. Describe the methodology used to estimate the service lives of grouped depreciable assets.

A. The process used to study the industrial property retirement is rooted in 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,

[6] *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."

[7] *Id*. at 169.

transfers, and other transactions, are organized by vintage and transaction year.[8] The retirement rate method is ultimately used to develop an "observed life table," ("OLT") which shows the percentage of property surviving at each age interval. This pattern of property retirement is described as a "survivor curve." The survivor curve derived from the observed life table, however, must be fitted and smoothed with a complete curve in order to determine the ultimate average life of the group.[9] 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."[10] A more detailed explanation of how the Iowa curves are used in the actuarial analysis of depreciable property is set forth in Appendix C.

Q. Describe how you statistically analyzed NIPSCO's historical retirement data in order to determine the most reasonable Iowa curve to apply to each account.

A. I used the aged property data provided by the Company to create an observed life table ("OLT") for each account. The data points on the OLT can be plotted to form a curve (the "OLT curve"). The OLT curve is not a theoretical curve, rather, it is actual observed data from the Company's records that indicate the rate of retirement for each property group. An OLT curve by itself, however, is rarely a smooth curve, and is often not a "complete" curve (i.e., it does not end at zero percent surviving). In order to calculate average life (the

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[8] 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).

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

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

area under a curve), a complete survivor curve is required. The Iowa curves are empirically derived curves based on the extensive studies of the actual mortality patterns of many different types of industrial property. The curve-fitting process involves selecting the best Iowa curve to fit the OLT curve. This can be accomplished through a combination of visual and mathematical curve-fitting techniques, as well as professional judgment. The first step of my approach to curve-fitting involves visually inspecting the OLT curve for any irregularities. For example, if the "tail" end of the curve is erratic and shows a sharp decline over a short period of time, it may indicate that this portion of the data is less reliable, as further discussed below. After inspecting the OLT curve, I use a mathematical curve-fitting technique which essentially involves measuring the distance between the OLT curve and the selected Iowa curve 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. As part of my analysis, I may repeat this process several times for any given account to ensure that the most reasonable Iowa curve is selected.

Q. Is mathematical fitting an important part of the curve-fitting process?

A. It is, because it promotes objective, unbiased results. While mathematical curve-fitting is important, it may not always yield the optimum result. Simply determining which Iowa curve best fits an OLT curve ignores professional judgment that may be needed for specific situations. 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 is 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."[11] In accordance with this standard, an analyst may decide to truncate the tail end of the OLT curve at a certain percent of initial exposures, such as one percent. Using this approach puts 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 approximately 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. I will illustrate an example of this approach in the discussion below.

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[11] Wolf & W. Chester Fitch, Depreciation Systems 46 (Iowa State University Press 1994).

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

A. For each of the accounts to which I propose adjustments, the Company's proposed average service life, as estimated through an Iowa curve, is too short to provide the most reasonable mortality characteristics of the account. Generally, for the accounts in which I propose a longer service life, that proposal is based on the objective approach of choosing an Iowa curve that provides a better mathematical fit to the observed historical retirement pattern derived from the Company's plant data. This historical retirement data that comprises the OLT curves in each of the graphs below is based on the Company's actual data. For each of the accounts below, the Iowa curve I select results in a closer mathematical fit to the retirement pattern derived from the Company's actual data, as seen in the OLT curve from each account.[12]

Q. In support of its service life estimates, did NIPSCO present substantial evidence in addition to the historical plant data for each account?

A. No. It appears that NIPSCO is relying primarily on its historical retirement data in order to make predictions about the remaining average life for the assets in each account. Therefore, I think the Commission should focus primarily on this historical data and objective Iowa curve fitting when assessing fair and reasonable depreciation rates for NIPSCO. The service lives I propose in this case are based on Iowa curves that provide better mathematical fits to NIPSCO's historical retirement data, and they result in more

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[12] For Account 369, the Iowa curve I selected results in a closer fit to the truncated OLT curve, but not the entire OLT curve.

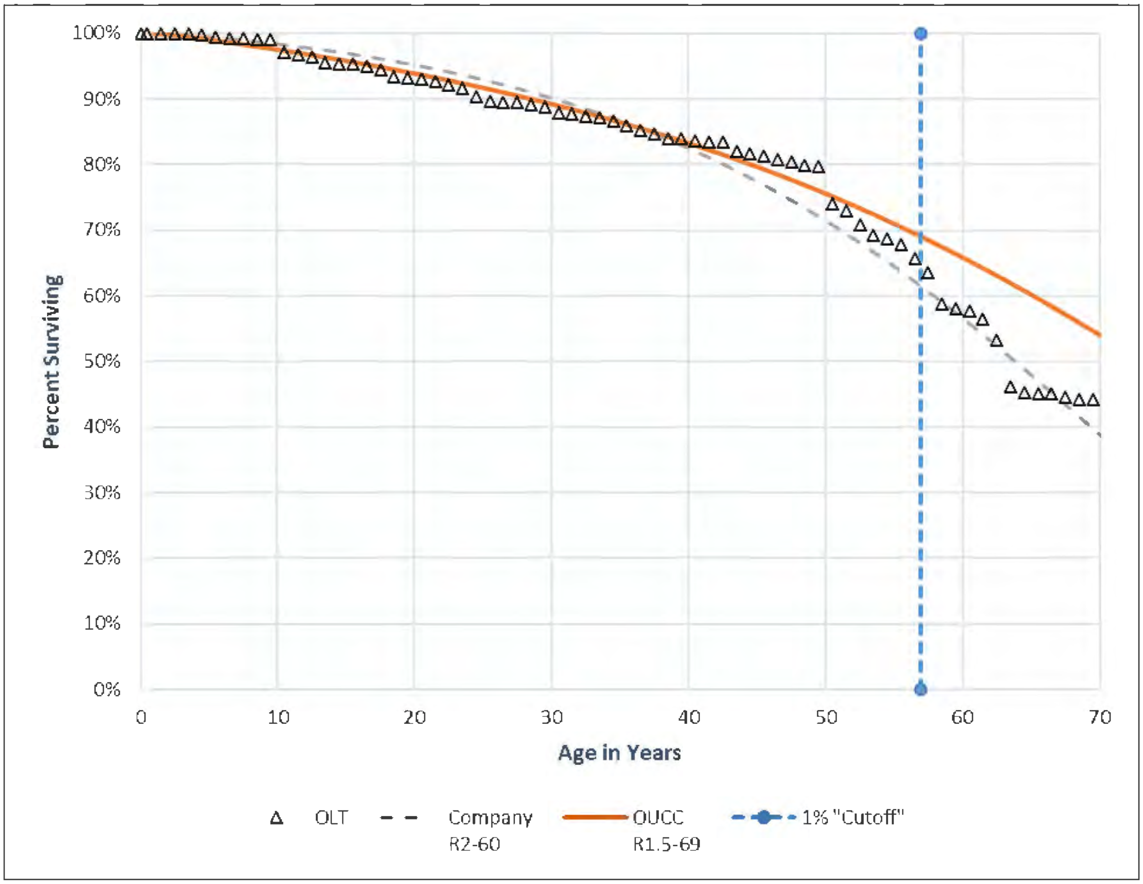
reasonable service life estimates and depreciation rates for the accounts to which I propose adjustments.

A. <u>Account 369 – Transmission M&R Station Equipment</u>

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

A. The observed survivor curve (OLT curve) derived from the Company's data for this account is presented in the graph below. The graph also shows the Iowa curves Mr. Spanos and I selected to represent the average remaining life of the assets in this account. For this account, Mr. Spanos selected the R2-60 Iowa curve, and I selected the R1.5-69 Iowa curve. Both curves are in the same modal family (the "R" family), which means the greatest rate of retirement occurs after the average life in both curves – or to the "right" of the curves. The numbers after the "R" are related to the relative heights of the modes of the curves. The R1.5 frequency curve has a lower mode than the R2 curve and thus has a flatter, smoother trajectory.

Figure 2:
Account 369 – Transmission M&R Station Equipment

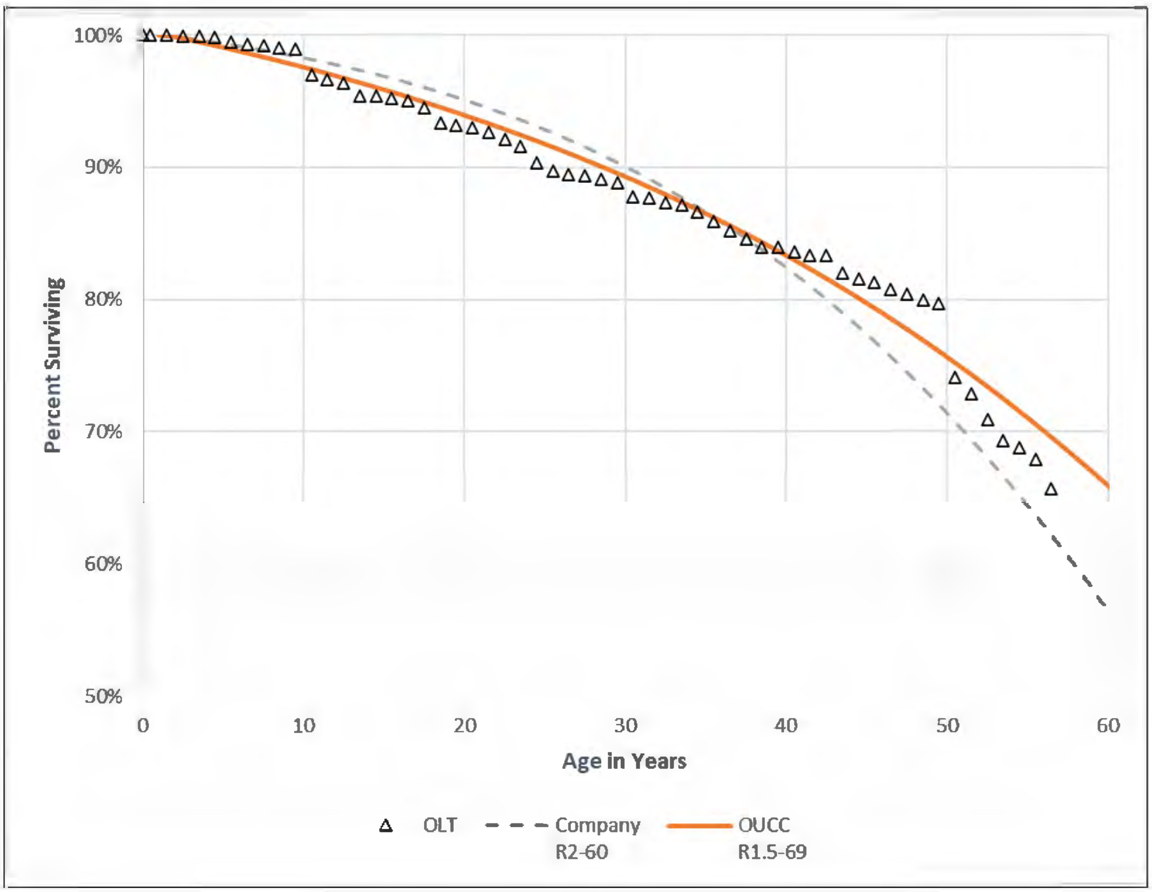


The OLT curve for Account 369 is fairly well suited for conventional Iowa curve fitting techniques because it is relatively smooth and displays a typical retirement pattern for utility property. The data points to the right of the vertical dotted line would be eliminated pursuant to the truncation benchmark discussed above (1% or less of the exposures, or capital dollars exposed to retirement). Both of the selected Iowa curves appear to provide relatively close fits to the OLT curve.

Q. Please illustrate a comparison of the selected Iowa curves with the truncated OLT curve.

A. The following graph includes the same two Iowa curves and OLT curve presented above, except with the truncated portion of the OLT curve removed.

Figure 3:
Account 369 – Transmission M&R Station Equipment (Truncated OLT Curve)



The amount of dollars exposed to retirement in the early age intervals of this OLT curve (i.e., the first few triangles) exceed $100 million. In contrast, the triangles that were eliminated from this truncated OLT curve are associated with less than $2 million of exposures. With the statistically irrelevant portion of the OLT removed, it is even more visually apparent that the R1.5-69 curve results in the closer fit, and we can confirm the results mathematically.

Q. Does your selected Iowa curve provide a better mathematical fit to the truncated OLT curve?

A. Yes. The R1.5-69 curve I selected results in a closer fit to the truncated OLT curve, but not the entire OLT curve. While visual curve-fitting techniques (though not exclusively) can help an analyst 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 mathematically-fitted curve is the one that minimizes the distance between the OLT curve and the Iowa curve, thus providing the closest fit. Professional judgment is also used to ensure that the selected Iowa curve is not unreasonable based on industry norms. The distance between the curves is calculated using the "sum-of-squared differences" ("SSD") technique. In this account, the SSD between the Company's curve and the truncated OLT curve is 0.0678, and the SSD between the R1.5-69 curve I selected and the truncated OLT curve is 0.0142.[13] Thus, the R1.5-69 curve results in the closer mathematical fit to the truncated OLT curve.

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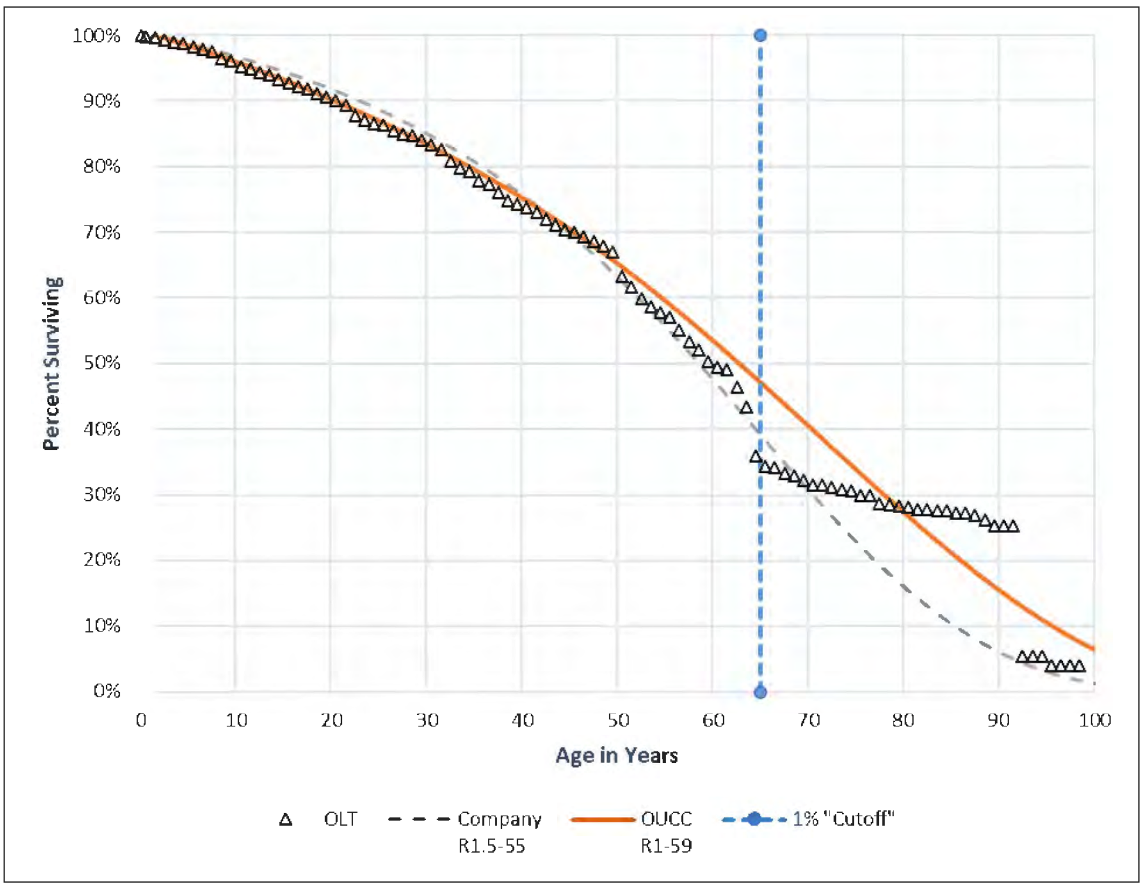
[13] Attachment DJG-7.

B. Account 378 – Distribution M&R Station Equipment

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

A. For this Account, Mr. Spanos selected the R1.5-55 curve, and I selected R1-59 curve. The graph below shows these two Iowa curves and the OLT curve for this account.

Figure 4:
Account 378 – Distribution M&R Station Equipment



As shown in the graph, both curves provide a relatively good fit to the observed data. Since the Company has not presented meaningful evidence outside of the Company's historical retirement data for this account, the adopted service life should be primarily based on analysis of the data in my opinion. We can use mathematical curve fitting techniques to further assess the results.

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

A. Yes. Regardless of whether the entire OLT curve or truncated OLT curve is measured, the R1-59 curve I selected results in the closer fit. Specifically, the SSD between the Company's curve and the truncated OLT curve is 0.0358, and the SSD between the R1-59 curve I selected and the truncated OLT curve is 0.0182, which means it results in the closer fit to the observed retirement data.[14]

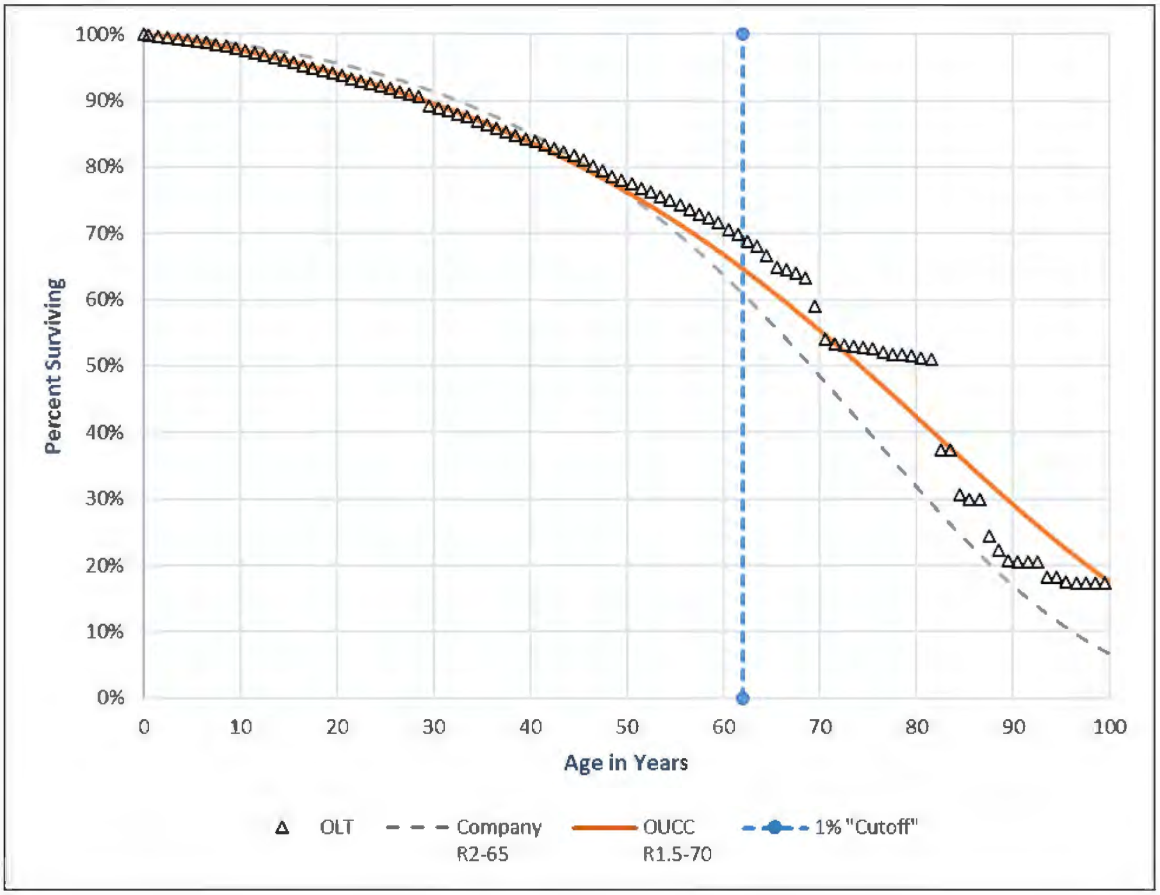
C. <u>Account 380 – Services – Steel and Plastic</u>

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

A. For these accounts, Mr. Spanos selected the R2-65 curve, and I selected the R1.5-70 curve. These Iowa curves are shown in the graph below with the OLT curve.

[14] Attachment DJG-8.

Figure 5:
Account 380 – Services – Steel and Plastic



As shown in the graph, both curves provide a relatively good fit to the observed data through the first 50 years. However, the Iowa curve selected by Mr. Spanos is clearly shorter than the retirement pattern otherwise indicated by the trajectory of the OLT curve. This is the case regardless of whether the entire OLT curve or the truncated OLT curve is considered.

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

A. Yes, regardless of whether the entire OLT curve or truncated OLT curve is measured. In this account, the SSD between the Company's curve and the truncated OLT curve is 0.0704, while the SSD between the R1.5-70 curve I selected and the truncated OLT curve is 0.0332, making it the closer fitting curve.[15]

D. Account 381 – Meters

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

A. Unlike the accounts discussed above, the Company's depreciation study does not present the actual, historical OLT curve for this account. NIPSCO is proposing to replace the communication equipment on its current meters with AMI communication modules. For any meters that cannot be retrofit, meters that may fail, or new meters that need to be installed, NIPSCO will replace those meters with new meters that have AMI technology integrated.[16] Rather, the depreciation study presents a projected OLT curve, which is based on Mr. Spanos's opinion regarding the future retirement rate for this account.

Q. In your experience, are OLT curves typically based on projected metrics?

A. No. I have reviewed dozens of depreciation studies, including many conducted by Gannett Fleming, and I cannot recall seeing a projected OLT curve presented in this manner.

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[15] Attachment DJG-9.

[16] Petitioner's Exhibit No. 12, Direct Testimony of John Spanos, p. 20, ll. 10-12.

Q. In your opinion, is it appropriate to present OLT curves in this manner?

A. No. An OLT curve should be based on factual historical experience. Once an OLT curve is established, the analyst's opinions regarding the future life characteristics for the assets in a particular account should be expressed in the Iowa curve selection. In this way, the analyst is presenting an opinion which is based on facts. In contrast to this approach, Mr. Spanos is merely basing his opinion (the selected Iowa curve) on his own opinion (his projected OLT curve), which is effectively baseless.

Q. Does the depreciation study also show the factual OLT curve for this account in addition to the Company's projected OLT curve?

A. No. The depreciation study shows only the projected OLT curve for this account, which is misleading in my opinion, particularly since all other accounts in the depreciation study (except Account 382 discussed below) are shown with the factual OLT curve.

Q. In NIPSCO's prior rate case, Cause No. 45621, did Mr. Spanos recommend an Iowa curve based on the Company's factual OLT curve for Account 381?

A. Yes. In Case No. 45621, Mr. Spanos sponsored the Company's depreciation study. For Account 381, he recommended the R2-36 Iowa curve, which was based on the Company's actual historical retirement experience and was presented in a factual OLT curve.[17]

Q. Did you dispute Mr. Spanos's service life recommendation for Account 381 in Cause No. 45621?

A. No. I testified in Cause No. 45621 on behalf of the OUCC. I reviewed the Company's depreciation study and Mr. Spanos's recommendation for Account 381, and I did not

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[17] *See* Attachment DJG-14.

dispute his position because I believed it was reasonable. Moreover, the Iowa curve proposed by Mr. Spanos for Account 381 in Cause No. 45621 was based on fact – that is, the Company's actual OLT curve. In contrast, Mr. Spanos' proposed Iowa curve in this case for Account 381 is not based on the Company's actual retirement experience or OLT curve for this account.

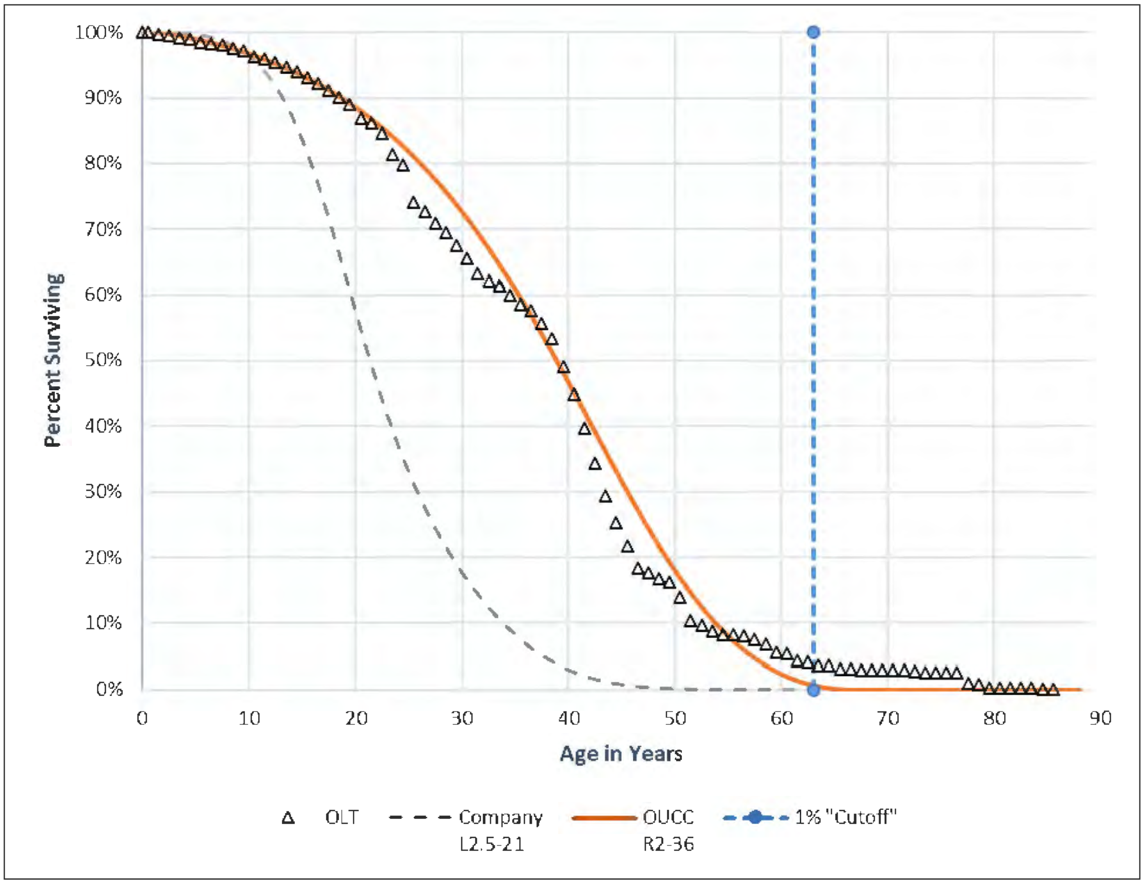
Q. What is Mr. Spanos's recommended service life for Account 381 in this case?

A. In this case, Mr. Spanos proposes an L2.5-21 Iowa curve for Account 381, which represents a significant decrease in service life from the 36-year life he proposed in the Company's prior rate case.

Q. Please describe and illustrate Mr. Spanos' and your proposed Iowa curves for Account 381.

A. The graph below shows the factual OLT curve that was presented in the Company's prior depreciation study. The graph also shows the L2.5-21 Iowa curve proposed by Mr. Spanos in this case and the R2-36 Iowa curve proposed by Mr. Spanos in the prior rate case.

Figure 6:
Account 381 – Meters



As shown in this graph, the R2-36 curve proposed by Mr. Spanos in the prior case resulted in a close fit and reasonable service life recommendation when based upon the Company's factual OLT curve and historical retirement experience in this account. In contrast, the L2.5-21 Iowa curve proposed by Mr. Spanos in this case is significantly shorter than the retirement pattern otherwise indicated in the factual OLT curve.

Q. What is your proposed service life for Account 381?

A. I recommend the Commission adopt the R2-36 Iowa curve for this account, which is the same curve proposed by Mr. Spanos in NIPSCO's previous depreciation study. In my opinion, it is not appropriate to base Iowa curves on OLT curves that are not based in fact, particularly when the Company has adequate historical retirement data for this account. At the very least, both OLT curves should have been presented for consideration of the parties and Commission.

Q. Does NIPSCO's proposed service life for this account accelerate depreciation expense and increase the financial burden for current customers?

A. Yes. NIPSCO's proposed service life for this account is significantly less than its currently approved service life. In effect, it amounts to accelerated cost of recovery at the expense of current ratepayers. Furthermore, under my service life proposal, NIPSCO will still recover the full amount of its investment in this account. To the extent new assets placed into this account have a decreasing effect on the indicated service life over time, appropriate adjustments can be made gradually in future depreciation studies to the extent they are supported by the data.

E. <u>Account 382 – Meter Installations</u>

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

A. As with Account 381 discussed above, the Company's depreciation study does not present the actual, historical OLT curve for this account. Rather, the depreciation study presents a projected OLT curve, which is based on Mr. Spanos's opinion regarding the future retirement rate for this account.

Q. Does the depreciation study also show the factual OLT curve for this account in addition to the Company's projected OLT curve?

A. No.

Q. In NIPSCO's prior rate case, did Mr. Spanos recommend an Iowa curve based on the Company's factual OLT curve for Account 382?

A. Yes.[18]

Q. Did you dispute Mr. Spanos's service life recommendation for Account 382 in Cause No. 45621?

A. No.

Q. What is Mr. Spanos's recommended service life for Account 382 in this case?

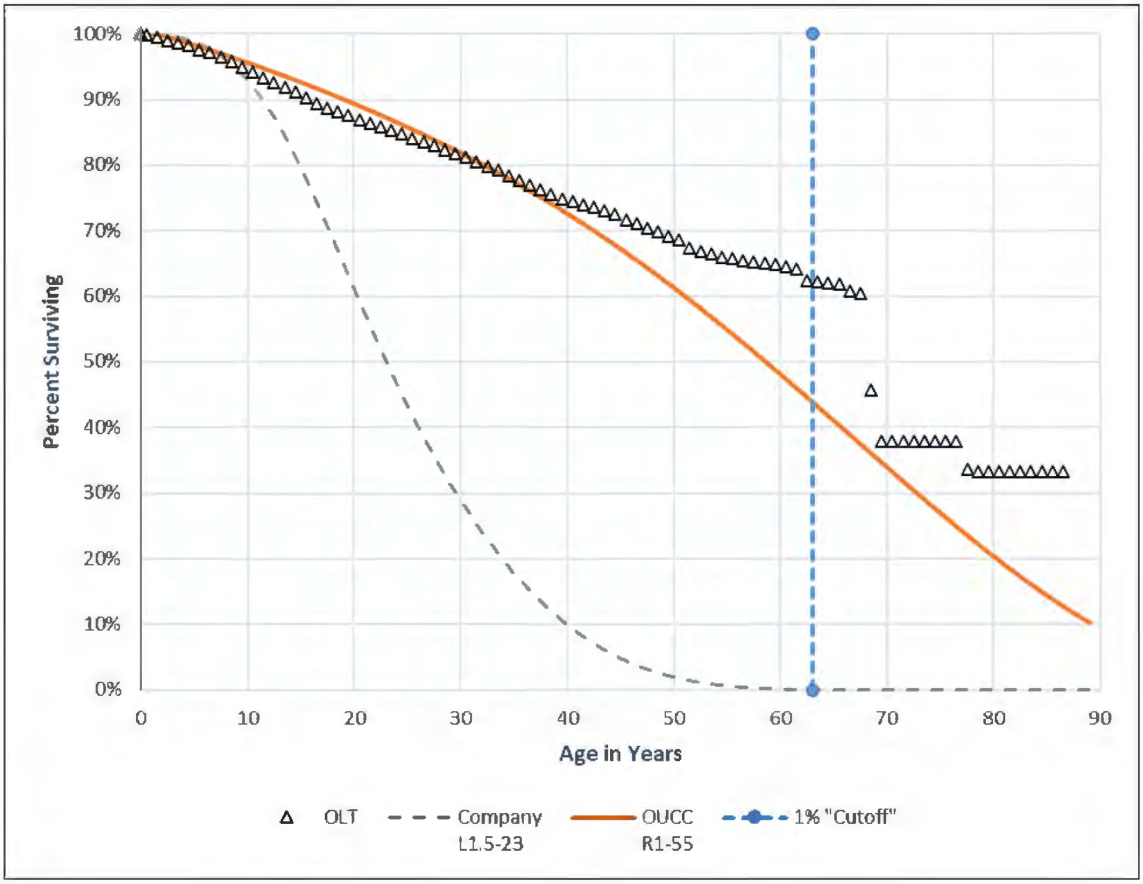
A. In this case, Mr. Spanos proposes an L1.5-23 Iowa curve for Account 382, which represents a significant decrease in service life from the 55-year life he proposed in the Company's prior rate case.

Q. Please describe and illustrate Mr. Spanos's and your proposed Iowa curves for Account 382.

A. The graph below shows the factual OLT curve that was presented in the Company's prior depreciation study. The graph also shows the L1.5-23 Iowa curve proposed by Mr. Spanos in this case and the R1-55 Iowa curve proposed by Mr. Spanos in the prior rate case.

[18] *See* Attachment DJG-15.

Figure 7:
Account 382 – Meter Installations



As shown in this graph, the R1-55 curve proposed by Mr. Spanos in the prior case resulted in a close fit and relatively reasonable service life recommendation when based upon the Company's factual OLT curve and historical retirement experience in this account. In contrast, the L1.5-23 Iowa curve proposed by Mr. Spanos in this case is significantly shorter than the retirement pattern otherwise indicated in the factual OLT curve.

Q. What is your proposed service life for Account 382?

A. I recommend the Commission adopt the R1-55 Iowa curve for this account, which is the same curve proposed by Mr. Spanos in NIPSCO's previous depreciation study. In my opinion, it is not appropriate to based Iowa curves on OLT curves that are not based in fact, particularly when the Company has adequate historical retirement data for this account. At the very least, both OLT curves should have been presented for consideration of the parties and Commission.

Q. Does NIPSCO's proposed service life for this account accelerate depreciation expense and increase the financial burden for current customers?

A. Yes. NIPSCO's proposed service life for this account is significantly less than its currently approved service life. In effect, it amounts to accelerated cost of recovery at the expense of current ratepayers. Furthermore, under my service life proposal, NIPSCO will still recover the full amount of its investment in this account. To the extent new assets placed into this account have a decreasing effect on the indicated service life over time, appropriate adjustments can be made gradually in future depreciation studies to the extent they are supported by the data.

Q. Does this conclude your testimony?

A. Yes.

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.[1] 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 <u>method</u> of allocation; 2) a <u>procedure</u> for applying the method of allocation to a group of property; 3) a <u>technique</u> for applying the depreciation rate; and 4) a <u>model</u> for analyzing the characteristics of vintage groups comprising a continuous property group.[2] The figure below illustrates the basic concept of a depreciation system and includes some of the available parameters.[3]

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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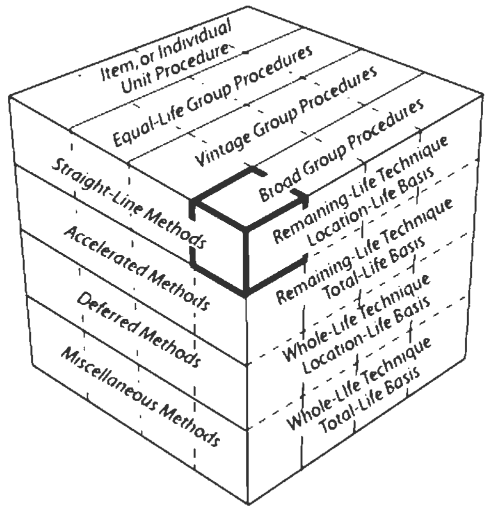
[1] Wolf & W. Chester Fitch, Depreciation Systems 69-70 (Iowa State University Press 1994).

[2] *Id.* at 70, 139–40.

[3] 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 because depreciation analysis is a relatively small and fragmented field. This diagram simply illustrates some of the available parameters of a depreciation system.

Figure 1:
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.[4] 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.[5] The basic formula for the straight-line method is as follows:[6]

[4] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices 56 (NARUC 1996).

[5] *Id*.

[6] *Id*.

Equation 1:
Straight-Line Accrual

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

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.[7] 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:[8]

Equation 2:
Straight-Line Rate

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

2. <u>Grouping Procedures</u>

The "procedure" refers to the way the allocation method is applied through subdividing the total property into groups.[9] 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 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

[7] *Id*. at 57.

[8] *Id*. at 56.

[9] Wolf *supra* n. 1, at 74-75.

described statistically.[10] 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.[11]

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.[12] Thus, the average life procedure treats each unit as though its life is equal to the average life of the group. By contrast, the equal life procedure treats each unit in the group as though its life was known.[13] Under the equal life procedure the property is divided into subgroups that each has a common life.[14]

3. <u>Application Techniques</u>

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 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.[15]

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

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[10] *Id*. at 74.

[11] NARUC *supra* n. 4, at 61–62.

[12] Wolf *supra* n. 1, at 74-75.

[13] *Id*. at 75.

[14] *Id*.

[15] NARUC *supra* n. 4, at 63–64.

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.[16] 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 <u>current</u> depreciation parameters.[17] 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 in the annual accrual.[18] 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:[19]

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[16] Wolf *supra* n. 1, at 83.

[17] NARUC *supra* n. 4, at 325.

[18] NARUC *supra* n. 4, 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.").

[19] *Id*. at 64.

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.[20]

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.[21] 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 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.

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[20] Wolf *supra* n. 1, at 178.

[21] *See* Wolf *supra* n. 1, at 139 (I added the term "model" to distinguish this fourth depreciation system parameter from the other three parameters).

By 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.[1] This history 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.[2] 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.[3] They generalized the 65 curves 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

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[1] Wolf & W. Chester Fitch, Depreciation Systems 276 (Iowa State University Press 1994).

[2] *Id*. at 23.

[3] *Id*. at 34.

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.[4] This research 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."[5] 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.[6] Rather than using the original formulas, analysts typically rely on the published tables containing the percentages surviving. This reliance is necessary 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 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

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[4] *Id*.

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

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

Winfrey published the original Iowa curves. Russo drew three major conclusions from his research:[7]

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.[8]

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 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. <u>Classification</u>

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

[7] *See* Wolf *supra* n. 1, at 37.

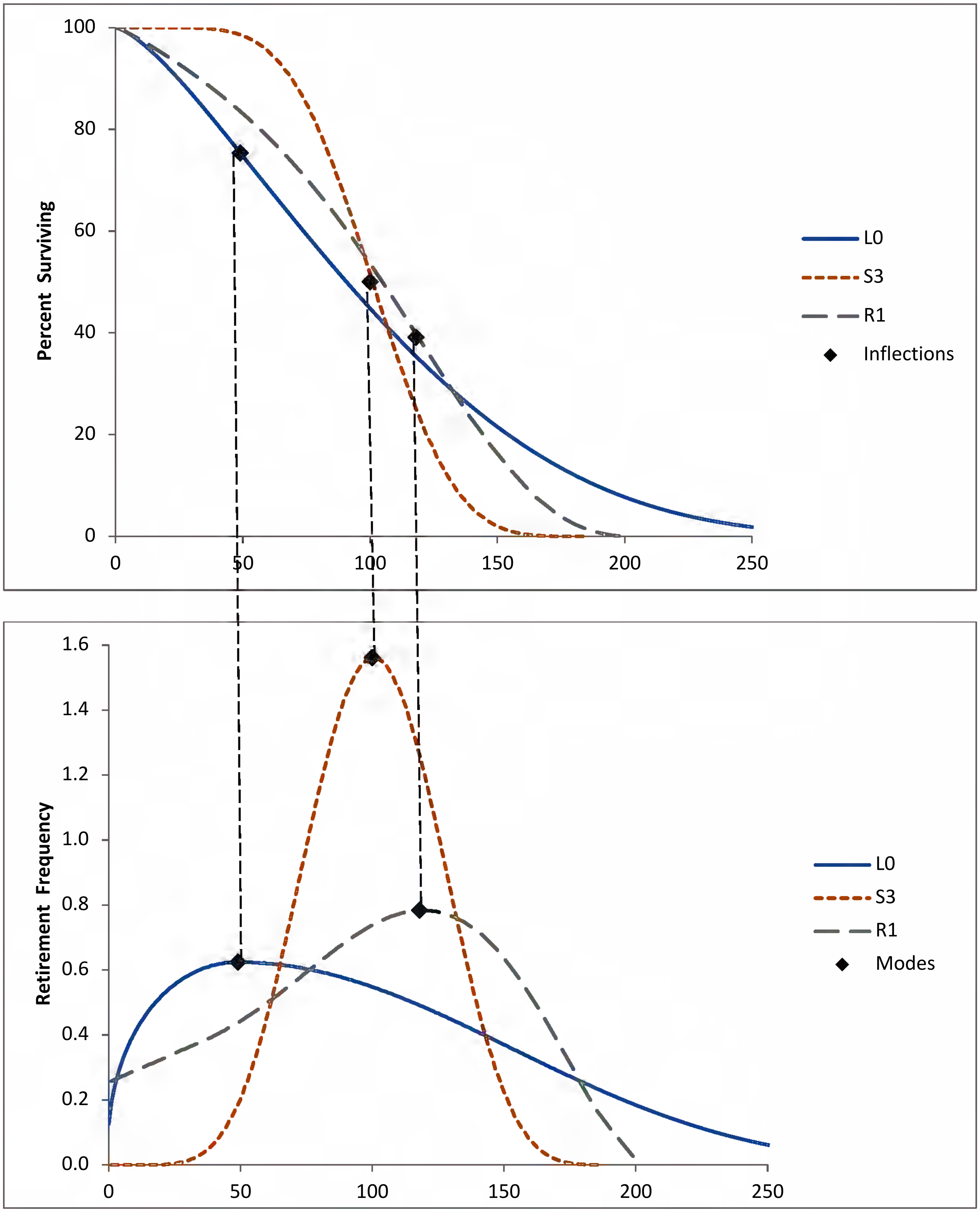
[8] *Id*.

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).[9] 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.

[9] 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.

Figure 1:
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 design 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."[10]

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.

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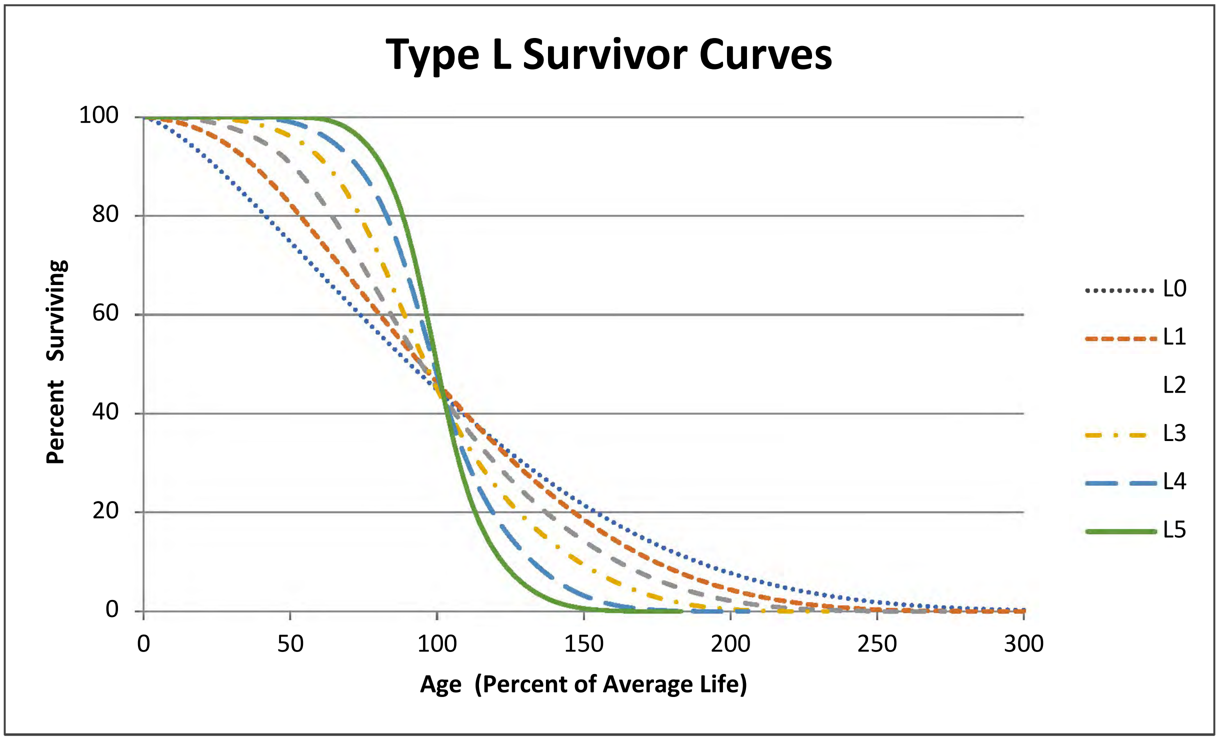
[10] Winfrey *supra* n. 6, at 60.

Figure 2:
Type L Survivor and Frequency Curves



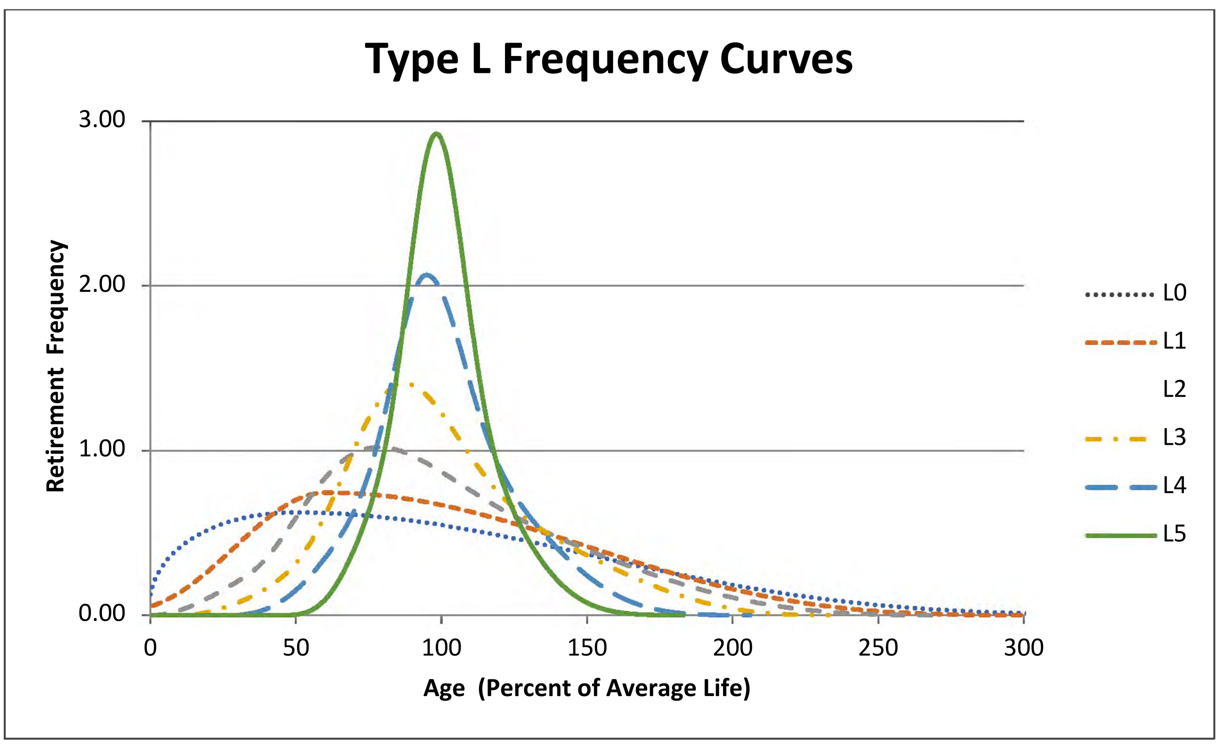
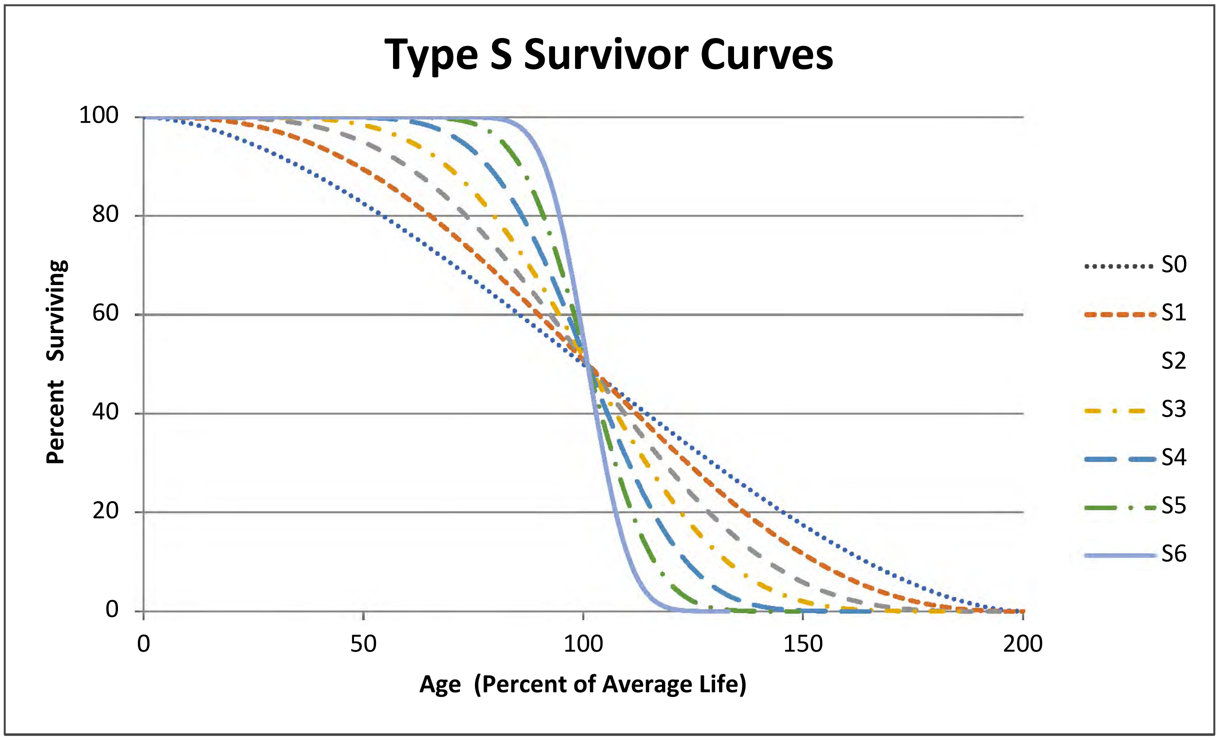


Figure 3:
Type S Survivor and Frequency Curves



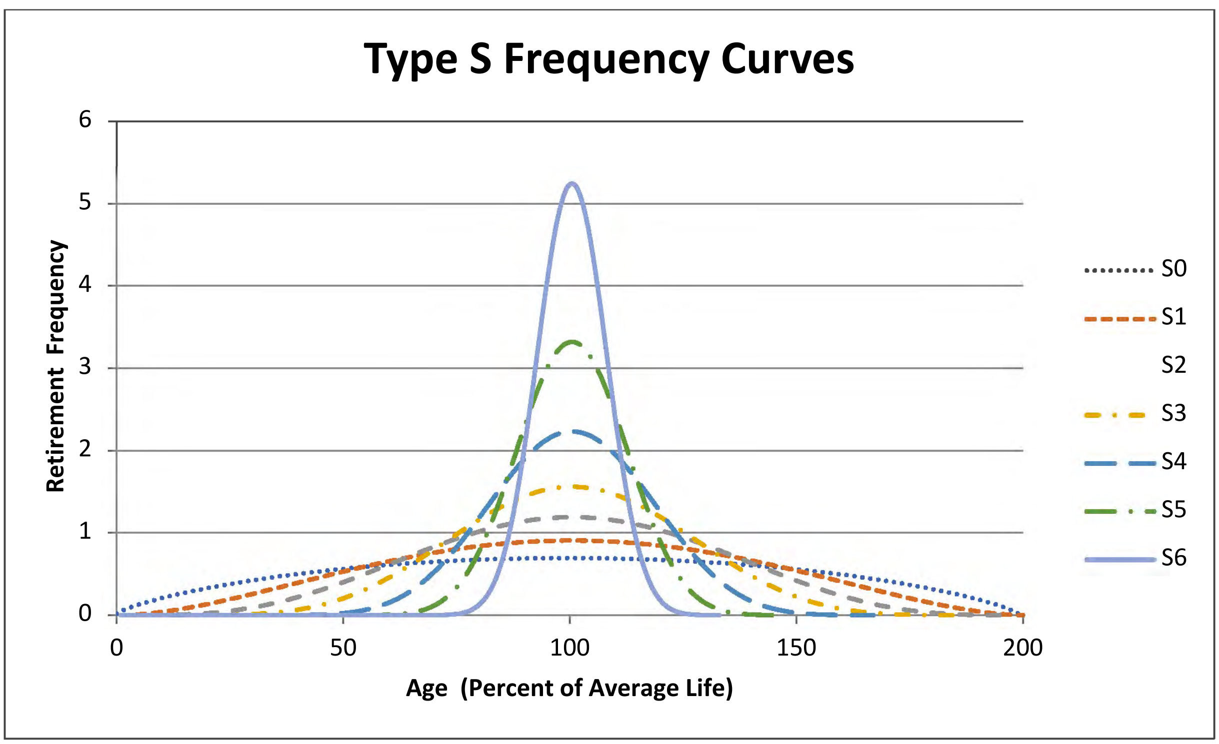
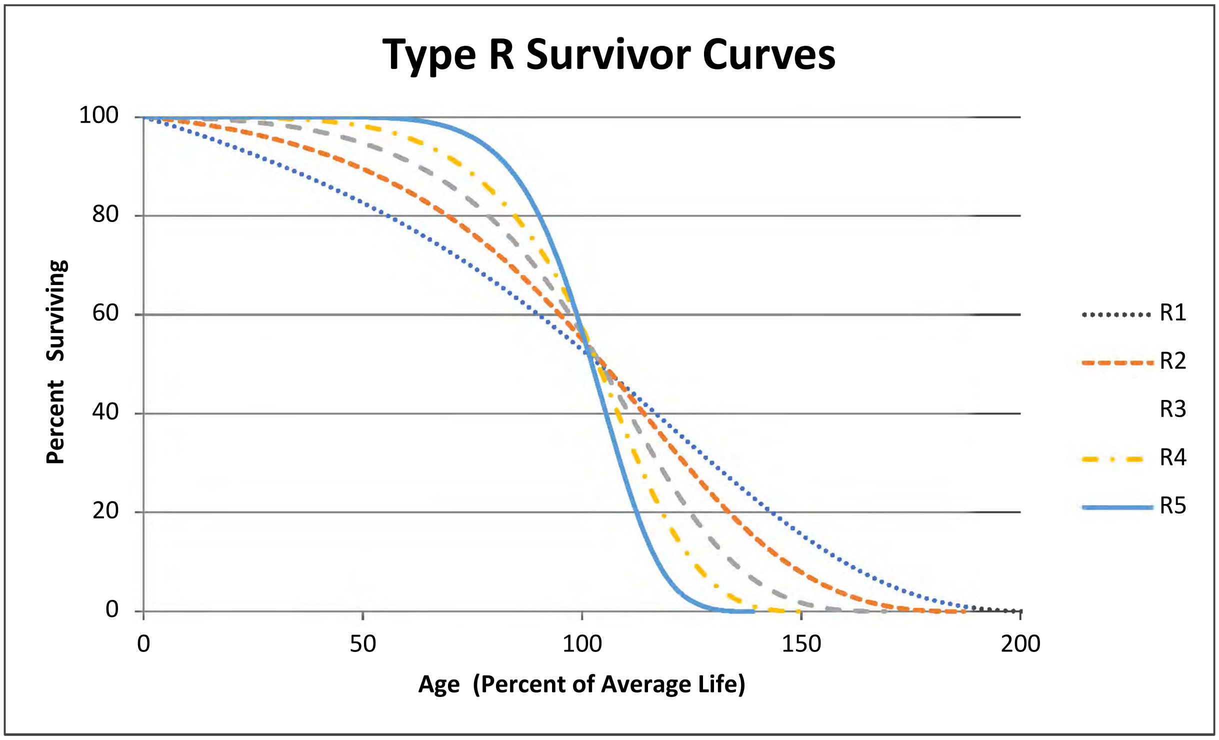
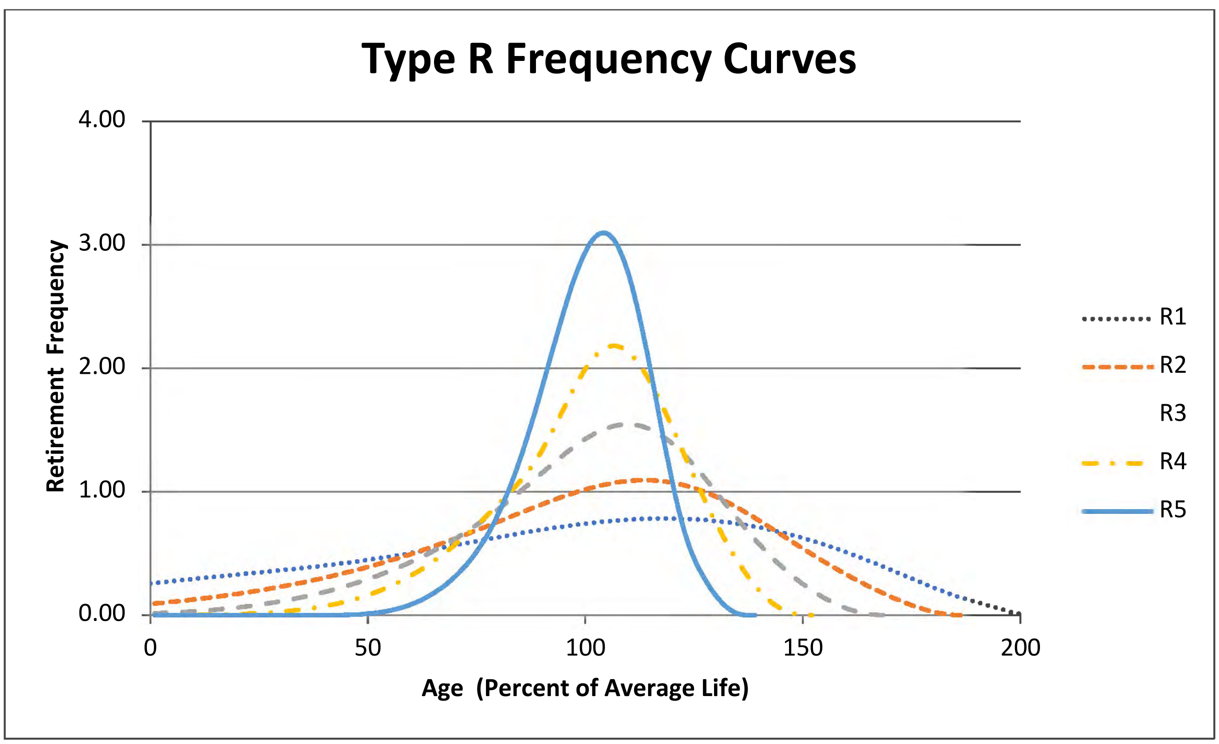


Figure 4:
Type R Survivor and Frequency Curves





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.[11]

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:[12]

Equation 1:
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 dynamic results in a "stub" survivor curve. Iowa curves are used to extend stub curves to maximum life in order to make the average life calculation (see Appendix C).

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[11] 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.

[12] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices 71 (NARUC 1996).

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.[13] 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.[14] 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 2:
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.

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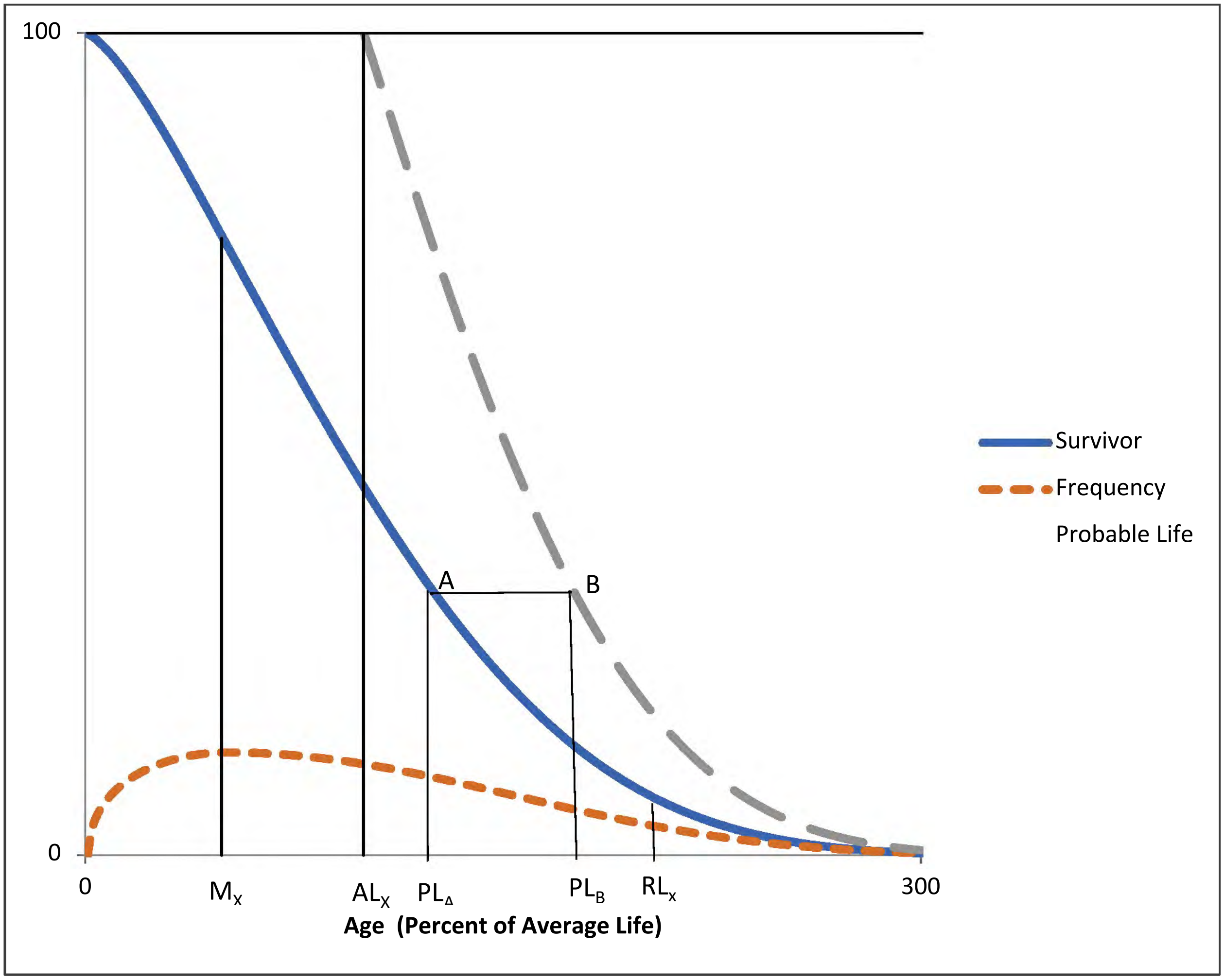
[13] *Id*. at 73.

[14] *Id*. at 74.

Figure 5:
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.[15] 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 corresponding point on the survivor curve above at point "A," then horizontally to point "B" on

[15] Wolf *supra* n. 1, at 28.

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 connection occurs 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.[1]

Figure 1:
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

[1] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices 14-15 (NARUC 1996).

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

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[2] *Id*. at 112–13.

[3] 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.[4] 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 2:
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	

[4] 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 3:
Retirement Matrix

Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
	Experience Years Retirements During the Year (000's)									
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.[5] 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).

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[5] Frank K. Wolf & W. Chester Fitch, Depreciation Systems 22 (Iowa State University Press 1994).

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 4:
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			

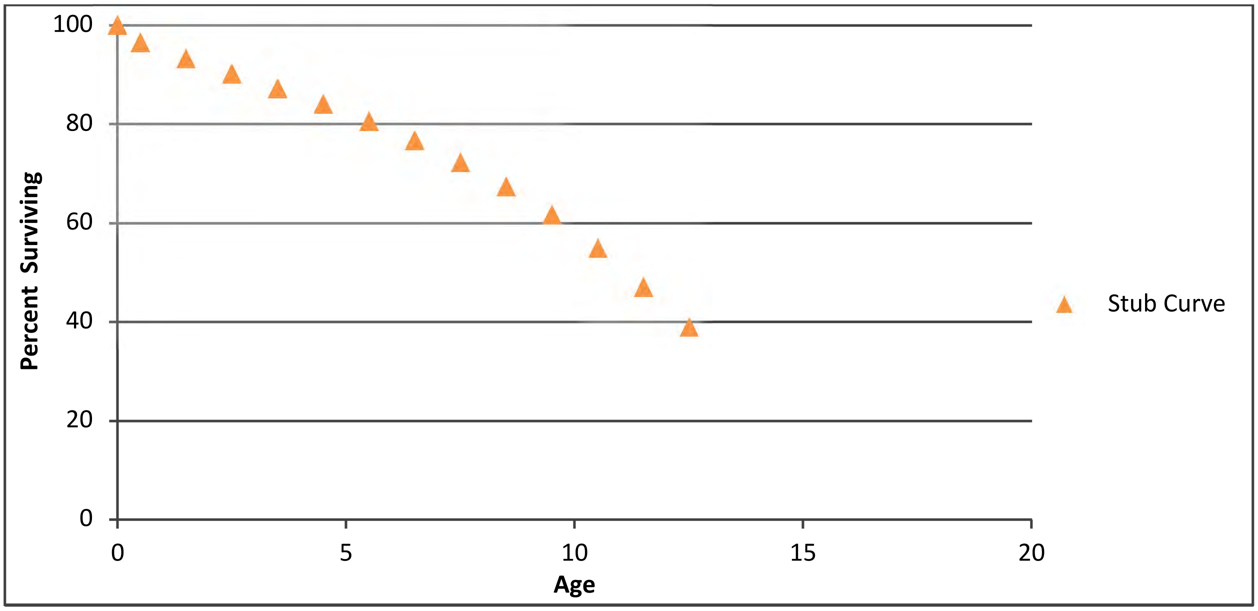
Column F on the right shows the percentages surviving at the beginning of each age interval. This column starts at 100 percent surviving. Each consecutive number below is calculated by multiplying the percent surviving from the previous age interval by the corresponding survivor ratio for that age interval. For example, the percent surviving at the start of age interval 1.5 is 93.21 percent, which was calculated by multiplying the percent surviving for age interval 0.5 (96.43 percent) by the survivor ratio for age interval 0.5 (0.967).[6]

The percentages surviving in Column F are the numbers that are used to form the original survivor curve. This particular curve starts at 100 percent surviving and ends at 38.91 percent surviving. An observed survivor curve such as this that does not reach zero percent surviving is

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

called a “stub” curve. The figure below illustrates the stub survivor curve derived from the OLT above.

Figure 5:
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.

<u>Banding</u>

The forces of retirement and characteristics of industrial property are constantly changing. A depreciation analyst may examine the magnitude of these changes. Analysts often use a technique called “banding” to assist with this process. Banding refers to the merging of several years of data into a single data set for further analysis, and it is a common technique associated with the retirement rate method.[7] 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.[8]

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

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[7] NARUC *supra* n. 1, at 113.

[8] *Id*.

Figure 6:
Placement Bands

Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
	Experience Years Exposures at January 1 of Each Year (Dollars in 000's)									
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 use 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.[9] 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 placement bands are very useful in depreciation analysis, they also possess an intrinsic dilemma.

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[9] Wolf *supra* n. 5, at 182.

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.[10]

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.

Figure 7:
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 4.5–5.5 ($1,237). The same experience band would be used for the retirement matrix

[10] NARUC *supra* n. 1, at 114.

covering the same experience years of 2011–2013. This use 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.[11] 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 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. They rarely reach zero percent because, as seen in the OLT above, relatively newer vintage groups have not yet been fully retired at the

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[11] *Id*.

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.

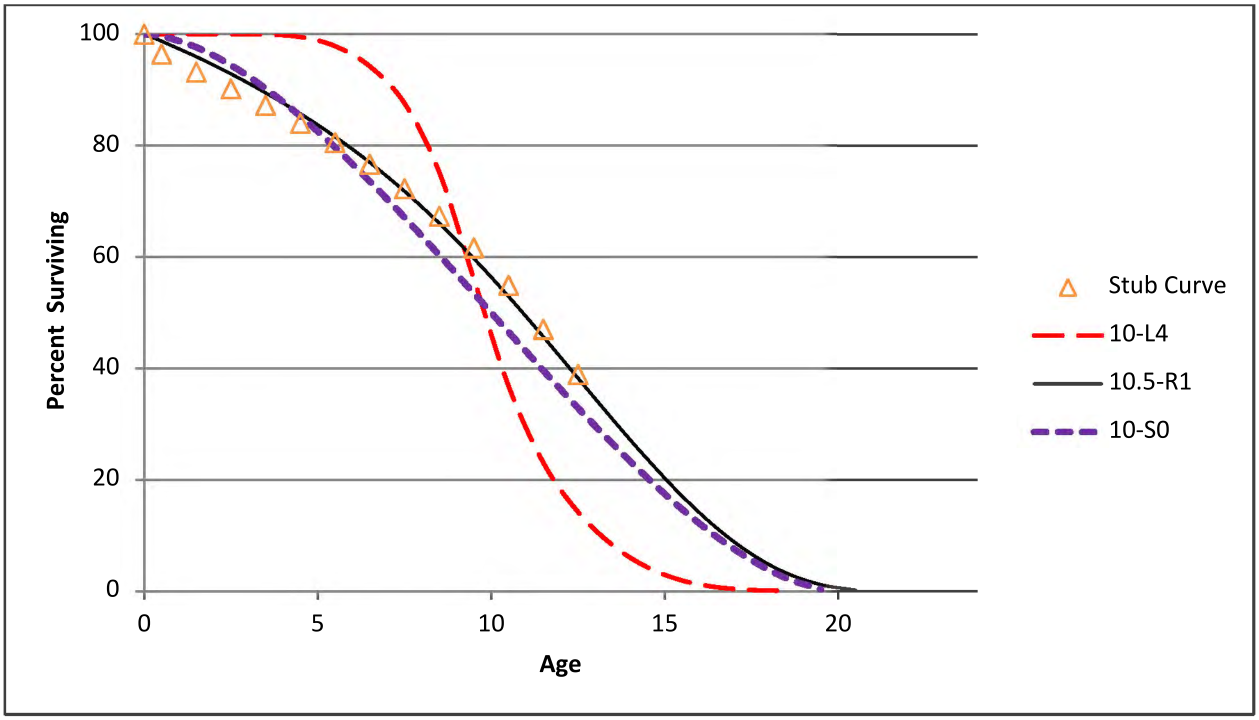
Curve Fitting

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."[12]

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, the 10.5-R1 curve is clearly a better fit than the other two curves.

[12] Wolf *supra* n. 5, at 46 (22 curves includes Winfrey's 18 original curves plus Cowles's four "O" type curves).

Figure 8:
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.[13]

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."[14]

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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[13] Wolf *supra* n. 5, at 47.

[14] *Id*. at 48.

Figure 9:
Mathematical Fitting

Age	Stub	Iowa Curves			Squared Differences		
Interval	Curve	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
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PROFESSIONAL DESIGNATIONS

Society of Depreciation Professionals
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Society of Utility and Regulatory Financial Analysts
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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 – 2021
Adjunct Instructor – "Ethics in Leadership"

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

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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Maryland Public Service Commission	Washington Gas Light Company	9704	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Delaware Public Service Commission	Veolia Water Delaware Inc.	23-0598	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	United Illuminating Company	22-08-08	Depreciation rates, service lives, net salvage	PURA Staff
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 54634	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Railroad Commission of Texas	SiEnergy, LP	OS-23-00013504	Depreciation rates, service lives, net salvage	Texas municipal intervenor group
Pennsylvania Public Utility Commission	Aqua Pennsylvania, Inc.	A-2022-3034143	Fair market value review	Pennsylvania Office of Consumer Advocate
Wyoming Public Service Commission	Rocky Mountain Power	20000-633-ER-23	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Maryland Public Service Commission	Potomac Electric Power Company	9702	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Public Utilities Commission of Nevada	Nevada Power Company d/b/a NV Energy	23-06007 23-06008	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Public Utilities Commission of Ohio	Northeast Ohio Natural Gas Corp.	23-0154-GA-AIR	Cost of capital, awarded rate of return, capital structure	Office of the Ohio Consumers' Counsel
New York State Public Service Commission	The Brooklyn Untion Gas Company and Keyspan Gas East Corporation d/b/a Nation Grid	23-G-0225 23-G-0226	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-23-11	Cost of capital, awarded rate of return, capital structure	Micron Technology, Inc.
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45933	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Massachusetts Department of Public Utilities	Fitchburg Gas and Electric Company d/b/a Unitil	D.P.U. 23-80; D.P.U. 23-81	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Kansas Corporation Commission	Evergy Kansas Central, Evergy Kansas South, and Evergy Metro	23-EKCE-775-RTS	Depreciation rates, service lives, net salvage	The Citizens' Utility Ratepayer Board

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Delaware Public Service Commission	Delmarva Power & Light Company	22-0897	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	Connecticut Water Company	23-08-32	Depreciation rates, service lives, net salvage	PURA Staff
Connecticut Public Utilities Regulatory Authority	Connecticut Natural Gas Corporation and The Southern Connecticut Gas Company	23-11-02	Depreciation rates, service lives, net salvage	PURA Staff
Railroad Commission of Texas	Atmos Pipeline – Texas	OS-23-00013758	Depreciation rates, service lives, net salvage	Atmos Texas Municipalities
Wyoming Public Service Commission	Black Hills Wyoming Gas	30026-78-GR-23	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Indiana Utility Regulatory Commission	Indianapolis Power & Light Company d/b/a AES Indiana	45911	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
New Mexico Public Regulation Commission	Southwestern Public Service Company	22-00286-UT	Cost of capital, depreciation rates, net salvage	The New Mexico Large Customer Group; Occidental Permian
Public Utilities Commission of the State of California	Southern California Gas Company San Diego Gas & Electric Company	A.22-05-015 A.22-05-016	Depreciation rates, service lives, net salvage	The Utility Reform Network
Public Utilties Commission of the State of Colorado	Public Service Company of Colorado	22AL-0530E 22AL-0478E	Cost of capital, awarded rate of return, capital structure	Colorado Energy Consumers
New Mexico Public Regulatory Commission	Public Service Company of New Mexico	22-00270-UT	Cost of capital, depreciation rates, net salvage	The Albuquerque Bernalillo County Water Utility Authority
Florida Public Service Commission	Peoples Gas System	20230023-GU 20220219-GU 20220212-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Maryland Public Service Commission	Potomac Edison Company	9695	Cost of capital, depreciation rates, net salvage	Maryland Office of People's Counsel
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	2022.11.099	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Indiana-American Water Company	45870	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Dominion Energy South Carolina	2023-70-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Maryland Public Service Commission	Columbia Gas of Maryland	9701	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Pennsylvania Public Utility Commission	Columbia Water Company	R-2023-3040258	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Baltimore Gas and Electric Company	9692	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-22-0144	Cost of capital, awarded rate of return, capital structure	Residential Utility Consumer Office
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 2022-000093	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Public Service Commission of the State of Montana	NorthWestern Energy	2022.07.078	Cost of capital, depreciation rates, net salvage	Montana Consumer Counsel and Montana Large Customer Group
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45772	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Duke Energy Progress	2022-254-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Wyoming Public Service Commission	Cheyenne Light, Fuel and Power Company D/B/A Black Hills Energy	20003-214-ER-22	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	OS-22-00009896	Depreciation rates, service lives, net salvage	The City of El Paso
Public Utilities Commission of Nevada	Sierra Pacific Power Company	22-06014	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Washington Utilities & Transportation Commission	Puget Sound Energy	UE-220066 UG-220067 UG-210918	Depreciation rates, service lives, net salvage	Washington Office of Attorney General
Public Utility Commission of Texas	Oncor Electric Delivery Company LLC	PUC 53601	Depreciation rates, service lives, net salvage	Alliance of Oncor Cities
Florida Public Service Commission	Florida Public Utilities Company	20220067-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 53719	Depreciation rates, decommissioning costs	Texas Municipal Group
Florida Public Service Commission	Florida City Gas	2020069-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Connecticut Public Utilities Regulatory Authority	Aquarion Water Company of Connecticut	22-07-01	Depreciation rates, service lives, net salvage	PURA Staff

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Washington Utilities & Transportation Commission	Avista Corporation	UE-220053 UG-220054 UE-210854	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Federal Energy Regulatory Commission	ANR Pipeline Company	RP22-501-000	Depreciation rates, service lives, net salvage	Ascent Resources - Utica, LLC
Pennsylvania Public Utility Commission	Columbia Gas of Pennsylvania, Inc.	R-2022-3031211	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Piedmont Natural Gas Company	2022-89-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	UGI Utilities, Inc. - Gas Division	R-2021-3030218	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	A.21-06-021	Depreciation rates, service lives, net salvage	The Utility Reform Network
Pennsylvania Public Utility Commission	PECO Energy Company - Gas Division	R-2022-3031113	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 202100164	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Massachusetts Department of Public Utilities	NSTAR Electric Company D/B/A Eversource Energy	D.P.U. 22-22	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Michigan Public Service Company	DTE Electric Company	U-20836	Cost of capital, awarded rate of return, capital structure	Michigan Environmental Council and Citizens Utility Board of Michigan
New York State Public Service Commission	Consolidated Edison Company of New York, Inc.	22-E-0064 22-G-0065	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Whiteland Township	A-2021-3026132	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Kiawah Island Utility, Inc.	2021-324-WS	Cost of capital, awarded rate of return, capital structure	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / Willistown Township	A-2021-3027268	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45621	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Arkansas Public Service Commission	Southwestern Electric Power Company	21-070-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Federal Energy Regulatory Commission	Southern Star Central Gas Pipeline	RP21-778-002	Depreciation rates, service lives, net salvage	Consumer-Owned Shippers
Railroad Commission of Texas	Participating Texas gas utilities in consolidated proceeding	OS-21-00007061	Securitization of extraordinary gas costs arising from winter storms	The City of El Paso
Public Service Commission of South Carolina	Palmetto Wastewater Reclamation, Inc.	2021-153-S	Cost of capital, awarded rate of return, capital structure, ring-fencing	South Carolina Office of Regulatory Staff
Public Utilties Commission of the State of Colorado	Public Service Company of Colorado	21AL-0317E	Cost of capital, depreciation rates, net salvage	Colorado Energy Consumers
Pennsylvania Public Utility Commission	City of Lancaster - Water Department	R-2021-3026682	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 51802	Depreciation rates, service lives, net salvage	The Alliance of Xcel Municipalities
Pennsylvania Public Utility Commission	The Borough of Hanover - Hanover Municipal Waterworks	R-2021-3026116	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Delmarva Power & Light Company	9670	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 202100063	Cost of capital, awarded rate of return, capital structure	Oklahoma Industrial Energy Consumers
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45576	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	El Paso Electric Company	PUC 52195	Depreciation rates, service lives, net salvage	The City of El Paso
Pennsylvania Public Utility Commission	Aqua Pennsylvania	R-2021-3027385	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Service Commission of the State of Montana	NorthWestern Energy	D2021.02.022	Cost of capital, awarded rate of return, capital structure	Montana Consumer Counsel
Pennsylvania Public Utility Commission	PECO Energy Company	R-2021-3024601	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	20-00238-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 202100055	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Pennsylvania Public Utility Commission	Duquesne Light Company	R-2021-3024750	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Columbia Gas of Maryland	9664	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Southern Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45447	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 51415	Depreciation rates, service lives, net salvage	Cities Advocating Reasonable Deregulation
New Mexico Public Regulatory Commission	Avangrid, Inc., Avangrid Networks, Inc., NM Green Holdings, Inc., PNM, and PNM Resources	20-00222-UT	Ring fencing and capital structure	The Albuquerque Bernalillo County Water Utility Authority
Indiana Utility Regulatory Commission	Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45468	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of Nevada	Nevada Power Company and Sierra Pacific Power Company, d/b/a NV Energy	20-07023	Construction work in progress	MGM Resorts International, Caesars Enterprise Services, LLC, and the Southern Nevada Water Authority
Massachusetts Department of Public Utilities	Boston Gas Company, d/b/a National Grid	D.P.U. 20-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Public Service Commission of the State of Montana	ABACO Energy Services, LLC	D2020.07.082	Cost of capital and authorized rate of return	Montana Consumer Counsel
Maryland Public Service Commission	Washington Gas Light Company	9651	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Florida Public Service Commission	Utilities, Inc. of Florida	20200139-WS	Cost of capital and authorized rate of return	Florida Office of Public Counsel
New Mexico Public Regulatory Commission	El Paso Electric Company	20-00104-UT	Cost of capital, depreciation rates, net salvage	City of Las Cruces and Doña Ana County
Public Utilities Commission of Nevada	Nevada Power Company	20-06003	Cost of capital, awarded rate of return, capital structure, earnings sharing	MGM Resorts International, Caesars Enterprise Services, LLC, Wynn Las Vegas, LLC, Smart Energy Alliance, and Circus Circus Las Vegas, LLC
Wyoming Public Service Commission	Rocky Mountain Power	20000-578-ER-20	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Florida Public Service Commission	Peoples Gas System	20200051-GU 20200166-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Wyoming Public Service Commission	Rocky Mountain Power	20000-539-EA-18	Depreciation rates, service lives, net salvage	Wyoming Industrial Energy Consumers

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Service Commission of South Carolina	Dominion Energy South Carolina	2020-125-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	The City of Bethlehem	2020-3020256	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	GUD 10928	Depreciation rates, service lives, net salvage	Gulf Coast Service Area Steering Committee
Public Utilities Commission of the State of California	Southern California Edison	A.19-08-013	Depreciation rates, service lives, net salvage	The Utility Reform Network
Massachusetts Department of Public Utilities	NSTAR Gas Company	D.P.U. 19-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Georgia Public Service Commission	Liberty Utilities (Peach State Natural Gas)	42959	Depreciation rates, service lives, net salvage	Public Interest Advocacy Staff
Florida Public Service Commission	Florida Public Utilities Company	20190155-El 20190156-El 20190174-El	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel
Illinois Commerce Commission	Commonwealth Edison Company	20-0393	Depreciation rates, service lives, net salvage	The Office of the Illinois Attorney General
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 49831	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Public Service Commission of South Carolina	Blue Granite Water Company	2019-290-WS	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Railroad Commission of Texas	CenterPoint Energy Resources	GUD 10920	Depreciation rates and grouping procedure	Alliance of CenterPoint Municipalities
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Norriton Township	A-2019-3009052	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	19-00170-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Indiana Utility Regulatory Commission	Duke Energy Indiana	45253	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Maryland Public Service Commission	Columbia Gas of Maryland	9609	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-190334	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45235	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	18-12-009	Depreciation rates, service lives, net salvage	The Utility Reform Network
Oklahoma Corporation Commission	The Empire District Electric Company	PUD 201800133	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Arkansas Public Service Commission	Southwestern Electric Power Company	19-008-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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
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

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
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
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

Summary Depreciation Accrual Adjustment - 2022 Rates

Plant Function	Plant Balance 12/31/2022	Company Proposed Accrual	OUCC Proposed Accrual	**OUCC Accrual Adjustment**
Underground Storage	76,470,072	1,319,575	1,319,151	(424)
Other Storage Plant	52,221,561	1,307,904	1,310,080	2,176
Transmission	771,849,008	11,955,982	11,365,107	(590,875)
Distribution	2,716,378,461	72,659,363	54,411,286	(18,248,077)
General	58,341,938	2,607,724	2,608,473	749
Total Plant Studied	$ 3,675,261,038	$ 89,850,548	$ 71,014,097	**$ (18,836,451)**

Summary Depreciation Accrual Adjustment - 2024 Rates

Plant Function	Plant Balance 12/31/2024	Company Proposed Accrual	OUCC Proposed Accrual	**OUCC Accrual Adjustment**
Underground Storage	102,322,481	3,035,526	3,035,971	445
Other Storage Plant	52,368,284	1,473,479	1,477,045	3,566
Transmission	1,427,537,646	22,754,310	21,643,675	(1,110,635)
Distribution	3,215,730,609	86,753,055	65,765,316	(20,987,739)
General	63,689,488	2,938,535	2,945,346	6,811
Total Plant Studied	$ 4,861,648,508	$ 116,954,905	$ 94,867,354	**$ (22,087,551)**

Detailed Rate Comparison - 2022

		[1]	[2]		[3]		[4]	
			Company Proposal		OUCC Proposal		Difference	
Account No.	Description	Plant 12/31/2022	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	UNDERGROUND STORAGE PLANT							
350.20	LEASEHOLDS	375,985	0.02%	70	0.02%	70	0.00%	0
350.40	RIGHTS OF WAY	186,818	2.67%	4,995	2.68%	5,004	0.01%	9
351.10	WELL STRUCTURES	18,796	1.05%	197	1.05%	197	0.00%	0
351.20	COMPRESSOR STATION STRUCTURES	401,768	1.97%	7,933	1.98%	7,945	0.01%	12
351.30	MEASURING AND REGULATING STATION STRUCTURES	108,684	0.03%	28	0.03%	28	0.00%	0
351.40	OTHER STRUCTURES	6,374,704	3.54%	225,794	3.55%	226,041	0.01%	247
352.00	WELLS	20,279,167	1.58%	319,845	1.58%	319,800	0.00%	-45
352.30	NONRECOVERABLE NATURAL GAS	5,399,799	0.50%	27,215	0.50%	27,215	0.00%	0
353.00	LINES	22,836,108	1.67%	381,110	1.67%	380,325	0.00%	-785
354.00	COMPRESSOR STATION EQUIPMENT	3,612,973	1.30%	46,792	1.30%	46,900	0.00%	108
355.00	MEASURING AND REGULATING STATION EQUIPMENT	3,524,643	2.84%	100,228	2.84%	100,190	0.00%	-38
356.00	PURIFICATION EQUIPMENT	12,339,252	1.65%	203,793	1.65%	203,859	0.00%	66
357.00	OTHER EQUIPMENT	1,011,375	0.16%	1,575	0.16%	1,575	0.00%	0
	Total Underground Storage Plant	**76,470,072**	**1.73%**	**1,319,575**	**1.73%**	**1,319,151**	**0.00%**	**-424**
	OTHER STORAGE PLANT							
361.00	STRUCTURES AND IMPROVEMENTS	10,292,980	2.81%	289,578	2.83%	290,976	0.02%	1,398
362.10	GAS HOLDERS	18,110,089	0.69%	125,738	0.69%	125,738	0.00%	0
363.00	PURIFICATION EQUIPMENT	2,082,381	4.63%	96,481	4.62%	96,107	-0.01%	-374
363.10	LIQUEFACTION EQUIPMENT	8,507,589	2.82%	239,738	2.80%	238,537	-0.02%	-1,201
363.20	VAPORIZING EQUIPMENT	5,254,224	1.61%	84,384	1.61%	84,506	0.00%	122
363.30	COMPRESSOR EQUIPMENT	3,057,513	5.61%	171,531	5.64%	172,554	0.03%	1,023
363.40	MEASURING AND REGULATING EQUIPMENT	1,726,015	5.00%	86,243	5.00%	86,225	0.00%	-18
363.50	OTHER EQUIPMENT	3,190,770	6.71%	214,211	6.75%	215,437	0.04%	1,226
	Total Other Storage Plant	**52,221,561**	**2.50%**	**1,307,904**	**2.51%**	**1,310,080**	**0.00%**	**2,176**
	TRANSMISSION PLANT							
365.20	LAND RIGHTS	11,503,328	1.75%	200,809	1.74%	200,685	-0.01%	-124
366.20	MEASURING AND REGULATING STATION STRUCTURES	6,039,728	1.65%	99,888	1.65%	99,901	0.00%	13
366.30	OTHER STRUCTURES	1,215,232	2.08%	25,251	2.08%	25,260	0.00%	9
367.00	MAINS	567,971,692	1.34%	7,590,026	1.34%	7,587,543	0.00%	-2,483
369.00	MEASURING AND REGULATING STATION EQUIPMENT	185,093,345	2.18%	4,040,008	1.86%	3,451,718	-0.32%	-588,290
371.00	OTHER EQUIPMENT	25,682	0.00%	0	0.00%	0	0.00%	0

Detailed Rate Comparison - 2022

		[1]	[2]		[3]		[4]	
			Company Proposal		OUCC Proposal		Difference	
Account No.	Description	Plant 12/31/2022	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	Total Transmission Plant	**771,849,008**	**1.55%**	**11,955,982**	**1.47%**	**11,365,107**	**-0.08%**	**-590,875**
	DISTRIBUTION PLANT							
374.20	LAND RIGHTS	3,069,559	1.32%	40,557	1.32%	40,536	0.00%	-21
375.00	STRUCTURES AND IMPROVEMENTS	10,952,232	1.65%	180,690	1.65%	180,548	0.00%	-142
376.10	MAINS - STEEL	332,880,547	1.41%	4,680,352	1.41%	4,681,900	0.00%	1,548
376.20	MAINS - PLASTIC	945,900,174	1.36%	12,846,393	1.36%	12,839,177	0.00%	-7,216
378.00	M&R STATION EQUIPMENT - GENERAL	68,179,883	2.17%	1,479,996	2.05%	1,396,827	-0.12%	-83,169
380.10	SERVICES - STEEL	63,399,393	5.15%	3,268,121	3.89%	2,464,627	-1.26%	-803,494
380.20	SERVICES - PLASTIC	742,979,543	3.12%	23,217,822	2.86%	21,244,071	-0.26%	-1,973,751
381.00	METERS	166,976,429	9.47%	15,812,515	3.41%	5,687,103	-6.06%	-10,125,412
382.00	METER INSTALLATIONS	194,495,470	4.30%	8,364,410	1.60%	3,107,942	-2.70%	-5,256,468
383.00	HOUSE REGULATORS	119,817,739	1.40%	1,672,674	1.40%	1,671,735	0.00%	-939
384.00	HOUSE REGULATOR INSTALLATIONS	3,276,883	0.37%	12,122	0.37%	12,127	0.00%	5
385.00	INDUSTRIAL M&R STATION EQUIPMENT	64,416,047	1.68%	1,083,619	1.68%	1,084,599	0.00%	980
386.00	OTHER PROPERTY ON CUSTOMER PREMISES	34,561	0.27%	92	0.27%	94	0.00%	2
	Total Distribution Plant	**2,716,378,461**	**2.67%**	**72,659,363**	**2.00%**	**54,411,286**	**-0.67%**	**-18,248,077**
	GENERAL PLANT							
389.20	LAND RIGHTS	2,166,283	1.97%	42,726	1.97%	42,750	0.00%	24
390.00	STRUCTURES AND IMPROVEMENTS							
	GAS OPERATIONS CENTER	2,969,960	3.77%	112,024	3.78%	112,232	0.01%	208
	SOUTH BEND OPERATIONS HEADQUARTERS	5,879,069	4.15%	244,265	4.16%	244,747	0.01%	482
	CENTRAL GAS METER SHOP	2,175,690	7.99%	173,816	8.03%	174,737	0.04%	921
	PERU OPERATIONS HEADQUARTERS	1,407,071	10.87%	153,001	10.87%	152,981	0.00%	-20
	FORT WAYNE OPERATIONS HEADQUARTERS	6,228,934	5.54%	345,298	5.56%	346,321	0.02%	1,023
	OTHER MISCELLANEOUS STRUCTURES	9,181,560	2.38%	218,422	2.38%	218,405	0.00%	-17
	TOTAL STRUCTURES AND IMPROVEMENTS	27,842,284	4.48%	1,246,826	4.49%	1,249,423	0.01%	2,597
391.10	OFFICE FURNITURE AND EQUIPMENT	979,259	5.00%	48,961	5.00%	48,953	0.00%	-8
391.20	COMPUTER EQUIPMENT	808,167	14.29%	115,476	14.22%	114,905	-0.07%	-571
392.40	TRANSPORTATION EQUIPMENT - TRUCKS > 13,000 #	229,771	0.00%	0	0.00%	0	0.00%	0
393.00	STORES EQUIPMENT	120,013	3.33%	3,997	3.33%	3,998	0.00%	1

Detailed Rate Comparison - 2022

		[1]	[2]		[3]		[4]	
			Company Proposal		OUCC Proposal		Difference	
Account No.	Description	Plant 12/31/2022	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	18,843,756	4.00%	753,770	3.99%	752,673	-0.01%	-1,097
395.00	LABORATORY EQUIPMENT	1,836,573	5.00%	91,803	4.98%	91,399	-0.02%	-404
396.00	POWER OPERATED EQUIPMENT	869,210	0.00%	0	0.00%	0	0.00%	0
397.00	COMMUNICATION EQUIPMENT	4,298,395	6.67%	286,769	6.67%	286,900	0.00%	131
398.00	MISCELLANEOUS EQUIPMENT	348,226	5.00%	17,396	5.02%	17,473	0.02%	77
	Total General Plant	**58,341,938**	**4.47%**	**2,607,724**	**4.47%**	**2,608,473**	**0.00%**	**749**
	TOTAL PLANT STUDIED	**$ 3,675,261,038**	**2.44%**	**$ 89,850,548**	**1.93%**	**$ 71,014,097**	**-0.51%**	**$ (18,836,451)**

[1], [2] From depreciation study
[3] From Attachment DJG-4
[4] = [3] - [2]

Depreciation Rate Development - 2022

		[1]	[2]		[3]	[4]	[5]	[6]	[7]	[8]	[9]
Account No.	Description	Plant 12/31/2022	Iowa Curve Type	AL	Net Salvage	Depreciable Base	Book Reserve	Future Accruals	Remaining Life	Total Accrual	Rate
	UNDERGROUND STORAGE PLANT										
350.20	LEASEHOLDS	375,985	R4	75	0%	375,985	374,678	1,307	18.70	70	**0.02%**
350.40	RIGHTS OF WAY	186,818	R4	75	0%	186,818	90,740	96,078	19.20	5,004	**2.68%**
351.10	WELL STRUCTURES	18,796	R4	70	-10%	20,675	17,066	3,609	18.30	197	**1.05%**
351.20	COMPRESSOR STATION STRUCTURES	401,768	R4	70	-10%	441,945	289,397	152,548	19.20	7,945	**1.98%**
351.30	MEASURING AND REGULATING STATION STRUCTURES	108,684	R4	70	-10%	119,552	119,031	521	18.60	28	**0.03%**
351.40	OTHER STRUCTURES	6,374,704	R4	70	-10%	7,012,174	2,717,396	4,294,778	19.00	226,041	**3.55%**
352.00	WELLS	20,279,167	S4	65	-10%	22,307,083	16,070,974	6,236,109	19.50	319,800	**1.58%**
352.30	NONRECOVERABLE NATURAL GAS	5,399,799	SQ	50	0%	5,399,799	4,869,097	530,702	19.50	27,215	**0.50%**
353.00	LINES	22,836,108	S1.5	50	-25%	28,545,135	21,471,091	7,074,044	18.60	380,325	**1.67%**
354.00	COMPRESSOR STATION EQUIPMENT	3,612,973	R3	50	-10%	3,974,271	3,087,856	886,415	18.90	46,900	**1.30%**
355.00	MEASURING AND REGULATING STATION EQUIPMENT	3,524,643	R2.5	60	-10%	3,877,108	2,033,604	1,843,504	18.40	100,190	**2.84%**
356.00	PURIFICATION EQUIPMENT	12,339,252	R4	65	-5%	12,956,214	9,001,349	3,954,865	19.40	203,859	**1.65%**
357.00	OTHER EQUIPMENT	1,011,375	S2.5	30	0%	1,011,375	985,383	25,992	16.50	1,575	**0.16%**
	Total Underground Storage Plant	**76,470,072**			**-13%**	**86,228,135**	**61,127,662**	**25,100,473**	**19.03**	**1,319,151**	**1.73%**
	OTHER STORAGE PLANT										
361.00	STRUCTURES AND IMPROVEMENTS	10,292,980	R4	65	-10%	11,322,278	8,878,078	2,444,200	8.40	290,976	**2.83%**
362.10	GAS HOLDERS	18,110,089	S3	55	-10%	19,921,098	18,852,327	1,068,771	8.50	125,738	**0.69%**
363.00	PURIFICATION EQUIPMENT	2,082,381	S2.5	55	-10%	2,290,619	1,521,759	768,860	8.00	96,107	**4.62%**
363.10	LIQUEFACTION EQUIPMENT	8,507,589	S2	50	-10%	9,358,348	7,426,200	1,932,148	8.10	238,537	**2.80%**
363.20	VAPORIZING EQUIPMENT	5,254,224	R2	50	-10%	5,779,647	5,078,248	701,399	8.30	84,506	**1.61%**
363.30	COMPRESSOR EQUIPMENT	3,057,513	R2	40	-10%	3,363,264	1,965,575	1,397,689	8.10	172,554	**5.64%**
363.40	MEASURING AND REGULATING EQUIPMENT	1,726,015	R1.5	55	-10%	1,898,617	1,191,571	707,046	8.20	86,225	**5.00%**
363.50	OTHER EQUIPMENT	3,190,770	R2	35	-10%	3,509,847	1,786,355	1,723,492	8.00	215,437	**6.75%**
	Total Other Storage Plant	**52,221,561**			**-10%**	**57,443,717**	**46,700,113**	**10,743,604**	**8.20**	**1,310,080**	**2.51%**
	TRANSMISSION PLANT										
365.20	LAND RIGHTS	11,503,328	R4	75	0%	11,503,328	3,074,561	8,428,767	42.00	200,685	**1.74%**
366.20	MEASURING AND REGULATING STATION STRUCTURES	6,039,728	R3	60	-5%	6,341,715	1,616,383	4,725,332	47.30	99,901	**1.65%**
366.30	OTHER STRUCTURES	1,215,232	R4	55	-5%	1,275,994	230,229	1,045,765	41.40	25,260	**2.08%**
367.00	MAINS	567,971,692	R3	100	-40%	795,160,369	138,837,914	656,322,455	86.50	7,587,543	**1.34%**
369.00	MEASURING AND REGULATING STATION EQUIPMENT	185,093,345	R1.5	69	-35%	249,876,015	34,764,968	215,111,047	62.32	3,451,718	**1.86%**
371.00	OTHER EQUIPMENT	25,682	R2.5	30	0%	25,682	46,026	-20,344			
	Total Transmission Plant	**771,849,008**			**-38%**	**1,064,183,103**	**178,570,081**	**885,613,022**	**77.92**	**11,365,107**	**1.47%**
	DISTRIBUTION PLANT										
374.20	LAND RIGHTS	3,069,559	R4	75	0%	3,069,559	459,045	2,610,514	64.40	40,536	**1.32%**
375.00	STRUCTURES AND IMPROVEMENTS	10,952,232	R4	70	-15%	12,595,067	2,177,461	10,417,606	57.70	180,548	**1.65%**
376.10	MAINS - STEEL	332,880,547	R2.5	90	-40%	466,032,766	146,259,023	319,773,743	68.30	4,681,900	**1.41%**
376.20	MAINS - PLASTIC	945,900,174	R2.5	90	-40%	1,324,260,243	293,274,330	1,030,985,913	80.30	12,839,177	**1.36%**
378.00	M&R STATION EQUIPMENT - GENERAL	68,179,883	R1	59	-35%	92,042,842	23,751,961	68,290,881	48.89	1,396,827	**2.05%**
380.10	SERVICES - STEEL	63,399,393	R1.5	70	-125%	142,648,634	51,457,420	91,191,214	37.00	2,464,627	**3.89%**
380.20	SERVICES - PLASTIC	742,979,543	R1.5	70	-125%	1,671,703,972	470,139,333	1,201,564,639	56.56	21,244,071	**2.86%**
381.00	METERS	166,976,429	R2	36	-5%	175,325,251	32,635,848	142,689,403	25.09	5,687,103	**3.41%**
382.00	METER INSTALLATIONS	194,495,470	R1	55	-40%	272,293,658	134,860,476	137,433,182	44.22	3,107,942	**1.60%**

Depreciation Rate Development - 2022

Account No.	Description	[1] Plant 12/31/2022	[2] Iowa Curve Type	AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
383.00	HOUSE REGULATORS	119,817,739	R1.5	60	-40%	167,744,835	79,310,038	88,434,797	52.90	1,671,735	**1.40%**
384.00	HOUSE REGULATOR INSTALLATIONS	3,276,883	R2.5	55	-10%	3,604,571	3,183,766	420,805	34.70	12,127	**0.37%**
385.00	INDUSTRIAL M&R STATION EQUIPMENT	64,416,047	R2.5	62	-15%	74,078,454	27,115,296	46,963,158	43.30	1,084,599	**1.68%**
386.00	OTHER PROPERTY ON CUSTOMER PREMISES	34,561	R3	15	0%	34,561	34,429	132	1.40	94	**0.27%**
	Total Distribution Plant	**2,716,378,461**			**-62%**	**4,405,434,414**	**1,264,658,426**	**3,140,775,988**	**57.72**	**54,411,286**	**2.00%**
	GENERAL PLANT										
389.20	LAND RIGHTS	2,166,283	R4	65	0%	2,166,283	191,217	1,975,066	46.20	42,750	**1.97%**
390.00	STRUCTURES AND IMPROVEMENTS										
	GAS OPERATIONS CENTER	2,969,960	S0	50	-10%	3,266,956	1,314,120	1,952,836	17.40	112,232	**3.78%**
	SOUTH BEND OPERATIONS HEADQUARTERS	5,879,069	S0	50	-10%	6,466,976	2,575,499	3,891,477	15.90	244,747	**4.16%**
	CENTRAL GAS METER SHOP	2,175,690	S0	50	-10%	2,393,259	1,327,363	1,065,896	6.10	174,737	**8.03%**
	PERU OPERATIONS HEADQUARTERS	1,407,071	S0	50	-10%	1,547,778	736,979	810,799	5.30	152,981	**10.87%**
	FORT WAYNE OPERATIONS HEADQUARTERS	6,228,934	S0	50	-10%	6,851,827	2,626,713	4,225,114	12.20	346,321	**5.56%**
	OTHER MISCELLANEOUS STRUCTURES	9,181,560	S0	50	-10%	10,099,716	1,407,182	8,692,534	39.80	218,405	**2.38%**
	TOTAL STRUCTURES AND IMPROVEMENTS	27,842,284			-10%	30,626,512	9,987,856	20,638,656	16.52	1,249,423	4.49%
391.10	OFFICE FURNITURE AND EQUIPMENT	979,259	SQ	20	0%	979,259	524,000	455,259	9.30	48,953	**5.00%**
391.20	COMPUTER EQUIPMENT	808,167	SQ	7	0%	808,167	406,000	402,167	3.50	114,905	**14.22%**
392.40	TRANSPORTATION EQUIPMENT - TRUCKS > 13,000 #	229,771	L4	15	20%	183,817	183,817	0			
393.00	STORES EQUIPMENT	120,013	SQ	30	0%	120,013	54,050	65,963	16.50	3,998	**3.33%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	18,843,756	SQ	25	0%	18,843,756	7,930,000	10,913,756	14.50	752,673	**3.99%**
395.00	LABORATORY EQUIPMENT	1,836,573	SQ	20	0%	1,836,573	950,000	886,573	9.70	91,399	**4.98%**
396.00	POWER OPERATED EQUIPMENT	869,210	L2	13	15%	738,828	738,828	0			
397.00	COMMUNICATION EQUIPMENT	4,298,395	SQ	15	0%	4,298,395	1,142,500	3,155,895	11.00	286,900	**6.67%**
398.00	MISCELLANEOUS EQUIPMENT	348,226	SQ	20	0%	348,226	171,750	176,476	10.10	17,473	**5.02%**
	Total General Plant	**58,341,938**			**-4%**	**60,949,830**	**22,280,018**	**38,669,812**	**14.82**	**2,608,473**	**4.47%**
	TOTAL PLANT STUDIED	**$ 3,675,261,038**			**-54%**	**$ 5,674,239,198**	**$ 1,573,336,300**	**$ 4,100,902,898**	**57.75**	**$ 71,014,097**	**1.93%**

[1] From depreciation study
[2] Average life and Iowa curve shape developed through statistical analysis and professional judgment
[3] Mass net salvage rates developed through statistical analysis and professional judgment
[4] = [1]*(1-[3])
[5] From depreciation study
[6] = [4] - [5]
[7] Composite remaining life based on Iowa cuve in [2]; see remaining life attachment for detailed calculations
[8] = [6] / [7]
[9] = [8] / [1]

Detailed Rate Comparison - 2024

		[1]	[2]		[3]		[4]	
			Company Proposal		OUCC Proposal		Difference	
Account No.	Description	Plant 12/31/2024	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	UNDERGROUND STORAGE PLANT							
350.20	LEASEHOLDS	377,042	0.00%	0	0.00%	0	0.00%	0
350.40	RIGHTS OF WAY	187,343	2.35%	4,397	2.34%	4,391	-0.01%	-6
351.10	WELL STRUCTURES	18,849	0.96%	181	0.96%	181	0.00%	0
351.20	COMPRESSOR STATION STRUCTURES	402,897	1.82%	7,324	1.82%	7,333	0.00%	9
351.30	MEASURING AND REGULATING STATION STRUCTURES	108,989	0.00%	0	0.00%	0	0.00%	0
351.40	OTHER STRUCTURES	6,392,614	3.58%	229,031	3.59%	229,497	0.01%	466
352.00	WELLS	30,827,098	3.33%	1,025,663	3.33%	1,027,137	0.00%	1,474
352.30	NONRECOVERABLE NATURAL GAS	5,414,970	0.43%	23,193	0.43%	23,193	0.00%	0
353.00	LINES	33,965,055	3.44%	1,167,118	3.44%	1,166,964	0.00%	-154
354.00	COMPRESSOR STATION EQUIPMENT	5,235,333	2.77%	145,156	2.77%	144,761	0.00%	-395
355.00	MEASURING AND REGULATING STATION EQUIPMENT	3,534,546	2.73%	96,607	2.73%	96,508	0.00%	-99
356.00	PURIFICATION EQUIPMENT	14,843,529	2.26%	335,834	2.26%	334,981	0.00%	-853
357.00	OTHER EQUIPMENT	1,014,216	0.10%	1,022	0.10%	1,025	0.00%	3
	Total Underground Storage Plant	**102,322,481**	**2.97%**	**3,035,526**	**2.97%**	**3,035,971**	**0.00%**	**445**
	OTHER STORAGE PLANT							
361.00	STRUCTURES AND IMPROVEMENTS	10,321,899	3.08%	317,401	3.10%	319,742	0.02%	2,341
362.10	GAS HOLDERS	18,160,971	0.82%	148,491	0.81%	147,735	-0.01%	-756
363.00	PURIFICATION EQUIPMENT	2,088,231	5.32%	111,192	5.36%	111,888	0.04%	696
363.10	LIQUEFACTION EQUIPMENT	8,531,493	3.24%	276,275	3.22%	274,812	-0.02%	-1,463
363.20	VAPORIZING EQUIPMENT	5,268,987	2.01%	105,785	2.01%	105,830	0.00%	45
363.30	COMPRESSOR EQUIPMENT	3,066,103	5.84%	179,155	5.87%	180,084	0.03%	929
363.40	MEASURING AND REGULATING EQUIPMENT	1,730,865	5.45%	94,404	5.46%	94,446	0.01%	42
363.50	OTHER EQUIPMENT	3,199,735	7.52%	240,776	7.58%	242,508	0.06%	1,732
	Total Other Storage Plant	**52,368,284**	**2.81%**	**1,473,479**	**2.82%**	**1,477,045**	**0.01%**	**3,566**
	TRANSMISSION PLANT							
365.20	LAND RIGHTS	21,275,449	1.55%	329,586	1.55%	329,410	0.00%	-176
366.20	MEASURING AND REGULATING STATION STRUCTURES	11,170,500	1.72%	192,559	1.72%	192,514	0.00%	-45
366.30	OTHER STRUCTURES	2,247,577	1.97%	44,178	1.97%	44,222	0.00%	44
367.00	MAINS	1,050,465,783	1.38%	14,520,405	1.38%	14,519,672	0.00%	-733
369.00	MEASURING AND REGULATING STATION EQUIPMENT	342,330,838	2.24%	7,667,582	1.92%	6,557,857	-0.32%	-1,109,725
371.00	OTHER EQUIPMENT	47,499	0.00%	0	0.00%	0	0.00%	0

Detailed Rate Comparison - 2024

		[1]	[2]		[3]		[4]	
			Company Proposal		OUCC Proposal		Difference	
Account No.	Description	Plant 12/31/2024	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
	Total Transmission Plant	**1,427,537,646**	**1.59%**	**22,754,310**	**1.52%**	**21,643,675**	**-0.08%**	**-1,110,635**
	DISTRIBUTION PLANT							
374.20	LAND RIGHTS	3,633,836	1.33%	48,251	1.33%	48,247	0.00%	-4
375.00	STRUCTURES AND IMPROVEMENTS	12,965,582	1.69%	218,583	1.68%	218,413	-0.01%	-170
376.10	MAINS - STEEL	394,101,076	1.43%	5,640,093	1.43%	5,640,724	0.00%	631
376.20	MAINS - PLASTIC	1,119,758,044	1.40%	15,650,089	1.40%	15,642,932	0.00%	-7,157
378.00	M&R STATION EQUIPMENT - GENERAL	80,713,398	2.22%	1,790,487	2.08%	1,678,696	-0.14%	-111,791
380.10	SERVICES - STEEL	75,054,110	4.83%	3,623,732	3.65%	2,741,666	-1.18%	-882,066
380.20	SERVICES - PLASTIC	879,561,554	3.20%	28,149,962	2.93%	25,729,204	-0.27%	-2,420,758
381.00	METERS	197,671,725	8.31%	16,431,512	3.24%	6,400,696	-5.07%	-10,030,816
382.00	METER INSTALLATIONS	230,249,593	5.06%	11,657,642	1.79%	4,123,703	-3.27%	-7,533,939
383.00	HOUSE REGULATORS	141,843,848	1.56%	2,210,704	1.56%	2,210,348	0.00%	-356
384.00	HOUSE REGULATOR INSTALLATIONS	3,879,273	0.63%	24,377	0.63%	24,357	0.00%	-20
385.00	INDUSTRIAL M&R STATION EQUIPMENT	76,257,656	1.71%	1,307,238	1.71%	1,305,943	0.00%	-1,295
386.00	OTHER PROPERTY ON CUSTOMER PREMISES	40,915	0.94%	385	0.94%	386	0.00%	1
	Total Distribution Plant	**3,215,730,609**	**2.70%**	**86,753,055**	**2.05%**	**65,765,316**	**-0.65%**	**-20,987,739**
	GENERAL PLANT							
389.20	LAND RIGHTS	2,166,283	1.97%	42,653	1.97%	42,638	0.00%	-15
390.00	STRUCTURES AND IMPROVEMENTS							
	GAS OPERATIONS CENTER	2,969,960	3.47%	102,988	3.47%	103,150	0.00%	162
	SOUTH BEND OPERATIONS HEADQUARTERS	5,879,069	3.83%	225,002	3.83%	225,364	0.00%	362
	CENTRAL GAS METER SHOP	2,175,690	7.67%	166,870	7.70%	167,493	0.03%	623
	PERU OPERATIONS HEADQUARTERS	1,407,071	11.17%	157,210	11.22%	157,923	0.05%	713
	FORT WAYNE OPERATIONS HEADQUARTERS	6,228,934	4.79%	298,290	4.80%	299,189	0.01%	899
	OTHER MISCELLANEOUS STRUCTURES	9,181,560	2.32%	213,275	2.32%	213,466	0.00%	191
	TOTAL STRUCTURES AND IMPROVEMENTS	27,842,284	4.18%	1,163,635	4.19%	1,166,584	0.01%	2,949
391.10	OFFICE FURNITURE AND EQUIPMENT	979,259	5.00%	48,961	5.00%	48,950	0.00%	-11
391.20	COMPUTER EQUIPMENT	801,181	14.29%	114,454	14.29%	114,454	0.00%	0
392.40	TRANSPORTATION EQUIPMENT - TRUCKS > 13,000 #	229,771	0.00%	0	0.00%	0	0.00%	0
393.00	STORES EQUIPMENT	120,013	3.33%	3,995	3.33%	3,998	0.00%	3

Detailed Rate Comparison - 2024

		[1]	[2]		[3]		[4]	
			Company Proposal		OUCC Proposal		Difference	
Account No.	Description	Plant 12/31/2024	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	16,757,377	4.00%	670,317	4.01%	672,509	0.01%	2,192
395.00	LABORATORY EQUIPMENT	1,725,512	5.00%	86,312	5.00%	86,282	0.00%	-30
396.00	POWER OPERATED EQUIPMENT	869,210	0.00%	0	0.00%	0	0.00%	0
397.00	COMMUNICATION EQUIPMENT	11,874,400	6.67%	792,004	6.68%	793,762	0.01%	1,758
398.00	MISCELLANEOUS EQUIPMENT	324,198	5.00%	16,204	4.99%	16,170	-0.01%	-34
	Total General Plant	**63,689,488**	**4.61%**	**2,938,535**	**4.62%**	**2,945,346**	**0.01%**	**6,811**
	TOTAL PLANT STUDIED	**$ 4,861,648,508**	**2.41%**	**$ 116,954,905**	**1.95%**	**$ 94,867,354**	**-0.45%**	**$ (22,087,551)**

[1], [2] From depreciation study
[3] From Attachment DJG-6
[4] = [3] - [2]

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	UNDERGROUND STORAGE PLANT										
350.20	LEASEHOLDS	377,042	R4	75	0%	377,042	377,042	0			
350.40	RIGHTS OF WAY	187,343	R4	75	0%	187,343	111,381	75,962	17.30	4,391	**2.34%**
351.10	WELL STRUCTURES	18,849	R4	70	-10%	20,733	17,741	2,992	16.50	181	**0.96%**
351.20	COMPRESSOR STATION STRUCTURES	402,897	R4	70	-10%	443,187	315,590	127,597	17.40	7,333	**1.82%**
351.30	MEASURING AND REGULATING STATION STRUCTURES	108,989	R4	70	-10%	119,888	119,888	0			
351.40	OTHER STRUCTURES	6,392,614	R4	70	-10%	7,031,876	3,130,434	3,901,442	17.00	229,497	**3.59%**
352.00	WELLS	30,827,098	S4	65	-10%	33,909,807	16,037,625	17,872,182	17.40	1,027,137	**3.33%**
352.30	NONRECOVERABLE NATURAL GAS	5,414,970	SQ	50	0%	5,414,970	5,009,090	405,880	17.50	23,193	**0.43%**
353.00	LINES	33,965,055	S1.5	50	-25%	42,456,318	22,501,232	19,955,086	17.10	1,166,964	**3.44%**
354.00	COMPRESSOR STATION EQUIPMENT	5,235,333	R3	50	-10%	5,758,866	3,254,502	2,504,364	17.30	144,761	**2.77%**
355.00	MEASURING AND REGULATING STATION EQUIPMENT	3,534,546	R2.5	60	-10%	3,888,001	2,285,969	1,602,032	16.60	96,508	**2.73%**
356.00	PURIFICATION EQUIPMENT	14,843,529	R4	65	-5%	15,585,706	9,723,531	5,862,175	17.50	334,981	**2.26%**
357.00	OTHER EQUIPMENT	1,014,216	S2.5	30	0%	1,014,216	998,431	15,785	15.40	1,025	**0.10%**
	Total Underground Storage Plant	**102,322,481**			**-14%**	**116,207,954**	**63,882,456**	**52,325,498**	**17.24**	**3,035,971**	**2.97%**
	OTHER STORAGE PLANT										
361.00	STRUCTURES AND IMPROVEMENTS	10,321,899	R4	65	-10%	11,354,089	9,307,742	2,046,347	6.40	319,742	**3.10%**
362.10	GAS HOLDERS	18,160,971	S3	55	-10%	19,977,068	19,016,791	960,277	6.50	147,735	**0.81%**
363.00	PURIFICATION EQUIPMENT	2,088,231	S2.5	55	-10%	2,297,054	1,614,539	682,515	6.10	111,888	**5.36%**
363.10	LIQUEFACTION EQUIPMENT	8,531,493	S2	50	-10%	9,384,642	7,680,807	1,703,835	6.20	274,812	**3.22%**
363.20	VAPORIZING EQUIPMENT	5,268,987	R2	50	-10%	5,795,885	5,129,154	666,731	6.30	105,830	**2.01%**
363.30	COMPRESSOR EQUIPMENT	3,066,103	R2	40	-10%	3,372,713	2,256,194	1,116,519	6.20	180,084	**5.87%**
363.40	MEASURING AND REGULATING EQUIPMENT	1,730,865	R1.5	55	-10%	1,903,951	1,308,939	595,012	6.30	94,446	**5.46%**
363.50	OTHER EQUIPMENT	3,199,735	R2	35	-10%	3,519,709	2,040,409	1,479,300	6.10	242,508	**7.58%**
	Total Other Storage Plant	**52,368,284**			**-10%**	**57,605,112**	**48,354,575**	**9,250,537**	**6.26**	**1,477,045**	**2.82%**
	TRANSMISSION PLANT										
365.20	LAND RIGHTS	21,275,449	R4	75	0%	21,275,449	3,190,858	18,084,591	54.90	329,410	**1.55%**
366.20	MEASURING AND REGULATING STATION STRUCTURES	11,170,500	R3	60	-5%	11,729,026	1,679,813	10,049,213	52.20	192,514	**1.72%**
366.30	OTHER STRUCTURES	2,247,577	R4	55	-5%	2,359,956	250,557	2,109,399	47.70	44,222	**1.97%**
367.00	MAINS	1,050,465,783	R3	100	-40%	1,470,652,096	134,842,260	1,335,809,836	92.00	14,519,672	**1.38%**
369.00	MEASURING AND REGULATING STATION EQUIPMENT	342,330,838	R1.5	69	-35%	462,146,631	38,771,363	423,375,268	64.56	6,557,857	**1.92%**
371.00	OTHER EQUIPMENT	47,499	R2.5	30	0%	47,499	47,499	0			
	Total Transmission Plant	**1,427,537,646**			**-38%**	**1,968,210,656**	**178,782,350**	**1,789,428,306**	**82.68**	**21,643,675**	**1.52%**
	DISTRIBUTION PLANT										
374.20	LAND RIGHTS	3,633,836	R4	75	0%	3,633,836	521,934	3,111,902	64.50	48,247	**1.33%**
375.00	STRUCTURES AND IMPROVEMENTS	12,965,582	R4	70	-15%	14,910,420	2,395,334	12,515,086	57.30	218,413	**1.68%**
376.10	MAINS - STEEL	394,101,076	R2.5	90	-40%	551,741,507	153,506,360	398,235,147	70.60	5,640,724	**1.43%**
376.20	MAINS - PLASTIC	1,119,758,044	R2.5	90	-40%	1,567,661,261	313,098,116	1,254,563,145	80.20	15,642,932	**1.40%**
378.00	M&R STATION EQUIPMENT - GENERAL	80,713,398	R1	59	-35%	108,963,088	26,186,574	82,776,514	49.31	1,678,696	**2.08%**
380.10	SERVICES - STEEL	75,054,110	R1.5	70	-125%	168,871,748	55,887,686	112,984,062	41.21	2,741,666	**3.65%**
380.20	SERVICES - PLASTIC	879,561,554	R1.5	70	-125%	1,979,013,496	502,414,453	1,476,599,043	57.39	25,729,204	**2.93%**
381.00	METERS	197,671,725	R2	36	-5%	207,555,311	44,465,584	163,089,727	25.48	6,400,696	**3.24%**
382.00	METER INSTALLATIONS	230,249,593	R1	55	-40%	322,349,430	137,896,179	184,453,251	44.73	4,123,703	**1.79%**

Depreciation Rate Development - 2024

		[1]	[2]		[3]	[4]	[5]	[6]	[7]	[8]	[9]
Account No.	Description	Plant 12/31/2024	Iowa Curve Type	Iowa Curve AL	Net Salvage	Depreciable Base	Book Reserve	Future Accruals	Remaining Life	Total Accrual	Total Rate
383.00	HOUSE REGULATORS	141,843,848	R1.5	60	-40%	198,581,387	81,653,996	116,927,391	52.90	2,210,348	**1.56%**
384.00	HOUSE REGULATOR INSTALLATIONS	3,879,273	R2.5	55	-10%	4,267,200	3,200,352	1,066,848	43.80	24,357	**0.63%**
385.00	INDUSTRIAL M&R STATION EQUIPMENT	76,257,656	R2.5	62	-15%	87,696,305	28,798,261	58,898,044	45.10	1,305,943	**1.71%**
386.00	OTHER PROPERTY ON CUSTOMER PREMISES	40,915	R3	15	0%	40,915	35,479	5,436	14.10	386	**0.94%**
	Total Distribution Plant	**3,215,730,609**			**-62%**	**5,215,285,902**	**1,350,060,308**	**3,865,225,594**	**58.77**	**65,765,316**	**2.05%**
	GENERAL PLANT										
389.20	LAND RIGHTS	2,166,283	R4	65	0%	2,166,283	277,435	1,888,848	44.30	42,638	**1.97%**
390.00	STRUCTURES AND IMPROVEMENTS										
	GAS OPERATIONS CENTER	2,969,960	S0	50	-10%	3,266,956	1,616,555	1,650,401	16.00	103,150	**3.47%**
	SOUTH BEND OPERATIONS HEADQUARTERS	5,879,069	S0	50	-10%	6,466,976	3,199,201	3,267,775	14.50	225,364	**3.83%**
	CENTRAL GAS METER SHOP	2,175,690	S0	50	-10%	2,393,259	1,673,041	720,218	4.30	167,493	**7.70%**
	PERU OPERATIONS HEADQUARTERS	1,407,071	S0	50	-10%	1,547,778	1,010,840	536,938	3.40	157,923	**11.22%**
	FORT WAYNE OPERATIONS HEADQUARTERS	6,228,934	S0	50	-10%	6,851,827	3,321,402	3,530,425	11.80	299,189	**4.80%**
	OTHER MISCELLANEOUS STRUCTURES	9,181,560	S0	50	-10%	10,099,716	1,859,926	8,239,790	38.60	213,466	**2.32%**
	TOTAL STRUCTURES AND IMPROVEMENTS	27,842,284			-10%	30,626,512	12,680,965	17,945,547	15.38	1,166,584	4.19%
391.10	OFFICE FURNITURE AND EQUIPMENT	979,259	SQ	20	0%	979,259	621,926	357,333	7.30	48,950	**5.00%**
391.20	COMPUTER EQUIPMENT	801,181	SQ	7	0%	801,181	629,500	171,681	1.50	114,454	**14.29%**
392.40	TRANSPORTATION EQUIPMENT - TRUCKS > 13,000 #	229,771	L4	15	20%	183,817	183,817	0			
393.00	STORES EQUIPMENT	120,013	SQ	30	0%	120,013	62,043	57,970	14.50	3,998	**3.33%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	16,757,377	SQ	25	0%	16,757,377	7,275,000	9,482,377	14.10	672,509	**4.01%**
395.00	LABORATORY EQUIPMENT	1,725,512	SQ	20	0%	1,725,512	1,018,000	707,512	8.20	86,282	**5.00%**
396.00	POWER OPERATED EQUIPMENT	869,210	L2	13	15%	738,828	738,828	0			
397.00	COMMUNICATION EQUIPMENT	11,874,400	SQ	15	0%	11,874,400	1,873,000	10,001,400	12.60	793,762	**6.68%**
398.00	MISCELLANEOUS EQUIPMENT	324,198	SQ	20	0%	324,198	181,900	142,298	8.80	16,170	**4.99%**
	Total General Plant	**63,689,488**			**-4%**	**66,297,381**	**25,542,414**	**40,754,967**	**13.84**	**2,945,346**	**4.62%**
	TOTAL PLANT STUDIED	**$ 4,861,648,508**			**-53%**	**$ 7,423,607,005**	**$ 1,666,622,103**	**$ 5,756,984,902**	**60.68**	**$ 94,867,354**	**1.95%**

[1] From depreciation study
[2] Average life and Iowa curve shape developed through statistical analysis and professional judgment
[3] Mass net salvage rates developed through statistical analysis and professional judgment
[4] = [1]*(1-[3])
[5] From depreciation study
[6] = [4] - [5]
[7] Composite remaining life based on Iowa cuve in [2]; see remaining life attachment for detailed calculations
[8] = [6] / [7]
[9] = [8] / [1]

Account 369 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company R2-60	[5] OUCC R1.5-69	[6] Company SSD	[7] OUCC SSD
0.0	175,768,116	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	176,040,248	100.00%	99.92%	99.87%	0.0000	0.0000
1.5	158,111,812	100.00%	99.76%	99.61%	0.0000	0.0000
2.5	114,160,833	99.96%	99.58%	99.34%	0.0000	0.0000
3.5	106,668,551	99.95%	99.40%	99.07%	0.0000	0.0001
4.5	71,210,973	99.85%	99.20%	98.79%	0.0000	0.0001
5.5	61,343,450	99.46%	99.00%	98.50%	0.0000	0.0001
6.5	52,860,617	99.31%	98.78%	98.20%	0.0000	0.0001
7.5	45,176,295	99.25%	98.56%	97.89%	0.0000	0.0002
8.5	33,427,823	99.00%	98.32%	97.57%	0.0000	0.0002
9.5	33,096,235	98.99%	98.06%	97.25%	0.0001	0.0003
10.5	33,222,447	97.04%	97.80%	96.92%	0.0001	0.0000
11.5	31,923,461	96.67%	97.52%	96.58%	0.0001	0.0000
12.5	31,532,949	96.41%	97.22%	96.23%	0.0001	0.0000
13.5	30,566,897	95.42%	96.92%	95.87%	0.0002	0.0000
14.5	27,868,604	95.39%	96.59%	95.50%	0.0001	0.0000
15.5	27,130,074	95.25%	96.25%	95.13%	0.0001	0.0000
16.5	25,646,615	95.06%	95.90%	94.74%	0.0001	0.0000
17.5	24,957,084	94.51%	95.52%	94.34%	0.0001	0.0000
18.5	23,309,753	93.40%	95.13%	93.94%	0.0003	0.0000
19.5	21,763,687	93.14%	94.72%	93.52%	0.0002	0.0000
20.5	18,431,531	93.02%	94.29%	93.10%	0.0002	0.0000
21.5	16,205,286	92.65%	93.84%	92.66%	0.0001	0.0000
22.5	14,985,007	92.11%	93.37%	92.21%	0.0002	0.0000
23.5	12,701,009	91.58%	92.88%	91.76%	0.0002	0.0000
24.5	11,994,580	90.31%	92.37%	91.29%	0.0004	0.0001
25.5	11,907,658	89.70%	91.84%	90.81%	0.0005	0.0001
26.5	11,600,183	89.44%	91.28%	90.31%	0.0003	0.0001
27.5	11,633,817	89.40%	90.69%	89.81%	0.0002	0.0000
28.5	11,181,768	89.10%	90.09%	89.29%	0.0001	0.0000
29.5	10,732,636	88.81%	89.45%	88.76%	0.0000	0.0000
30.5	10,335,179	87.81%	88.79%	88.22%	0.0001	0.0000
31.5	10,445,171	87.65%	88.10%	87.66%	0.0000	0.0000
32.5	8,981,587	87.33%	87.39%	87.09%	0.0000	0.0000
33.5	9,207,543	87.17%	86.64%	86.50%	0.0000	0.0000
34.5	8,829,568	86.65%	85.87%	85.90%	0.0001	0.0001
35.5	7,724,905	85.94%	85.06%	85.28%	0.0001	0.0000
36.5	7,101,170	85.17%	84.22%	84.64%	0.0001	0.0000
37.5	6,927,955	84.61%	83.35%	83.99%	0.0002	0.0000
38.5	6,804,578	83.98%	82.45%	83.33%	0.0002	0.0000
39.5	6,460,172	83.92%	81.51%	82.64%	0.0006	0.0002
40.5	5,581,474	83.63%	80.54%	81.94%	0.0010	0.0003
41.5	5,404,931	83.36%	79.53%	81.22%	0.0015	0.0005
42.5	5,390,013	83.35%	78.48%	80.48%	0.0024	0.0008
43.5	5,063,310	81.96%	77.40%	79.72%	0.0021	0.0005
44.5	4,757,634	81.59%	76.28%	78.95%	0.0028	0.0007
45.5	4,567,579	81.33%	75.12%	78.15%	0.0039	0.0010
46.5	4,075,531	80.79%	73.92%	77.33%	0.0047	0.0012
47.5	3,994,549	80.44%	72.69%	76.50%	0.0060	0.0016

Account 369 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company R2-60	[5] OUCC R1.5-69	[6] Company SSD	[7] OUCC SSD
48.5	3,796,561	79.97%	71.41%	75.64%	0.0073	0.0019
49.5	3,694,537	79.72%	70.10%	74.76%	0.0093	0.0025
50.5	3,286,630	74.10%	68.74%	73.86%	0.0029	0.0000
51.5	3,001,012	72.89%	67.35%	72.94%	0.0031	0.0000
52.5	2,870,561	70.87%	65.92%	72.00%	0.0025	0.0001
53.5	2,527,100	69.31%	64.45%	71.04%	0.0024	0.0003
54.5	2,423,876	68.75%	62.94%	70.06%	0.0034	0.0002
55.5	2,079,368	67.86%	61.39%	69.05%	0.0042	0.0001
56.5	1,921,313	65.65%	59.81%	68.02%	0.0034	0.0006
57.5	1,592,622	63.61%	58.20%	66.97%	0.0029	0.0011
58.5	1,323,410	58.79%	56.55%	65.90%	0.0005	0.0051
59.5	1,269,600	58.06%	54.87%	64.81%	0.0010	0.0046
60.5	1,203,630	57.77%	53.17%	63.70%	0.0021	0.0035
61.5	1,065,410	56.41%	51.43%	62.57%	0.0025	0.0038
62.5	926,299	53.19%	49.68%	61.41%	0.0012	0.0068
63.5	541,432	46.21%	47.90%	60.24%	0.0003	0.0197
64.5	492,603	45.22%	46.11%	59.05%	0.0001	0.0191
65.5	473,653	45.17%	44.30%	57.84%	0.0001	0.0160
66.5	398,961	45.09%	42.49%	56.61%	0.0007	0.0133
67.5	374,615	44.58%	40.66%	55.36%	0.0015	0.0116
68.5	56,796	44.23%	38.84%	54.10%	0.0029	0.0097
69.5	9,204	44.23%	37.02%	52.82%	0.0052	0.0074
70.5	5,421	44.23%	35.21%	51.53%	0.0081	0.0053
71.5	5,421	44.23%	33.41%	50.22%	0.0117	0.0036
72.5			31.62%	48.90%		
Sum of Squared Differences				[8]	0.1087	0.1448
Up to 1% of Beginning Exposures				[9]	0.0678	0.0142

[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 378 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company R1.5-55	[5] OUCC R1-59	[6] Company SSD	[7] OUCC SSD
0.0	56,416,972	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	42,897,540	99.81%	99.84%	99.78%	0.0000	0.0000
1.5	39,590,449	99.65%	99.51%	99.34%	0.0000	0.0000
2.5	38,740,656	99.31%	99.17%	98.88%	0.0000	0.0000
3.5	36,223,116	98.97%	98.82%	98.42%	0.0000	0.0000
4.5	31,373,528	98.73%	98.45%	97.94%	0.0000	0.0001
5.5	30,888,943	98.30%	98.07%	97.45%	0.0000	0.0001
6.5	26,644,626	97.86%	97.68%	96.96%	0.0000	0.0001
7.5	24,350,523	97.55%	97.28%	96.45%	0.0000	0.0001
8.5	22,414,644	96.49%	96.86%	95.93%	0.0000	0.0000
9.5	22,387,191	96.06%	96.43%	95.40%	0.0000	0.0000
10.5	22,795,681	95.15%	95.99%	94.86%	0.0001	0.0000
11.5	22,749,556	94.81%	95.53%	94.32%	0.0001	0.0000
12.5	22,795,809	94.26%	95.06%	93.76%	0.0001	0.0000
13.5	22,814,779	93.91%	94.57%	93.19%	0.0000	0.0001
14.5	22,459,747	93.33%	94.07%	92.61%	0.0001	0.0001
15.5	22,113,144	92.78%	93.55%	92.02%	0.0001	0.0001
16.5	21,266,571	92.16%	93.01%	91.42%	0.0001	0.0001
17.5	21,042,634	91.83%	92.46%	90.82%	0.0000	0.0001
18.5	20,443,858	91.14%	91.89%	90.20%	0.0001	0.0001
19.5	19,598,565	90.54%	91.30%	89.57%	0.0001	0.0001
20.5	19,186,760	90.11%	90.70%	88.93%	0.0000	0.0001
21.5	18,514,917	89.39%	90.08%	88.28%	0.0000	0.0001
22.5	18,048,708	87.69%	89.43%	87.62%	0.0003	0.0000
23.5	17,241,088	87.07%	88.77%	86.95%	0.0003	0.0000
24.5	17,065,682	86.56%	88.09%	86.27%	0.0002	0.0000
25.5	16,996,258	86.29%	87.38%	85.58%	0.0001	0.0001
26.5	16,932,888	85.42%	86.65%	84.87%	0.0002	0.0000
27.5	16,494,299	84.96%	85.90%	84.15%	0.0001	0.0001
28.5	15,980,119	84.67%	85.12%	83.41%	0.0000	0.0002
29.5	15,249,809	83.98%	84.31%	82.67%	0.0000	0.0002
30.5	14,637,708	83.33%	83.49%	81.90%	0.0000	0.0002
31.5	14,251,163	82.63%	82.63%	81.12%	0.0000	0.0002
32.5	13,848,237	80.85%	81.75%	80.33%	0.0001	0.0000
33.5	13,121,951	79.76%	80.83%	79.52%	0.0001	0.0000
34.5	12,370,669	79.21%	79.89%	78.70%	0.0000	0.0000
35.5	11,417,699	77.88%	78.92%	77.85%	0.0001	0.0000
36.5	10,194,724	77.24%	77.91%	76.99%	0.0000	0.0000
37.5	9,103,080	76.13%	76.88%	76.11%	0.0001	0.0000
38.5	8,511,846	74.75%	75.81%	75.22%	0.0001	0.0000
39.5	7,445,562	74.24%	74.71%	74.31%	0.0000	0.0000
40.5	6,650,869	73.82%	73.58%	73.37%	0.0000	0.0000
41.5	6,071,487	73.02%	72.42%	72.42%	0.0000	0.0000
42.5	5,653,107	71.99%	71.22%	71.46%	0.0001	0.0000
43.5	5,143,781	71.09%	69.98%	70.47%	0.0001	0.0000
44.5	4,953,044	70.46%	68.72%	69.46%	0.0003	0.0001
45.5	4,836,685	69.95%	67.42%	68.44%	0.0006	0.0002
46.5	4,633,724	69.26%	66.08%	67.39%	0.0010	0.0003
47.5	4,446,623	68.59%	64.71%	66.33%	0.0015	0.0005
48.5	4,234,609	67.92%	63.31%	65.25%	0.0021	0.0007
49.5	4,039,281	67.07%	61.88%	64.15%	0.0027	0.0008
50.5	3,655,195	63.30%	60.41%	63.04%	0.0008	0.0000
51.5	3,400,854	61.61%	58.92%	61.91%	0.0007	0.0000
52.5	3,145,063	59.97%	57.39%	60.76%	0.0007	0.0001
53.5	3,014,044	58.65%	55.84%	59.59%	0.0008	0.0001
54.5	2,728,753	57.82%	54.26%	58.40%	0.0013	0.0000
55.5	2,535,962	57.09%	52.66%	57.21%	0.0020	0.0000
56.5	2,253,527	55.12%	51.03%	55.99%	0.0017	0.0001
57.5	1,971,018	53.36%	49.38%	54.76%	0.0016	0.0002
58.5	1,732,034	52.05%	47.72%	53.52%	0.0019	0.0002
59.5	1,515,901	50.34%	46.04%	52.27%	0.0018	0.0004
60.5	1,380,131	49.45%	44.35%	51.00%	0.0026	0.0002

Account 378 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company R1.5-55	[5] OUCC R1-59	[6] Company SSD	[7] OUCC SSD
61.5	1,129,770	49.08%	42.66%	49.72%	0.0041	0.0000
62.5	863,894	46.35%	40.95%	48.44%	0.0029	0.0004
63.5	794,677	43.35%	39.25%	47.14%	0.0017	0.0014
64.5	568,247	35.93%	37.55%	45.83%	0.0003	0.0098
65.5	513,844	34.42%	35.85%	44.52%	0.0002	0.0102
66.5	464,300	34.10%	34.17%	43.20%	0.0000	0.0083
67.5	464,991	33.26%	32.49%	41.88%	0.0001	0.0074
68.5	353,551	33.01%	30.84%	40.56%	0.0005	0.0057
69.5	313,849	32.27%	29.21%	39.23%	0.0009	0.0048
70.5	285,641	31.54%	27.60%	37.90%	0.0015	0.0040
71.5	280,629	31.49%	26.03%	36.57%	0.0030	0.0026
72.5	219,478	31.10%	24.48%	35.25%	0.0044	0.0017
73.5	188,285	30.75%	22.98%	33.92%	0.0060	0.0010
74.5	180,116	30.65%	21.51%	32.61%	0.0084	0.0004
75.5	171,666	29.98%	20.08%	31.30%	0.0098	0.0002
76.5	169,422	29.85%	18.70%	29.99%	0.0124	0.0000
77.5	160,628	28.67%	17.36%	28.70%	0.0128	0.0000
78.5	157,256	28.45%	16.08%	27.42%	0.0153	0.0001
79.5	153,424	28.26%	14.84%	26.15%	0.0180	0.0004
80.5	148,700	28.20%	13.66%	24.89%	0.0211	0.0011
81.5	146,610	27.81%	12.52%	23.65%	0.0234	0.0017
82.5	143,121	27.72%	11.44%	22.43%	0.0265	0.0028
83.5	141,464	27.60%	10.42%	21.23%	0.0295	0.0041
84.5	138,757	27.56%	9.44%	20.05%	0.0328	0.0056
85.5	136,636	27.29%	8.53%	18.89%	0.0352	0.0071
86.5	135,708	27.22%	7.66%	17.75%	0.0383	0.0090
87.5	151,941	26.97%	6.84%	16.64%	0.0405	0.0107
88.5	145,479	26.14%	6.08%	15.56%	0.0402	0.0112
89.5	140,937	25.32%	5.38%	14.50%	0.0398	0.0117
90.5	135,239	25.32%	4.72%	13.48%	0.0424	0.0140
91.5	134,229	25.32%	4.12%	12.49%	0.0449	0.0165
92.5	27,956	5.34%	3.57%	11.53%	0.0003	0.0038
93.5	19,317	5.34%	3.07%	10.60%	0.0005	0.0028
94.5	18,493	5.34%	2.62%	9.71%	0.0007	0.0019
95.5	13,994	4.04%	2.22%	8.86%	0.0003	0.0023
96.5	13,994	4.04%	1.86%	8.05%	0.0005	0.0016
97.5	13,085	4.04%	1.55%	7.27%	0.0006	0.0010
98.5	13,085	4.04%	1.28%	6.54%	0.0008	0.0006
99.5			1.05%	5.84%		
Sum of Squared Differences				[8]	0.5476	0.1747
Up to 1% of Beginning Exposures				[9]	0.0358	0.0182

[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 380 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company R2-65	[5] OUCC R1.5-70	[6] Company SSD	[7] OUCC SSD
0.0	598,277,348	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	550,952,332	99.94%	99.93%	99.87%	0.0000	0.0000
1.5	512,657,643	99.76%	99.78%	99.62%	0.0000	0.0000
2.5	487,104,604	99.58%	99.62%	99.35%	0.0000	0.0000
3.5	457,641,646	99.40%	99.45%	99.08%	0.0000	0.0000
4.5	429,600,777	99.21%	99.27%	98.80%	0.0000	0.0000
5.5	412,260,220	98.95%	99.09%	98.52%	0.0000	0.0000
6.5	391,661,604	98.73%	98.89%	98.22%	0.0000	0.0000
7.5	379,434,540	98.46%	98.69%	97.92%	0.0000	0.0000
8.5	373,004,619	98.17%	98.47%	97.61%	0.0000	0.0000
9.5	365,333,698	97.87%	98.25%	97.30%	0.0000	0.0000
10.5	360,579,197	97.59%	98.01%	96.97%	0.0000	0.0000
11.5	362,839,546	97.25%	97.77%	96.63%	0.0000	0.0000
12.5	361,283,800	96.84%	97.51%	96.29%	0.0000	0.0000
13.5	363,356,721	96.46%	97.24%	95.94%	0.0001	0.0000
14.5	359,431,370	96.09%	96.95%	95.58%	0.0001	0.0000
15.5	354,250,751	95.71%	96.66%	95.21%	0.0001	0.0000
16.5	348,868,715	95.27%	96.35%	94.83%	0.0001	0.0000
17.5	341,148,664	94.86%	96.02%	94.44%	0.0001	0.0000
18.5	339,625,247	94.51%	95.68%	94.05%	0.0001	0.0000
19.5	335,684,250	94.13%	95.33%	93.64%	0.0001	0.0000
20.5	329,523,661	93.79%	94.96%	93.22%	0.0001	0.0000
21.5	318,644,769	93.37%	94.58%	92.80%	0.0001	0.0000
22.5	308,202,818	93.00%	94.17%	92.36%	0.0001	0.0000
23.5	295,423,994	92.62%	93.75%	91.91%	0.0001	0.0001
24.5	284,996,506	92.23%	93.32%	91.45%	0.0001	0.0001
25.5	274,328,381	91.81%	92.86%	90.98%	0.0001	0.0001
26.5	262,723,559	91.37%	92.39%	90.50%	0.0001	0.0001
27.5	252,373,032	90.96%	91.90%	90.01%	0.0001	0.0001
28.5	242,047,383	90.56%	91.39%	89.50%	0.0001	0.0001
29.5	230,693,582	89.25%	90.85%	88.99%	0.0003	0.0000
30.5	220,361,906	88.86%	90.30%	88.45%	0.0002	0.0000
31.5	213,628,950	88.44%	89.72%	87.91%	0.0002	0.0000
32.5	204,593,861	87.98%	89.13%	87.35%	0.0001	0.0000
33.5	194,496,642	87.56%	88.50%	86.78%	0.0001	0.0001
34.5	181,770,366	86.93%	87.86%	86.19%	0.0001	0.0001
35.5	168,327,047	86.34%	87.19%	85.59%	0.0001	0.0001
36.5	157,063,087	85.81%	86.50%	84.98%	0.0000	0.0001
37.5	148,262,585	85.34%	85.78%	84.34%	0.0000	0.0001
38.5	139,840,431	84.77%	85.03%	83.70%	0.0000	0.0001
39.5	131,153,727	84.28%	84.26%	83.03%	0.0000	0.0002
40.5	121,493,099	83.89%	83.45%	82.35%	0.0000	0.0002
41.5	109,492,709	83.43%	82.63%	81.65%	0.0001	0.0003
42.5	102,298,808	82.89%	81.77%	80.93%	0.0001	0.0004
43.5	91,888,170	82.34%	80.88%	80.20%	0.0002	0.0005
44.5	82,757,417	81.68%	79.96%	79.44%	0.0003	0.0005
45.5	74,803,410	80.96%	79.01%	78.67%	0.0004	0.0005
46.5	66,910,155	80.14%	78.03%	77.88%	0.0004	0.0005
47.5	59,493,273	79.37%	77.02%	77.07%	0.0006	0.0005
48.5	52,496,593	78.60%	75.97%	76.24%	0.0007	0.0006
49.5	46,149,561	78.07%	74.90%	75.39%	0.0010	0.0007
50.5	40,719,965	77.47%	73.78%	74.51%	0.0014	0.0009
51.5	36,724,615	76.76%	72.64%	73.62%	0.0017	0.0010
52.5	33,107,430	76.17%	71.46%	72.71%	0.0022	0.0012
53.5	29,129,014	75.53%	70.25%	71.78%	0.0028	0.0014
54.5	25,362,864	74.94%	69.01%	70.82%	0.0035	0.0017
55.5	22,002,317	74.31%	67.73%	69.85%	0.0043	0.0020
56.5	19,085,516	73.50%	66.42%	68.85%	0.0050	0.0022
57.5	16,247,568	72.90%	65.07%	67.84%	0.0061	0.0026
58.5	13,570,723	72.28%	63.70%	66.80%	0.0074	0.0030
59.5	11,001,617	71.61%	62.29%	65.74%	0.0087	0.0034
60.5	8,525,646	70.65%	60.85%	64.66%	0.0096	0.0036
61.5	6,378,724	69.81%	59.38%	63.56%	0.0109	0.0039
62.5	4,674,526	68.85%	57.89%	62.44%	0.0120	0.0041
63.5	4,022,367	68.10%	56.36%	61.31%	0.0138	0.0046
64.5	3,339,762	66.72%	54.81%	60.15%	0.0142	0.0043
65.5	2,778,381	64.88%	53.23%	58.97%	0.0136	0.0035
66.5	2,361,644	64.45%	51.64%	57.78%	0.0164	0.0045
67.5	2,074,142	64.02%	50.02%	56.56%	0.0196	0.0056
68.5	1,371,399	63.25%	48.38%	55.33%	0.0221	0.0063

Account 380 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company R2-65	[5] OUCC R1.5-70	[6] Company SSD	[7] OUCC SSD
69.5	1,088,541	59.11%	46.73%	54.09%	0.0153	0.0025
70.5	778,451	54.06%	45.07%	52.83%	0.0081	0.0002
71.5	596,434	53.35%	43.40%	51.55%	0.0099	0.0003
72.5	455,051	53.22%	41.72%	50.27%	0.0132	0.0009
73.5	347,602	53.03%	40.03%	48.97%	0.0169	0.0016
74.5	252,710	52.81%	38.35%	47.66%	0.0209	0.0027
75.5	214,704	52.58%	36.67%	46.34%	0.0253	0.0039
76.5	206,642	52.16%	35.00%	45.02%	0.0295	0.0051
77.5	187,306	51.83%	33.34%	43.69%	0.0342	0.0066
78.5	169,259	51.78%	31.69%	42.35%	0.0404	0.0089
79.5	153,979	51.56%	30.06%	41.01%	0.0462	0.0111
80.5	130,893	51.31%	28.46%	39.67%	0.0522	0.0135
81.5	97,240	51.00%	26.87%	38.34%	0.0582	0.0160
82.5	57,611	37.44%	25.32%	37.00%	0.0147	0.0000
83.5	37,187	37.38%	23.80%	35.67%	0.0184	0.0003
84.5	22,979	30.71%	22.32%	34.35%	0.0070	0.0013
85.5	17,726	29.93%	20.88%	33.03%	0.0082	0.0010
86.5	1,930	29.93%	19.47%	31.72%	0.0109	0.0003
87.5	1,193	24.46%	18.12%	30.43%	0.0040	0.0036
88.5	1,440	22.23%	16.80%	29.15%	0.0029	0.0048
89.5	1,346	20.78%	15.54%	27.89%	0.0027	0.0051
90.5	1,326	20.48%	14.33%	26.64%	0.0038	0.0038
91.5	535	20.48%	13.17%	25.42%	0.0053	0.0024
92.5	522	20.48%	12.06%	24.21%	0.0071	0.0014
93.5	463	18.17%	11.01%	23.03%	0.0051	0.0024
94.5	463	18.17%	10.01%	21.87%	0.0067	0.0014
95.5	445	17.46%	9.06%	20.74%	0.0071	0.0011
96.5	443	17.39%	8.17%	19.63%	0.0085	0.0005
97.5	442	17.39%	7.33%	18.56%	0.0101	0.0001
98.5	440	17.33%	6.55%	17.51%	0.0116	0.0000
99.5	439	17.33%	5.81%	16.49%	0.0133	0.0001
100.5	439	17.33%	5.13%	15.50%	0.0149	0.0003
101.5	357	14.08%	4.49%	14.54%	0.0092	0.0000
102.5	356	14.05%	3.91%	13.62%	0.0103	0.0000
103.5	356	14.05%	3.37%	12.72%	0.0114	0.0002
104.5	356	14.05%	2.88%	11.86%	0.0125	0.0005
105.5	356	14.05%	2.43%	11.03%	0.0135	0.0009
106.5	356	14.05%	2.02%	10.24%	0.0145	0.0015
107.5	356	14.05%	1.67%	9.48%	0.0153	0.0021
108.5	356	14.05%	1.34%	8.75%	0.0161	0.0028
109.5	356	14.05%	1.07%	8.05%	0.0169	0.0036
110.5	356	14.05%	0.82%	7.39%	0.0175	0.0044
111.5	356	14.05%	0.62%	6.76%	0.0180	0.0053
112.5	356	14.05%	0.45%	6.16%	0.0185	0.0062
113.5			0.31%	5.60%		
Sum of Squared Differences				[8]	0.8885	0.1968
Up to 1% of Beginning Exposures				[9]	0.0704	0.0332

[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 381 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company L2.5-21	[5] OUCC R2-36	[6] Company SSD	[7] OUCC SSD
0.0	151,078,352	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	146,396,322	99.95%	100.00%	99.87%	0.0000	0.0000
1.5	148,318,015	99.73%	99.98%	99.58%	0.0000	0.0000
2.5	174,738,602	99.45%	99.91%	99.27%	0.0000	0.0000
3.5	140,161,745	99.23%	99.75%	98.93%	0.0000	0.0000
4.5	137,160,730	98.92%	99.46%	98.56%	0.0000	0.0000
5.5	123,612,411	98.48%	99.02%	98.15%	0.0000	0.0000
6.5	97,133,923	98.24%	98.39%	97.71%	0.0000	0.0000
7.5	78,664,205	98.02%	97.54%	97.22%	0.0000	0.0001
8.5	78,467,212	97.62%	96.42%	96.70%	0.0001	0.0001
9.5	78,218,727	97.16%	94.92%	96.14%	0.0005	0.0001
10.5	77,489,533	96.38%	92.96%	95.52%	0.0012	0.0001
11.5	77,647,373	95.88%	90.45%	94.86%	0.0029	0.0001
12.5	81,314,464	95.45%	87.34%	94.14%	0.0066	0.0002
13.5	80,333,663	94.74%	83.59%	93.37%	0.0124	0.0002
14.5	78,410,920	93.99%	79.20%	92.54%	0.0219	0.0002
15.5	75,549,803	93.15%	74.24%	91.65%	0.0357	0.0002
16.5	49,885,337	92.27%	68.85%	90.69%	0.0548	0.0002
17.5	49,170,822	91.11%	63.20%	89.67%	0.0779	0.0002
18.5	49,185,870	90.10%	57.49%	88.57%	0.1064	0.0002
19.5	49,103,988	89.07%	51.89%	87.39%	0.1382	0.0003
20.5	48,076,451	86.89%	46.57%	86.13%	0.1626	0.0001
21.5	48,114,503	86.24%	41.62%	84.79%	0.1991	0.0002
22.5	47,301,736	84.64%	37.09%	83.35%	0.2261	0.0002
23.5	45,517,995	81.47%	32.98%	81.83%	0.2351	0.0000
24.5	44,296,089	79.71%	29.29%	80.21%	0.2543	0.0000
25.5	40,067,396	74.20%	25.95%	78.48%	0.2328	0.0018
26.5	39,644,371	72.70%	22.93%	76.66%	0.2477	0.0016
27.5	39,769,677	70.92%	20.19%	74.73%	0.2574	0.0014
28.5	40,498,067	69.57%	17.69%	72.69%	0.2692	0.0010
29.5	40,202,658	67.63%	15.41%	70.54%	0.2727	0.0008
30.5	38,970,157	65.66%	13.33%	68.28%	0.2738	0.0007
31.5	36,581,776	63.38%	11.45%	65.92%	0.2697	0.0006
32.5	34,879,462	62.28%	9.74%	63.45%	0.2760	0.0001
33.5	32,707,960	61.26%	8.22%	60.87%	0.2814	0.0000
34.5	30,935,184	59.85%	6.86%	58.20%	0.2808	0.0003
35.5	29,718,355	58.57%	5.66%	55.44%	0.2799	0.0010
36.5	29,272,763	57.70%	4.62%	52.59%	0.2817	0.0026
37.5	28,249,769	55.72%	3.73%	49.68%	0.2703	0.0036
38.5	27,021,279	53.44%	2.97%	46.71%	0.2548	0.0045
39.5	23,601,531	49.06%	2.33%	43.70%	0.2184	0.0029
40.5	18,435,780	44.83%	1.81%	40.66%	0.1851	0.0017
41.5	16,209,594	39.69%	1.38%	37.63%	0.1468	0.0004
42.5	14,044,497	34.42%	1.04%	34.61%	0.1114	0.0000
43.5	12,017,574	29.46%	0.77%	31.62%	0.0823	0.0005
44.5	10,290,317	25.24%	0.56%	28.70%	0.0609	0.0012
45.5	8,842,864	21.71%	0.40%	25.86%	0.0454	0.0017
46.5	7,488,876	18.42%	0.28%	23.12%	0.0329	0.0022
47.5	7,206,017	17.76%	0.20%	20.50%	0.0308	0.0008
48.5	6,701,234	16.74%	0.13%	18.02%	0.0276	0.0002
49.5	6,304,786	16.22%	0.09%	15.70%	0.0260	0.0000
50.5	4,951,576	13.87%	0.05%	13.54%	0.0191	0.0000
51.5	3,456,585	10.40%	0.03%	11.54%	0.0108	0.0001
52.5	3,153,703	9.74%	0.02%	9.73%	0.0095	0.0000
53.5	2,714,411	8.83%	0.01%	8.09%	0.0078	0.0001
54.5	1,712,491	8.33%	0.00%	6.62%	0.0069	0.0003

Account 381 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company L2.5-21**	**OUCC R2-36**	**Company SSD**	**OUCC SSD**
55.5	1,067,662	8.22%	0.00%	5.32%	0.0068	0.0008
56.5	108,811	8.12%	0.00%	4.18%	0.0066	0.0015
57.5	64,853	7.59%	0.00%	3.21%	0.0058	0.0019
58.5	53,395	6.93%	0.00%	2.38%	0.0048	0.0021
59.5	24,076	5.63%	0.00%	1.69%	0.0032	0.0016
60.5	17,476	5.49%	0.00%	1.13%	0.0030	0.0019
61.5	14,811	4.44%	0.00%	0.71%	0.0020	0.0014
62.5	14,701	4.27%	0.00%	0.40%	0.0018	0.0015
63.5	12,909	3.61%	0.00%	0.19%	0.0013	0.0012
64.5	13,984	3.60%	0.00%	0.07%	0.0013	0.0012
65.5	12,432	3.20%	0.00%	0.01%	0.0010	0.0010
66.5	12,369	3.18%	0.00%	0.00%	0.0010	0.0010
67.5	12,106	2.90%	0.00%	0.00%	0.0008	0.0008
68.5	12,106	2.90%	0.00%	0.00%	0.0008	0.0008
69.5	12,106	2.90%	0.00%	0.00%	0.0008	0.0008
70.5	11,977	2.87%	0.00%	0.00%	0.0008	0.0008
71.5	11,977	2.87%	0.00%	0.00%	0.0008	0.0008
72.5	11,868	2.84%	0.00%	0.00%	0.0008	0.0008
73.5	11,023	2.64%	0.00%	0.00%	0.0007	0.0007
74.5	11,023	2.64%	0.00%	0.00%	0.0007	0.0007
75.5	10,784	2.58%	0.00%	0.00%	0.0007	0.0007
76.5	10,784	2.58%	0.00%	0.00%	0.0007	0.0007
77.5	3,910	0.94%	0.00%	0.00%	0.0001	0.0001
78.5	3,262	0.78%	0.00%	0.00%	0.0001	0.0001
79.5	1,388	0.33%	0.00%	0.00%	0.0000	0.0000
80.5	1,320	0.32%	0.00%	0.00%	0.0000	0.0000
81.5	1,320	0.32%	0.00%	0.00%	0.0000	0.0000
82.5	1,320	0.32%	0.00%	0.00%	0.0000	0.0000
83.5	1,070	0.27%	0.00%	0.00%	0.0000	0.0000
84.5	382	0.10%	0.00%	0.00%	0.0000	0.0000
85.5	382	0.10%	0.00%	0.00%	0.0000	0.0000
86.5			0.00%	0.00%		
Sum of Squared Differences				[8]	6.3523	0.0601
Up to 1% of Beginning Exposures				[9]	6.3379	0.0462

[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 382 Curve Fitting

[1] Age (Years)	[2] Exposures (Dollars)	[3] Observed Life Table (OLT)	[4] Company L1.5-23	[5] OUCC R1-55	[6] Company SSD	[7] OUCC SSD
0.0	145,270,682	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	136,244,251	99.85%	99.93%	99.77%	0.0000	0.0000
1.5	125,297,375	99.48%	99.73%	99.29%	0.0000	0.0000
2.5	119,202,017	99.05%	99.39%	98.80%	0.0000	0.0000
3.5	114,359,584	98.63%	98.89%	98.30%	0.0000	0.0000
4.5	107,776,536	98.21%	98.18%	97.78%	0.0000	0.0000
5.5	97,916,772	97.63%	97.25%	97.26%	0.0000	0.0000
6.5	92,748,818	97.12%	96.06%	96.72%	0.0001	0.0000
7.5	87,877,870	96.45%	94.63%	96.17%	0.0003	0.0000
8.5	81,653,009	95.71%	92.93%	95.61%	0.0008	0.0000
9.5	78,174,565	94.95%	90.92%	95.03%	0.0016	0.0000
10.5	76,838,339	94.10%	88.58%	94.45%	0.0030	0.0000
11.5	75,501,490	93.28%	85.90%	93.85%	0.0054	0.0000
12.5	73,236,270	92.56%	82.90%	93.24%	0.0093	0.0000
13.5	72,133,455	91.88%	79.62%	92.62%	0.0150	0.0001
14.5	69,804,995	91.07%	76.13%	91.99%	0.0223	0.0001
15.5	66,725,937	90.24%	72.49%	91.35%	0.0315	0.0001
16.5	64,707,821	89.40%	68.75%	90.69%	0.0427	0.0002
17.5	62,032,343	88.71%	64.95%	90.03%	0.0565	0.0002
18.5	60,086,784	88.14%	61.15%	89.35%	0.0729	0.0001
19.5	57,556,266	87.56%	57.39%	88.66%	0.0910	0.0001
20.5	55,243,806	86.89%	53.70%	87.96%	0.1102	0.0001
21.5	53,440,588	86.31%	50.11%	87.25%	0.1310	0.0001
22.5	50,631,558	85.79%	46.65%	86.52%	0.1532	0.0001
23.5	47,690,054	85.24%	43.32%	85.78%	0.1758	0.0000
24.5	44,857,305	84.69%	40.13%	85.02%	0.1986	0.0000
25.5	41,486,510	84.08%	37.09%	84.25%	0.2208	0.0000
26.5	38,706,852	83.53%	34.19%	83.47%	0.2434	0.0000
27.5	36,139,798	83.00%	31.44%	82.67%	0.2658	0.0000
28.5	33,216,735	82.30%	28.84%	81.85%	0.2858	0.0000
29.5	31,881,423	81.73%	26.37%	81.01%	0.3064	0.0001
30.5	29,992,964	81.15%	24.04%	80.16%	0.3261	0.0001
31.5	28,246,596	80.56%	21.84%	79.28%	0.3448	0.0002
32.5	26,611,921	79.85%	19.77%	78.39%	0.3609	0.0002
33.5	25,676,869	79.18%	17.83%	77.48%	0.3764	0.0003
34.5	22,632,468	78.34%	16.01%	76.55%	0.3886	0.0003
35.5	21,993,836	77.64%	14.31%	75.60%	0.4011	0.0004
36.5	20,486,818	77.01%	12.73%	74.62%	0.4132	0.0006
37.5	18,898,712	76.28%	11.27%	73.63%	0.4226	0.0007
38.5	17,328,024	75.61%	9.92%	72.62%	0.4315	0.0009
39.5	15,377,350	74.89%	8.69%	71.58%	0.4382	0.0011
40.5	14,332,674	74.40%	7.57%	70.52%	0.4467	0.0015
41.5	12,681,336	73.92%	6.55%	69.44%	0.4539	0.0020
42.5	11,197,495	73.52%	5.63%	68.34%	0.4610	0.0027
43.5	9,740,066	73.09%	4.80%	67.22%	0.4663	0.0034
44.5	8,285,175	72.60%	4.07%	66.08%	0.4696	0.0043
45.5	6,844,893	71.68%	3.42%	64.92%	0.4659	0.0046
46.5	5,454,034	71.13%	2.86%	63.73%	0.4661	0.0055
47.5	4,118,179	70.46%	2.36%	62.53%	0.4637	0.0063
48.5	2,759,283	69.83%	1.93%	61.30%	0.4610	0.0073
49.5	1,753,364	69.14%	1.57%	60.06%	0.4566	0.0083
50.5	1,514,516	68.61%	1.26%	58.79%	0.4536	0.0096
51.5	1,255,512	67.32%	1.00%	57.51%	0.4398	0.0096
52.5	1,021,169	66.85%	0.78%	56.21%	0.4365	0.0113
53.5	822,621	66.44%	0.61%	54.90%	0.4334	0.0133
54.5	636,445	65.98%	0.46%	53.57%	0.4292	0.0154

Account 382 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company L1.5-23**	**OUCC R1-55**	**Company SSD**	**OUCC SSD**
55.5	478,698	65.73%	0.35%	52.22%	0.4275	0.0182
56.5	331,198	65.50%	0.26%	50.86%	0.4256	0.0214
57.5	258,982	65.26%	0.19%	49.49%	0.4234	0.0249
58.5	193,533	65.10%	0.14%	48.11%	0.4220	0.0289
59.5	115,641	64.90%	0.09%	46.71%	0.4200	0.0331
60.5	68,715	64.50%	0.07%	45.31%	0.4152	0.0368
61.5	58,785	64.26%	0.04%	43.90%	0.4124	0.0415
62.5	44,414	62.48%	0.03%	42.48%	0.3900	0.0400
63.5	33,684	62.25%	0.02%	41.06%	0.3873	0.0449
64.5	21,681	62.10%	0.01%	39.64%	0.3855	0.0504
65.5	15,168	61.92%	0.01%	38.21%	0.3833	0.0562
66.5	6,238	60.82%	0.00%	36.79%	0.3699	0.0577
67.5	5,286	60.45%	0.00%	35.37%	0.3654	0.0629
68.5	3,249	45.76%	0.00%	33.95%	0.2094	0.0140
69.5	1,925	37.84%	0.00%	32.54%	0.1432	0.0028
70.5	1,805	37.84%	0.00%	31.13%	0.1432	0.0045
71.5	1,342	37.84%	0.00%	29.73%	0.1432	0.0066
72.5	1,342	37.84%	0.00%	28.35%	0.1432	0.0090
73.5	1,342	37.84%	0.00%	26.98%	0.1432	0.0118
74.5	1,342	37.84%	0.00%	25.62%	0.1432	0.0149
75.5	1,342	37.84%	0.00%	24.28%	0.1432	0.0184
76.5	1,342	37.84%	0.00%	22.96%	0.1432	0.0221
77.5	1,194	33.68%	0.00%	21.66%	0.1134	0.0144
78.5	1,181	33.29%	0.00%	20.39%	0.1108	0.0166
79.5	1,181	33.29%	0.00%	19.14%	0.1108	0.0200
80.5	1,181	33.29%	0.00%	17.91%	0.1108	0.0236
81.5	1,181	33.29%	0.00%	16.72%	0.1108	0.0275
82.5	1,181	33.29%	0.00%	15.56%	0.1108	0.0314
83.5	1,181	33.29%	0.00%	14.43%	0.1108	0.0356
84.5	1,181	33.29%	0.00%	13.33%	0.1108	0.0398
85.5	1,181	33.29%	0.00%	12.28%	0.1108	0.0442
86.5	1,181	33.29%	0.00%	11.26%	0.1108	0.0486
87.5			0.00%	10.28%		
Sum of Squared Differences				[8]	20.8438	1.0341
Up to 1% of Beginning Exposures				[9]	11.4116	0.0616

[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.

NIPSCO

Gas Division

369.00 M&R Station Equipment

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2022

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 69 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1950	5,420.67	69.00	78.56	20.58	1,617.13
1952	3,783.24	69.00	54.83	21.49	1,178.05
1953	47,591.71	69.00	689.73	21.95	15,137.63
1954	314,885.45	69.00	4,563.51	22.42	102,302.87
1955	19,874.55	69.00	288.03	22.89	6,594.29
1956	73,841.47	69.00	1,070.16	23.38	25,019.84
1957	18,399.36	69.00	266.65	23.87	6,365.45
1958	37,214.20	69.00	539.33	24.37	13,144.61
1959	263,239.61	69.00	3,815.03	24.88	94,914.99
1960	78,275.25	69.00	1,134.41	25.39	28,806.31
1961	110,049.60	69.00	1,594.91	25.92	41,335.43
1962	59,579.13	69.00	863.46	26.45	22,835.12
1963	37,262.52	69.00	540.03	26.98	14,572.66
1964	148,568.53	69.00	2,153.14	27.53	59,273.42
1965	269,183.40	69.00	3,901.17	28.08	109,552.21
1966	90,269.23	69.00	1,308.24	28.64	37,468.49
1967	313,030.22	69.00	4,536.62	29.21	132,504.49
1968	82,654.52	69.00	1,197.88	29.78	35,673.69
1969	280,502.12	69.00	4,065.21	30.36	123,418.82
1970	47,269.86	69.00	685.06	30.95	21,201.98
1971	232,114.81	69.00	3,363.95	31.54	106,105.49
1972	147,158.32	69.00	2,132.71	32.14	68,554.59
1973	90,469.25	69.00	1,311.13	32.75	42,940.98
1974	174,616.46	69.00	2,530.65	33.37	84,438.52
1975	62,959.15	69.00	912.44	33.99	31,010.42
1976	462,101.86	69.00	6,697.06	34.61	231,812.76
1977	174,491.15	69.00	2,528.83	35.25	89,133.03

NIPSCO

Gas Division

369.00 M&R Station Equipment

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2022

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 69 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1978	283,651.30	69.00	4,110.85	35.89	147,525.15
1979	237,318.37	69.00	3,439.36	36.53	125,646.17
1980	25,253.63	69.00	365.99	37.18	13,608.27
1981	163,480.14	69.00	2,369.25	37.84	89,654.18
1982	863,182.73	69.00	12,509.76	38.50	481,658.63
1983	401,669.60	69.00	5,821.24	39.17	228,031.80
1984	550,681.23	69.00	7,980.80	39.85	318,000.15
1985	186,550.50	69.00	2,703.60	40.53	109,566.25
1986	678,813.49	69.00	9,837.77	41.21	405,415.82
1987	1,052,869.49	69.00	15,258.82	41.90	639,355.14
1988	370,921.17	69.00	5,375.61	42.60	228,975.21
1989	158,214.27	69.00	2,292.94	43.29	99,270.10
1990	1,557,437.44	69.00	22,571.32	44.00	993,136.33
1991	138,047.98	69.00	2,000.67	44.71	89,446.78
1992	386,099.47	69.00	5,595.59	45.42	254,170.38
1993	463,338.96	69.00	6,714.99	46.14	309,836.17
1994	632,871.21	69.00	9,171.95	46.86	429,839.86
1995	300,945.49	69.00	4,361.48	47.59	207,567.27
1996	376,340.68	69.00	5,454.16	48.32	263,559.73
1997	490,850.39	69.00	7,113.70	49.06	348,979.69
1998	642,105.84	69.00	9,305.78	49.80	463,385.34
1999	2,537,507.31	69.00	36,775.08	50.54	1,858,593.88
2000	1,187,973.04	69.00	17,216.82	51.29	882,968.21
2001	2,493,219.90	69.00	36,133.24	52.04	1,880,245.79
2002	3,542,213.43	69.00	51,335.89	52.79	2,709,999.26
2003	1,586,938.22	69.00	22,998.86	53.55	1,231,536.62
2004	1,542,020.57	69.00	22,347.89	54.31	1,213,668.76

NIPSCO
Gas Division
369.00 M&R Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **69** *Survivor Curve:* **R1.5**

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2005	617,952.03	69.00	8,955.73	55.07	493,218.38
2006	1,968,309.45	69.00	28,525.93	55.84	1,592,894.98
2007	1,007,634.26	69.00	14,603.24	56.61	826,718.15
2008	3,006,603.35	69.00	43,573.51	57.39	2,500,523.21
2009	939,863.29	69.00	13,621.06	58.16	792,250.27
2010	451,883.95	69.00	6,548.97	58.95	386,036.62
2011	1,339,962.53	69.00	19,419.54	59.73	1,159,936.54
2012	188,933.95	69.00	2,738.14	60.52	165,711.27
2013	963,477.51	69.00	13,963.30	61.31	856,099.90
2014	12,265,002.34	69.00	177,751.80	62.11	11,039,549.12
2015	7,844,844.45	69.00	113,692.21	62.90	7,151,765.73
2016	9,808,002.19	69.00	142,143.47	63.71	9,055,537.90
2017	10,666,069.28	69.00	154,579.10	64.51	9,972,201.21
2018	35,775,708.20	69.00	518,483.11	65.32	33,867,195.20
2019	7,663,704.85	69.00	111,067.03	66.13	7,345,161.99
2020	45,788,926.65	69.00	663,600.70	66.95	44,426,275.50
2021	18,100,318.16	69.00	262,320.71	67.77	17,776,618.67
2022	200,826.57	69.00	2,910.50	68.59	199,625.63
Total	185,093,344.50	69.00	2,682,484.21	62.32	167,177,874.45

Composite Average Remaining Life ... *62.32 Years*

NIPSCO
Gas Division
378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1923	13,084.63	59.00	221.77	6.06	1,344.37
1925	909.32	59.00	15.41	6.67	102.75
1928	823.64	59.00	13.96	7.61	106.18
1929	8,639.13	59.00	146.42	7.93	1,160.54
1930	372.53	59.00	6.31	8.25	52.10
1931	1,010.86	59.00	17.13	8.58	146.97
1932	5,697.63	59.00	96.57	8.91	860.39
1934	1,789.51	59.00	30.33	9.59	290.73
1935	71.88	59.00	1.22	9.93	12.10
1936	579.26	59.00	9.82	10.28	100.91
1937	792.95	59.00	13.44	10.63	142.85
1938	2,459.33	59.00	41.68	10.98	457.88
1939	1,079.46	59.00	18.30	11.35	207.60
1940	3,000.28	59.00	50.85	11.71	595.50
1942	4,414.19	59.00	74.82	12.45	931.65
1943	2,767.21	59.00	46.90	12.83	601.80
1944	2,170.69	59.00	36.79	13.21	486.13
1945	2,084.10	59.00	35.32	13.60	480.41
1946	1,491.66	59.00	25.28	13.99	353.77
1947	4,548.98	59.00	77.10	14.39	1,109.40
1948	7,533.43	59.00	127.68	14.79	1,888.47
1949	28,730.44	59.00	486.95	15.20	7,400.08
1950	57,644.01	59.00	977.00	15.61	15,248.73
1951	4,617.12	59.00	78.25	16.02	1,253.93
1952	21,107.78	59.00	357.75	16.44	5,883.16
1953	31,686.23	59.00	537.04	16.87	9,060.46
1954	108,001.07	59.00	1,830.49	17.30	31,671.74

NIPSCO
Gas Division
378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1955	94,747.48	59.00	1,605.86	17.74	28,486.15
1956	44,688.08	59.00	757.41	18.18	13,770.12
1957	30,581.33	59.00	518.32	18.63	9,655.12
1958	95,777.78	59.00	1,623.32	19.08	30,973.70
1959	28,385.48	59.00	481.10	19.54	9,399.77
1960	204,624.79	59.00	3,468.15	20.00	69,369.28
1961	264,918.06	59.00	4,490.05	20.47	91,916.08
1962	115,414.55	59.00	1,956.14	20.95	40,971.60
1963	162,532.53	59.00	2,754.73	21.43	59,022.53
1964	193,121.93	59.00	3,273.19	21.91	71,722.67
1965	211,531.17	59.00	3,585.20	22.40	80,323.25
1966	207,332.97	59.00	3,514.05	22.90	80,475.81
1967	160,630.54	59.00	2,722.50	23.40	63,719.95
1968	266,807.92	59.00	4,522.08	23.91	108,142.95
1969	68,598.23	59.00	1,162.66	24.43	28,402.42
1970	175,694.72	59.00	2,977.82	24.95	74,297.75
1971	157,524.73	59.00	2,669.86	25.48	68,021.72
1972	169,889.65	59.00	2,879.43	26.01	74,892.85
1973	175,610.25	59.00	2,976.38	26.55	79,020.23
1974	181,078.60	59.00	3,069.07	27.09	83,153.92
1975	155,990.85	59.00	2,643.86	27.64	73,086.13
1976	164,677.70	59.00	2,791.09	28.20	78,711.65
1977	91,633.68	59.00	1,553.08	28.76	44,672.77
1978	216,332.72	59.00	3,666.58	29.33	107,549.85
1979	450,884.90	59.00	7,641.96	29.91	228,538.76
1980	402,884.63	59.00	6,828.42	30.49	208,172.24
1981	518,508.64	59.00	8,788.10	31.07	273,063.98

NIPSCO
Gas Division
378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1982	812,776.88	59.00	13,775.60	31.66	436,165.96
1983	1,195,715.11	59.00	20,265.95	32.26	653,770.69
1984	640,476.31	59.00	10,855.31	32.86	356,728.33
1985	1,146,574.44	59.00	19,433.07	33.47	650,396.65
1986	1,195,628.16	59.00	20,264.47	34.08	690,654.84
1987	816,658.96	59.00	13,841.40	34.70	480,302.30
1988	842,907.23	59.00	14,286.27	35.32	504,641.88
1989	602,266.70	59.00	10,207.70	35.95	366,974.62
1990	412,959.81	59.00	6,999.18	36.58	256,056.73
1991	606,513.79	59.00	10,279.69	37.22	382,622.86
1992	667,888.30	59.00	11,319.91	37.86	428,596.14
1993	843,858.32	59.00	14,302.39	38.51	550,765.12
1994	809,498.06	59.00	13,720.03	39.16	537,261.17
1995	680,998.38	59.00	11,542.11	39.81	459,515.05
1996	215,083.72	59.00	3,645.41	40.47	147,531.11
1997	285,801.85	59.00	4,844.00	41.13	199,243.42
1998	501,669.57	59.00	8,502.70	41.80	355,377.79
1999	812,892.36	59.00	13,777.56	42.46	585,056.30
2000	399,245.52	59.00	6,766.74	43.14	291,889.17
2001	783,865.51	59.00	13,285.59	43.81	582,042.31
2002	725,104.76	59.00	12,289.66	44.49	546,722.65
2003	1,003,398.76	59.00	17,006.42	45.17	768,116.18
2004	831,586.37	59.00	14,094.40	45.85	646,207.54
2005	423,255.83	59.00	7,173.68	46.53	333,809.99
2006	895,943.90	59.00	15,185.18	47.22	717,045.87
2007	351,312.50	59.00	5,954.33	47.91	285,271.96
2008	497,941.31	59.00	8,439.51	48.60	410,174.28

NIPSCO
Gas Division
378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2009	581,384.32	59.00	9,853.77	49.30	485,763.46
2010	555,106.86	59.00	9,408.40	50.00	470,377.34
2011	619,854.49	59.00	10,505.80	50.70	532,607.24
2012	313,444.89	59.00	5,312.52	51.40	273,063.83
2013	1,317,400.97	59.00	22,328.38	52.11	1,163,478.34
2014	2,458,421.33	59.00	41,667.32	52.82	2,200,793.38
2015	3,488,883.38	59.00	59,132.42	53.53	3,165,442.91
2016	5,559,598.28	59.00	94,228.58	54.25	5,111,814.06
2017	1,466,499.87	59.00	24,855.43	54.97	1,366,305.11
2018	5,711,606.28	59.00	96,804.93	55.69	5,391,430.36
2019	3,207,067.55	59.00	54,355.98	56.42	3,066,891.82
2020	796,384.81	59.00	13,497.78	57.15	771,458.84
2021	3,643,084.40	59.00	61,745.95	57.89	3,574,435.73
2022	14,131,811.89	59.00	239,517.40	58.63	14,042,819.51
Total	68,179,882.96	59.00	1,155,567.90	48.89	56,501,106.72

Composite Average Remaining Life ... 48.89 Years

NIPSCO
Gas Division
380.10 Services - Steel

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1923	1.15	70.00	0.02	11.53	0.19
1925	1.77	70.00	0.03	12.13	0.31
1929	0.09	70.00	0.00	13.38	0.02
1930	12.88	70.00	0.18	13.70	2.52
1931	461.31	70.00	6.59	14.03	92.46
1935	13.36	70.00	0.19	15.38	2.94
1936	5,105.79	70.00	72.94	15.74	1,147.93
1937	4,671.58	70.00	66.74	16.10	1,074.13
1938	7,572.23	70.00	108.17	16.46	1,780.53
1939	11,919.75	70.00	170.28	16.83	2,865.76
1940	14,160.84	70.00	202.30	17.21	3,480.82
1941	16,528.26	70.00	236.12	17.59	4,153.19
1942	22,348.33	70.00	319.26	17.98	5,740.14
1943	14,558.43	70.00	207.98	18.38	3,821.81
1944	18,188.01	70.00	259.83	18.78	4,879.51
1945	18,019.29	70.00	257.42	19.19	4,939.91
1946	38,441.19	70.00	549.15	19.61	10,768.07
1947	72,897.19	70.00	1,041.38	20.03	20,862.16
1948	93,705.98	70.00	1,338.64	20.47	27,396.54
1949	105,805.11	70.00	1,511.49	20.91	31,598.16
1950	139,911.27	70.00	1,998.71	21.35	42,676.06
1951	171,759.59	70.00	2,453.68	21.81	53,508.01
1952	217,771.54	70.00	3,110.99	22.27	69,277.41
1953	191,755.91	70.00	2,739.34	22.74	62,289.83
1954	431,698.52	70.00	6,167.06	23.22	143,171.10
1955	272,112.79	70.00	3,887.29	23.70	92,131.43
1956	398,139.18	70.00	5,687.64	24.19	137,597.53

NIPSCO
Gas Division
380.10 Services - Steel

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1957	468,543.22	70.00	6,693.41	24.69	165,265.75
1958	602,737.96	70.00	8,610.45	25.20	216,976.88
1959	846,323.25	70.00	12,090.21	25.71	310,872.56
1960	1,616,009.18	70.00	23,085.61	26.24	605,668.45
1961	2,047,432.48	70.00	29,248.73	26.76	782,819.81
1962	2,330,440.76	70.00	33,291.67	27.30	908,915.62
1963	2,441,749.35	70.00	34,881.78	27.84	971,277.66
1964	2,537,039.16	70.00	36,243.04	28.39	1,029,103.47
1965	2,682,921.25	70.00	38,327.05	28.95	1,109,729.33
1966	3,059,495.10	70.00	43,706.62	29.52	1,290,144.63
1967	3,162,151.71	70.00	45,173.13	30.09	1,359,335.68
1968	3,549,104.89	70.00	50,700.98	30.67	1,554,994.17
1969	3,723,631.43	70.00	53,194.19	31.26	1,662,674.33
1970	3,359,806.21	70.00	47,996.74	31.85	1,528,636.38
1971	3,578,613.74	70.00	51,122.53	32.45	1,658,757.36
1972	1,849,650.44	70.00	26,423.31	33.05	873,401.53
1973	1,462,400.88	70.00	20,891.23	33.67	703,313.07
1974	1,071,677.66	70.00	15,309.52	34.29	524,894.32
1975	762,638.74	70.00	10,894.73	34.91	380,331.64
1976	1,094,579.47	70.00	15,636.69	35.54	555,756.29
1977	673,549.73	70.00	9,622.04	36.18	348,111.94
1978	498,662.95	70.00	7,123.68	36.82	262,298.51
1979	363,567.68	70.00	5,193.77	37.47	194,618.07
1980	496,898.34	70.00	7,098.47	38.13	270,632.44
1981	962,857.84	70.00	13,754.97	38.79	533,518.52
1982	624,733.16	70.00	8,924.67	39.45	352,103.55
1983	273,255.39	70.00	3,903.61	40.13	156,633.91

NIPSCO
Gas Division
380.10 Services - Steel

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1984	384,235.97	70.00	5,489.03	40.80	223,963.46
1985	453,909.16	70.00	6,484.35	41.48	268,991.49
1986	297,267.94	70.00	4,246.64	42.17	179,089.89
1987	277,331.86	70.00	3,961.84	42.86	169,819.29
1988	317,172.06	70.00	4,530.98	43.56	197,379.67
1989	178,327.13	70.00	2,547.50	44.26	112,762.14
1990	131,733.78	70.00	1,881.89	44.97	84,631.32
1991	90,863.82	70.00	1,298.04	45.68	59,297.70
1992	130,802.03	70.00	1,868.58	46.40	86,697.18
1993	147,707.14	70.00	2,110.08	47.12	99,424.66
1994	134,910.88	70.00	1,927.28	47.84	92,206.01
1995	56,302.35	70.00	804.31	48.57	39,067.16
1996	219,888.20	70.00	3,141.23	49.30	154,875.97
1997	358,621.55	70.00	5,123.11	50.04	256,368.29
1998	193,509.39	70.00	2,764.39	50.78	140,380.07
1999	600,245.08	70.00	8,574.84	51.52	441,816.86
2000	282,592.17	70.00	4,036.99	52.27	211,028.36
2001	567,419.26	70.00	8,105.91	53.02	429,810.54
2002	149,774.32	70.00	2,139.61	53.78	115,068.46
2003	295,492.11	70.00	4,221.27	54.54	230,219.41
2004	28,485.56	70.00	406.93	55.30	22,503.47
2005	164,812.57	70.00	2,354.44	56.07	132,002.06
2006	54,885.90	70.00	784.08	56.83	44,561.34
2007	292,121.74	70.00	4,173.12	57.61	240,396.89
2008	322,413.21	70.00	4,605.86	58.38	268,893.19
2009	369,585.19	70.00	5,279.73	59.16	312,350.69
2010	330,274.74	70.00	4,718.16	59.94	282,816.07

NIPSCO
Gas Division
380.10 Services - Steel

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2011	787,266.85	70.00	11,246.55	60.73	682,981.66
2012	438,723.59	70.00	6,267.42	61.52	385,550.54
2013	911,583.15	70.00	13,022.48	62.31	811,406.54
2014	773,163.53	70.00	11,045.08	63.10	696,996.37
2015	1,266,558.85	70.00	18,093.51	63.90	1,156,229.70
2016	234,769.43	70.00	3,353.81	64.71	217,011.86
2017	346,941.27	70.00	4,956.25	65.51	324,689.51
2018	926,675.54	70.00	13,238.09	66.32	877,955.98
2019	347,575.43	70.00	4,965.31	67.13	333,332.93
2020	745,357.28	70.00	10,647.85	67.95	723,489.85
2021	735,985.90	70.00	10,513.98	68.77	723,011.02
2022	646,073.72	70.00	9,229.53	69.59	642,265.11
Total	63,399,392.96	70.00	905,696.30	37.00	33,507,387.03

Composite Average Remaining Life ... 37.00 Years

NIPSCO
Gas Division
380.20 Services - Plastic

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1971	336,990.76	70.00	4,814.10	32.45	156,201.80
1972	3,251,266.91	70.00	46,446.19	33.05	1,535,242.25
1973	4,547,335.42	70.00	64,961.27	33.67	2,186,951.93
1974	5,372,754.85	70.00	76,752.85	34.29	2,631,508.14
1975	6,032,174.94	70.00	86,173.04	34.91	3,008,274.88
1976	5,869,345.13	70.00	83,846.93	35.54	2,980,071.88
1977	6,697,317.99	70.00	95,674.99	36.18	3,461,387.13
1978	8,065,141.74	70.00	115,215.13	36.82	4,242,293.66
1979	9,534,679.59	70.00	136,208.31	37.47	5,103,921.60
1980	6,147,689.99	70.00	87,823.24	38.13	3,348,299.24
1981	10,628,571.60	70.00	151,835.18	38.79	5,889,280.33
1982	8,807,567.83	70.00	125,821.10	39.45	4,964,000.72
1983	8,057,445.04	70.00	115,105.17	40.13	4,618,643.05
1984	7,618,318.42	70.00	108,832.00	40.80	4,440,565.43
1985	7,958,124.26	70.00	113,686.32	41.48	4,716,070.65
1986	10,547,640.41	70.00	150,679.03	42.17	6,354,455.17
1987	12,705,209.18	70.00	181,501.12	42.86	7,779,811.48
1988	11,925,451.79	70.00	170,361.85	43.56	7,421,340.24
1989	10,254,334.87	70.00	146,488.99	44.26	6,484,154.80
1990	9,946,752.89	70.00	142,095.01	44.97	6,390,212.35
1991	8,045,879.00	70.00	114,939.95	45.68	5,250,738.50
1992	12,014,099.31	70.00	171,628.23	46.40	7,963,091.62
1993	10,651,502.29	70.00	152,162.75	47.12	7,169,741.56
1994	12,120,925.30	70.00	173,154.30	47.84	8,284,151.70
1995	12,310,144.16	70.00	175,857.39	48.57	8,541,780.89
1996	13,606,603.45	70.00	194,378.05	49.30	9,583,669.68
1997	12,675,162.04	70.00	181,071.88	50.04	9,061,110.88

NIPSCO
Gas Division
380.20 Services - Plastic

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1998	13,118,640.65	70.00	187,407.23	50.78	9,516,828.52
1999	15,248,699.53	70.00	217,836.33	51.52	11,223,969.63
2000	12,806,008.80	70.00	182,941.10	52.27	9,563,007.61
2001	13,439,459.20	70.00	191,990.30	53.02	10,180,164.09
2002	11,200,118.73	70.00	160,000.05	53.78	8,604,815.81
2003	11,902,744.89	70.00	170,037.46	54.54	9,273,489.25
2004	8,079,839.90	70.00	115,425.10	55.30	6,383,039.44
2005	13,911,483.12	70.00	198,733.43	56.07	11,142,016.74
2006	11,689,923.59	70.00	166,997.19	56.83	9,490,937.94
2007	11,847,502.54	70.00	169,248.30	57.61	9,749,711.84
2008	11,711,556.65	70.00	167,306.23	58.38	9,767,458.97
2009	7,515,700.99	70.00	107,366.05	59.16	6,351,808.69
2010	7,267,727.62	70.00	103,823.61	59.94	6,223,394.98
2011	8,885,758.53	70.00	126,938.10	60.73	7,708,707.75
2012	14,252,182.50	70.00	203,600.51	61.52	12,524,826.16
2013	15,348,307.96	70.00	219,259.29	62.31	13,661,636.24
2014	13,782,508.73	70.00	196,890.96	63.10	12,424,743.60
2015	20,119,950.38	70.00	287,424.91	63.90	18,367,314.15
2016	34,423,719.58	70.00	491,762.37	64.71	31,819,966.39
2017	30,548,918.37	70.00	436,408.63	65.51	28,589,603.21
2018	39,911,971.00	70.00	570,165.15	66.32	37,813,616.52
2019	39,844,650.60	70.00	569,203.44	67.13	38,211,947.62
2020	35,077,836.47	70.00	501,106.80	67.95	34,048,716.36
2021	45,853,515.37	70.00	655,043.49	68.77	45,045,152.16
2022	59,462,388.33	70.00	849,453.96	69.59	59,111,857.22

NIPSCO

Gas Division

380.20 Services - Plastic

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2022

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
Total	742,979,543.19	70.00	10,613,884.37	56.56	600,365,702.46

Composite Average Remaining Life ... 56.56 Years

NIPSCO
Gas Division
381.00 Meters

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 36 *Survivor Curve:* R2

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1937	58.16	0.00	0.00	0.00	0.00
1955	0.03	0.00	0.00	0.00	0.00
1960	1,363.70	36.00	37.88	1.19	45.22
1961	19,329.70	36.00	536.93	1.44	774.91
1962	6,413.73	36.00	178.16	1.71	304.50
1963	36,883.23	36.00	1,024.53	1.98	2,032.95
1964	949,018.32	36.00	26,361.45	2.27	59,894.39
1965	622,730.73	36.00	17,297.96	2.55	44,120.89
1966	857,403.82	36.00	23,816.62	2.83	67,509.78
1967	138,760.54	36.00	3,854.43	3.12	12,032.01
1968	84,330.93	36.00	2,342.51	3.41	7,989.22
1969	251,590.12	36.00	6,988.57	3.70	25,887.99
1970	418,768.67	36.00	11,632.39	3.99	46,449.96
1971	48,158.96	36.00	1,337.74	4.29	5,732.23
1972	1,485.98	36.00	41.28	4.58	189.07
1973	181.15	36.00	5.03	4.88	24.56
1975	3,631.44	36.00	100.87	5.50	554.75
1978	7,904.28	36.00	219.56	6.49	1,425.61
1979	92,641.03	36.00	2,573.35	6.85	17,617.22
1980	2,405,075.14	36.00	66,807.21	7.21	481,850.91
1981	1,124,817.86	36.00	31,244.74	7.59	237,248.46
1982	2,971.14	36.00	82.53	7.99	659.31
1983	25,771.71	36.00	715.88	8.40	6,012.77
1984	8,746.80	36.00	242.97	8.83	2,144.32
1985	439,918.67	36.00	12,219.88	9.27	113,256.38
1986	939,287.86	36.00	26,091.16	9.73	253,791.89
1987	1,494,993.31	36.00	41,527.32	10.20	423,652.64

NIPSCO
Gas Division
381.00 Meters

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 36 *Survivor Curve:* R2

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1988	1,305,648.85	36.00	36,267.79	10.69	387,849.70
1989	1,750,370.08	36.00	48,621.08	11.20	544,695.32
1990	1,744,414.52	36.00	48,455.64	11.73	568,292.12
1991	724,788.79	36.00	20,132.89	12.27	247,022.20
1992	125,407.35	36.00	3,483.51	12.83	44,681.12
1993	153,486.86	36.00	4,263.50	13.40	57,132.91
1994	832,049.52	36.00	23,112.34	13.99	323,343.39
1995	2,855,860.70	36.00	79,328.95	14.59	1,157,801.32
1996	1,535,878.35	36.00	42,663.01	15.21	649,063.60
1997	1,470,376.89	36.00	40,843.54	15.85	647,322.34
1998	2,085,190.31	36.00	57,921.58	16.50	955,600.49
1999	1,370,064.41	36.00	38,057.10	17.16	653,113.81
2000	1,881,385.84	36.00	52,260.38	17.84	932,166.40
2001	1,322,915.32	36.00	36,747.41	18.53	680,842.34
2002	1,317,698.63	36.00	36,602.50	19.23	703,907.25
2003	1,584,116.38	36.00	44,002.95	19.95	877,731.68
2004	25,942,531.30	36.00	720,621.19	20.68	14,899,043.94
2005	2,187,174.70	36.00	60,754.46	21.41	1,301,023.25
2006	2,237,056.66	36.00	62,140.06	22.17	1,377,434.31
2007	768,137.80	36.00	21,337.02	22.93	489,257.53
2008	26,272.30	36.00	729.78	23.70	17,298.95
2009	975,137.09	36.00	27,086.97	24.49	663,339.92
2010	407,200.27	36.00	11,311.05	25.28	285,989.63
2011	25,865.42	36.00	718.48	26.09	18,745.15
2013	19,080,865.89	36.00	530,020.61	27.73	14,698,052.57
2014	28,457,329.75	36.00	790,476.25	28.57	22,579,999.28
2015	16,394,713.91	36.00	455,405.76	29.41	13,393,077.32

NIPSCO
Gas Division
381.00 Meters

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 36 *Survivor Curve:* R2

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2016	6,451,045.48	36.00	179,194.54	30.26	5,422,765.95
2017	1,045,002.48	36.00	29,027.66	31.12	903,432.22
2018	4,042,447.72	36.00	112,289.49	31.99	3,592,356.57
2019	8,411,179.61	36.00	233,642.36	32.87	7,679,755.99
2020	5,701,181.91	36.00	158,365.14	33.76	5,345,636.96
2021	5,897,459.94	36.00	163,817.27	34.65	5,675,930.80
2022	6,883,937.40	36.00	191,219.24	35.55	6,797,431.70
Total	166,976,429.44	34.82	4,638,202.43	25.09	116,382,339.98

Composite Average Remaining Life ... 25.09 Years

NIPSCO
Gas Division
382.00 Meter Installations

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1949	463.64	55.00	8.43	12.20	102.80
1950	119.70	55.00	2.18	12.58	27.38
1951	412.55	55.00	7.50	12.97	97.29
1952	704.85	55.00	12.82	13.37	171.30
1953	906.69	55.00	16.48	13.77	226.96
1954	8,600.97	55.00	156.38	14.17	2,216.51
1955	6,438.55	55.00	117.06	14.59	1,707.38
1956	11,703.40	55.00	212.78	15.00	3,192.15
1957	11,728.95	55.00	213.25	15.42	3,289.12
1958	12,723.66	55.00	231.33	15.85	3,666.98
1959	9,632.70	55.00	175.14	16.28	2,852.01
1960	45,979.09	55.00	835.97	16.72	13,979.94
1961	76,546.05	55.00	1,391.72	17.17	23,892.39
1962	64,607.19	55.00	1,174.65	17.62	20,694.78
1963	70,644.92	55.00	1,284.43	18.07	23,214.56
1964	145,257.11	55.00	2,640.98	18.54	48,952.77
1965	154,301.92	55.00	2,805.43	19.00	53,311.89
1966	179,651.28	55.00	3,266.32	19.48	63,618.58
1967	191,936.39	55.00	3,489.68	19.96	69,644.42
1968	224,536.59	55.00	4,082.40	20.44	83,458.28
1969	229,871.75	55.00	4,179.40	20.94	87,498.93
1970	224,422.57	55.00	4,080.32	21.43	87,458.73
1971	959,357.97	55.00	17,442.50	21.94	382,657.61
1972	1,314,700.31	55.00	23,903.13	22.45	536,613.55
1973	1,272,003.00	55.00	23,126.83	22.97	531,154.66
1974	1,324,036.14	55.00	24,072.87	23.49	565,491.96
1975	1,320,314.51	55.00	24,005.21	24.02	576,627.37

NIPSCO
Gas Division
382.00 Meter Installations

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1976	1,373,709.60	55.00	24,976.00	24.56	613,317.25
1977	1,377,399.24	55.00	25,043.09	25.10	628,565.69
1978	1,401,416.61	55.00	25,479.76	25.65	653,523.89
1979	1,547,015.34	55.00	28,126.95	26.20	737,049.66
1980	942,866.64	55.00	17,142.66	26.77	458,844.95
1981	1,800,478.45	55.00	32,735.27	27.33	894,796.00
1982	1,406,290.58	55.00	25,568.37	27.91	713,551.43
1983	1,411,889.38	55.00	25,670.17	28.49	731,300.61
1984	1,330,823.33	55.00	24,196.27	29.08	703,509.39
1985	441,041.77	55.00	8,018.77	29.67	237,899.30
1986	2,764,237.37	55.00	50,257.79	30.27	1,521,119.26
1987	720,291.42	55.00	13,095.93	30.87	404,264.25
1988	1,421,320.74	55.00	25,841.64	31.48	813,491.13
1989	1,596,386.35	55.00	29,024.59	32.10	931,565.41
1990	1,761,308.92	55.00	32,023.11	32.72	1,047,698.69
1991	1,221,546.66	55.00	22,209.46	33.34	740,538.59
1992	2,771,846.18	55.00	50,396.13	33.97	1,712,201.01
1993	2,533,372.25	55.00	46,060.33	34.61	1,594,165.68
1994	2,717,321.74	55.00	49,404.79	35.25	1,741,613.88
1995	3,239,150.57	55.00	58,892.39	35.90	2,114,117.07
1996	2,822,213.72	55.00	51,311.88	36.55	1,875,363.32
1997	2,919,930.92	55.00	53,088.52	37.20	1,975,042.95
1998	2,803,810.21	55.00	50,977.28	37.86	1,930,017.23
1999	2,698,370.94	55.00	49,060.24	38.52	1,889,944.82
2000	3,347,534.03	55.00	60,862.95	39.19	2,385,162.08
2001	3,600,025.95	55.00	65,453.62	39.86	2,608,883.99
2002	3,055,487.38	55.00	55,553.13	40.53	2,251,631.50

NIPSCO
Gas Division
382.00 Meter Installations

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2022
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2003	3,771,095.28	55.00	68,563.90	41.21	2,825,296.77
2004	3,278,597.17	55.00	59,609.58	41.88	2,496,727.07
2005	3,997,199.82	55.00	72,674.81	42.57	3,093,492.63
2006	3,255,821.85	55.00	59,195.50	43.25	2,560,232.54
2007	2,309,752.53	55.00	41,994.60	43.94	1,845,130.10
2008	2,807,145.30	55.00	51,037.92	44.63	2,277,661.41
2009	2,753,367.60	55.00	50,060.16	45.32	2,268,647.11
2010	2,389,623.40	55.00	43,446.77	46.01	1,999,157.92
2011	4,468,486.07	55.00	81,243.47	46.71	3,795,088.41
2012	7,231,848.21	55.00	131,485.34	47.41	6,234,280.76
2013	5,022,205.99	55.00	91,310.89	48.12	4,393,811.87
2014	7,788,428.59	55.00	141,604.77	48.83	6,914,223.29
2015	10,127,190.29	55.00	184,126.80	49.54	9,121,418.54
2016	7,647,142.95	55.00	139,035.99	50.25	6,987,191.77
2017	6,207,385.28	55.00	112,859.14	50.97	5,752,882.15
2018	8,216,128.45	55.00	149,380.96	51.70	7,722,582.33
2019	11,834,938.51	55.00	215,176.10	52.42	11,280,467.21
2020	12,462,366.37	55.00	226,583.64	53.15	12,043,953.23
2021	13,478,936.84	55.00	245,066.34	53.89	13,206,644.50
2022	12,559,120.49	55.00	228,342.77	54.63	12,474,308.86
Total	194,495,469.73	55.00	3,536,205.72	44.22	156,388,197.78

Composite Average Remaining Life ... 44.22 Years

NIPSCO
Gas Division
369.00 M&R Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 69 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1969	29,923.28	69.00	433.67	29.21	12,666.41
1970	12,590.95	69.00	182.48	29.78	5,434.25
1971	89,663.80	69.00	1,299.46	30.36	39,451.40
1972	69,765.13	69.00	1,011.08	30.95	31,291.80
1973	48,702.44	69.00	705.83	31.54	22,263.10
1974	103,179.58	69.00	1,495.34	32.14	48,066.83
1975	39,813.87	69.00	577.01	32.75	18,897.54
1976	307,482.67	69.00	4,456.22	33.37	148,688.06
1977	121,077.61	69.00	1,754.73	33.99	59,636.57
1978	203,643.40	69.00	2,951.32	34.61	102,157.43
1979	175,266.17	69.00	2,540.06	35.25	89,528.92
1980	19,126.63	69.00	277.19	35.89	9,947.63
1981	126,586.85	69.00	1,834.57	36.53	67,020.32
1982	681,788.56	69.00	9,880.89	37.18	367,391.18
1983	323,186.36	69.00	4,683.81	37.84	177,238.70
1984	450,635.92	69.00	6,530.89	38.50	251,456.24
1985	155,084.91	69.00	2,247.58	39.17	88,043.24
1986	572,687.23	69.00	8,299.73	39.85	330,707.89
1987	900,487.60	69.00	13,050.41	40.53	528,881.16
1988	321,311.26	69.00	4,656.64	41.21	191,900.53
1989	138,682.86	69.00	2,009.88	41.90	84,215.19
1990	1,380,311.02	69.00	20,004.30	42.60	852,086.71
1991	123,595.07	69.00	1,791.21	43.29	77,548.60
1992	348,928.13	69.00	5,056.88	44.00	222,502.17
1993	422,384.28	69.00	6,121.45	44.71	273,679.57
1994	581,510.04	69.00	8,427.59	45.42	382,809.72
1995	278,545.73	69.00	4,036.85	46.14	186,264.37

NIPSCO

Gas Division

369.00 M&R Station Equipment

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2024

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 69 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1996	350,670.26	69.00	5,082.12	46.86	238,171.77
1997	460,157.04	69.00	6,668.87	47.59	317,378.21
1998	605,320.16	69.00	8,772.66	48.32	423,919.13
1999	2,404,393.97	69.00	34,845.93	49.06	1,709,450.93
2000	1,130,888.12	69.00	16,389.51	49.80	816,122.42
2001	2,383,446.31	69.00	34,542.34	50.54	1,745,752.10
2002	3,399,431.67	69.00	49,266.61	51.29	2,526,648.33
2003	1,528,351.95	69.00	22,149.80	52.04	1,152,596.82
2004	1,489,844.25	69.00	21,591.72	52.79	1,139,817.49
2005	598,817.57	69.00	8,678.42	53.55	464,709.81
2006	1,912,458.67	69.00	27,716.50	54.31	1,505,227.22
2007	981,439.86	69.00	14,223.62	55.07	783,336.16
2008	2,935,128.98	69.00	42,537.66	55.84	2,375,313.60
2009	919,388.92	69.00	13,324.34	56.61	754,316.86
2010	442,880.53	69.00	6,418.49	57.39	368,333.60
2011	1,315,556.92	69.00	19,065.84	58.16	1,108,938.22
2012	185,785.00	69.00	2,692.51	58.95	158,712.90
2013	948,831.03	69.00	13,751.03	59.73	821,354.15
2014	12,094,762.91	69.00	175,284.59	60.52	10,608,144.18
2015	7,745,517.29	69.00	112,252.70	61.31	6,882,295.12
2016	9,695,007.63	69.00	140,505.89	62.11	8,726,334.49
2017	10,554,189.95	69.00	152,957.68	62.90	9,621,745.14
2018	35,434,870.87	69.00	513,543.49	63.71	32,716,327.96
2019	7,597,481.29	69.00	110,107.27	64.51	7,103,236.45
2020	45,430,278.44	69.00	658,402.95	65.32	43,006,726.78
2021	17,972,071.68	69.00	260,462.09	66.13	17,225,060.24
2022	199,541.81	69.00	2,891.88	66.95	193,603.56

NIPSCO
Gas Division
369.00 M&R Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *69* *Survivor Curve:* *R1.5*

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2023	123,105,207.60	69.00	1,784,114.80	67.77	120,903,638.95
2024	40,483,155.61	69.00	586,706.27	68.59	40,241,066.98
Total	342,330,837.64	69.00	4,961,264.65	64.56	320,308,055.11

Composite Average Remaining Life ... 64.56 Years

NIPSCO
Gas Division
378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1923	11,977.20	59.00	203.00	5.46	1,108.14
1925	840.89	59.00	14.25	6.06	86.40
1928	766.52	59.00	12.99	6.98	90.70
1929	8,056.57	59.00	136.55	7.29	995.58
1930	348.10	59.00	5.90	7.61	44.87
1931	946.38	59.00	16.04	7.93	127.13
1932	5,344.42	59.00	90.58	8.25	747.50
1934	1,684.73	59.00	28.55	8.91	254.41
1935	67.79	59.00	1.15	9.25	10.62
1936	547.26	59.00	9.28	9.59	88.91
1937	750.42	59.00	12.72	9.93	126.28
1938	2,331.23	59.00	39.51	10.28	406.12
1939	1,024.87	59.00	17.37	10.63	184.63
1940	2,853.07	59.00	48.36	10.98	531.18
1942	4,210.24	59.00	71.36	11.71	835.65
1943	2,643.18	59.00	44.80	12.08	541.13
1944	2,076.34	59.00	35.19	12.45	438.23
1945	1,996.25	59.00	33.83	12.83	434.14
1946	1,430.68	59.00	24.25	13.21	320.41
1947	4,368.68	59.00	74.04	13.60	1,007.04
1948	7,243.90	59.00	122.78	13.99	1,717.99
1949	27,660.19	59.00	468.81	14.39	6,745.74
1950	55,563.31	59.00	941.73	14.79	13,928.56
1951	4,455.49	59.00	75.52	15.20	1,147.60
1952	20,391.40	59.00	345.61	15.61	5,394.19
1953	30,645.38	59.00	519.40	16.02	8,322.77
1954	104,560.61	59.00	1,772.18	16.44	29,143.15

NIPSCO

Gas Division

378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2024

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1955	91,820.33	59.00	1,556.25	16.87	26,255.41
1956	43,351.36	59.00	734.75	17.30	12,712.96
1957	29,695.21	59.00	503.30	17.74	8,927.97
1958	93,086.24	59.00	1,577.70	18.18	28,683.47
1959	27,612.68	59.00	468.00	18.63	8,717.86
1960	199,227.16	59.00	3,376.66	19.08	64,428.32
1961	258,146.76	59.00	4,375.28	19.54	85,484.57
1962	112,555.56	59.00	1,907.68	20.00	38,157.15
1963	158,631.16	59.00	2,688.61	20.47	55,038.73
1964	188,626.56	59.00	3,197.00	20.95	66,961.50
1965	206,762.21	59.00	3,504.37	21.43	75,084.22
1966	202,804.52	59.00	3,437.30	21.91	75,318.64
1967	157,226.46	59.00	2,664.80	22.40	59,702.50
1968	261,324.01	59.00	4,429.13	22.90	101,432.30
1969	67,234.20	59.00	1,139.54	23.40	26,670.89
1970	172,304.12	59.00	2,920.35	23.91	69,838.54
1971	154,574.09	59.00	2,619.85	24.43	63,999.87
1972	166,807.25	59.00	2,827.18	24.95	70,539.42
1973	172,521.64	59.00	2,924.04	25.48	74,497.63
1974	177,986.32	59.00	3,016.66	26.01	78,462.13
1975	153,408.23	59.00	2,600.09	26.55	69,029.88
1976	162,031.53	59.00	2,746.24	27.09	74,407.23
1977	90,205.51	59.00	1,528.88	27.64	42,263.84
1978	213,061.20	59.00	3,611.13	28.20	101,837.70
1979	444,266.00	59.00	7,529.78	28.76	216,586.22
1980	397,137.27	59.00	6,731.00	29.33	197,436.87
1981	511,336.53	59.00	8,666.55	29.91	259,179.71

NIPSCO
Gas Division
378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1982	801,862.24	59.00	13,590.61	30.49	414,325.70
1983	1,180,101.90	59.00	20,001.32	31.07	621,481.10
1984	632,346.86	59.00	10,717.53	31.66	339,340.58
1985	1,132,465.16	59.00	19,193.94	32.26	619,188.07
1986	1,181,313.61	59.00	20,021.86	32.86	657,960.37
1987	807,144.90	59.00	13,680.15	33.47	457,854.56
1988	833,369.53	59.00	14,124.62	34.08	481,396.07
1989	595,641.63	59.00	10,095.42	34.70	350,315.20
1990	408,536.62	59.00	6,924.21	35.32	244,587.64
1991	600,198.09	59.00	10,172.64	35.95	365,714.17
1992	661,114.50	59.00	11,205.10	36.58	409,925.65
1993	835,529.56	59.00	14,161.23	37.22	527,098.84
1994	801,723.33	59.00	13,588.26	37.86	514,480.53
1995	674,625.94	59.00	11,434.11	38.51	440,311.40
1996	213,121.04	59.00	3,612.15	39.16	141,447.72
1997	283,264.11	59.00	4,800.99	39.81	191,137.20
1998	497,329.61	59.00	8,429.15	40.47	341,130.38
1999	806,030.52	59.00	13,661.26	41.13	561,914.75
2000	395,959.03	59.00	6,711.03	41.80	280,493.48
2001	777,584.40	59.00	13,179.13	42.46	559,644.39
2002	719,435.72	59.00	12,193.58	43.14	525,980.84
2003	995,744.29	59.00	16,876.68	43.81	739,368.30
2004	825,405.72	59.00	13,989.64	44.49	622,348.70
2005	420,189.13	59.00	7,121.71	45.17	321,660.82
2006	889,611.04	59.00	15,077.85	45.85	691,297.24
2007	348,894.18	59.00	5,913.34	46.53	275,163.05
2008	494,596.54	59.00	8,382.82	47.22	395,837.73

NIPSCO
Gas Division
378.00 M&R Station Equipment - General

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 59 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2009	577,577.63	59.00	9,789.25	47.91	469,003.25
2010	551,568.51	59.00	9,348.43	48.60	454,349.16
2011	616,001.07	59.00	10,440.49	49.30	514,686.76
2012	311,543.82	59.00	5,280.30	50.00	263,990.89
2013	1,309,625.20	59.00	22,196.59	50.70	1,125,289.68
2014	2,444,287.82	59.00	41,427.77	51.40	2,129,390.61
2015	3,469,319.42	59.00	58,800.84	52.11	3,063,970.72
2016	5,529,223.95	59.00	93,713.77	52.82	4,949,794.14
2017	1,458,704.25	59.00	24,723.30	53.53	1,323,473.59
2018	5,682,023.43	59.00	96,303.54	54.25	5,224,378.77
2019	3,190,882.22	59.00	54,081.66	54.97	2,972,873.54
2020	792,473.36	59.00	13,431.48	55.69	748,049.62
2021	3,625,659.85	59.00	61,450.62	56.42	3,467,188.13
2022	14,066,008.42	59.00	238,402.11	57.15	13,625,757.80
2023	5,979,037.11	59.00	101,337.57	57.89	5,866,370.78
2024	7,077,793.80	59.00	119,960.18	58.63	7,033,222.75
Total	80,713,398.27	59.00	1,367,996.08	49.31	67,449,629.30

Composite Average Remaining Life ... *49.31 Years*

NIPSCO
Gas Division
380.10 Services - Steel

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1931	445.79	70.00	6.37	13.38	85.23
1935	13.06	70.00	0.19	14.70	2.74
1936	4,994.02	70.00	71.34	15.04	1,072.82
1937	4,572.09	70.00	65.31	15.38	1,004.87
1938	7,415.32	70.00	105.93	15.74	1,667.18
1939	11,679.43	70.00	166.85	16.10	2,685.45
1940	13,883.04	70.00	198.33	16.46	3,264.45
1941	16,212.78	70.00	231.61	16.83	3,897.90
1942	21,933.28	70.00	313.33	17.21	5,391.34
1943	14,295.36	70.00	204.22	17.59	3,592.11
1944	17,868.23	70.00	255.26	17.98	4,589.43
1945	17,711.03	70.00	253.01	18.38	4,649.41
1946	37,801.35	70.00	540.01	18.78	10,141.41
1947	71,716.61	70.00	1,024.51	19.19	19,660.79
1948	92,229.36	70.00	1,317.55	19.61	25,835.10
1949	104,183.38	70.00	1,488.32	20.03	29,815.83
1950	137,825.61	70.00	1,968.92	20.47	40,295.67
1951	169,268.26	70.00	2,418.09	20.91	50,551.11
1952	214,698.05	70.00	3,067.08	21.35	65,487.70
1953	189,122.58	70.00	2,701.72	21.81	58,917.07
1954	425,929.96	70.00	6,084.65	22.27	135,496.70
1955	268,574.71	70.00	3,836.74	22.74	87,243.58
1956	393,102.07	70.00	5,615.69	23.22	130,370.74
1957	462,775.16	70.00	6,611.01	23.70	156,685.53
1958	595,517.82	70.00	8,507.31	24.19	205,811.91
1959	836,458.51	70.00	11,949.28	24.69	295,037.77
1960	1,597,680.51	70.00	22,823.77	25.20	575,141.69

NIPSCO
Gas Division
380.10 Services - Steel

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1961	2,024,836.62	70.00	28,925.94	25.71	743,765.62
1962	2,305,414.50	70.00	32,934.15	26.24	864,052.53
1963	2,416,256.58	70.00	34,517.60	26.76	923,836.82
1964	2,511,265.66	70.00	35,874.85	27.30	979,440.73
1965	2,656,400.48	70.00	37,948.19	27.84	1,056,661.46
1966	3,030,067.57	70.00	43,286.23	28.39	1,229,091.42
1967	3,132,557.55	70.00	44,750.36	28.95	1,295,711.15
1968	3,516,785.38	70.00	50,239.27	29.52	1,482,977.29
1969	3,690,643.03	70.00	52,722.93	30.09	1,586,521.84
1970	3,330,852.33	70.00	47,583.12	30.67	1,459,369.65
1971	3,548,607.76	70.00	50,693.88	31.26	1,584,522.84
1972	1,834,561.12	70.00	26,207.75	31.85	834,684.11
1973	1,450,794.07	70.00	20,725.42	32.45	672,471.39
1974	1,063,402.67	70.00	15,191.31	33.05	502,136.78
1975	756,909.83	70.00	10,812.89	33.67	364,020.96
1976	1,086,584.61	70.00	15,522.48	34.29	532,195.55
1977	668,766.15	70.00	9,553.70	34.91	333,516.92
1978	495,217.95	70.00	7,074.47	35.54	251,439.48
1979	361,124.50	70.00	5,158.87	36.18	186,640.64
1980	493,650.51	70.00	7,052.08	36.82	259,661.95
1981	956,736.88	70.00	13,667.53	37.47	512,142.02
1982	620,870.59	70.00	8,869.49	38.13	338,153.12
1983	271,612.40	70.00	3,880.14	38.79	150,500.14
1984	381,989.39	70.00	5,456.94	39.45	215,291.63
1985	451,328.51	70.00	6,447.48	40.13	258,707.97
1986	295,624.67	70.00	4,223.17	40.80	172,313.71
1987	275,841.36	70.00	3,940.55	41.48	163,466.58

NIPSCO
Gas Division
380.10 Services - Steel

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1988	315,514.88	70.00	4,507.31	42.17	190,082.81
1989	177,421.52	70.00	2,534.57	42.86	108,640.95
1990	131,084.11	70.00	1,872.61	43.56	81,575.09
1991	90,428.28	70.00	1,291.82	44.26	57,180.79
1992	130,192.71	70.00	1,859.88	44.97	83,641.27
1993	147,038.52	70.00	2,100.53	45.68	95,957.30
1994	134,317.48	70.00	1,918.80	46.40	89,027.26
1995	56,061.75	70.00	800.87	47.12	37,736.30
1996	218,975.35	70.00	3,128.19	47.84	149,660.61
1997	357,175.39	70.00	5,102.45	48.57	247,837.38
1998	192,751.49	70.00	2,753.56	49.30	135,762.51
1999	597,962.00	70.00	8,542.23	50.04	427,465.93
2000	281,548.45	70.00	4,022.08	50.78	204,247.41
2001	565,384.60	70.00	8,076.84	51.52	416,157.43
2002	149,252.92	70.00	2,132.16	52.27	111,456.02
2003	294,494.43	70.00	4,207.02	53.02	223,074.57
2004	28,392.24	70.00	405.60	53.78	21,813.16
2005	164,288.68	70.00	2,346.96	54.54	127,998.15
2006	54,716.67	70.00	781.66	55.30	43,225.94
2007	291,248.03	70.00	4,160.64	56.07	233,267.04
2008	321,477.79	70.00	4,592.49	56.83	261,004.76
2009	368,545.26	70.00	5,264.88	57.61	303,288.40
2010	329,373.56	70.00	4,705.29	58.38	274,698.13
2011	785,184.11	70.00	11,216.80	59.16	663,589.37
2012	437,598.42	70.00	6,251.34	59.94	374,717.92
2013	909,317.12	70.00	12,990.11	60.73	788,864.55
2014	771,300.99	70.00	11,018.47	61.52	677,819.75

NIPSCO

Gas Division

380.10 Services - Steel

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2024

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2015	1,263,602.60	70.00	18,051.28	62.31	1,124,741.51
2016	234,238.72	70.00	3,346.23	63.10	211,163.01
2017	346,182.35	70.00	4,945.41	63.90	316,026.62
2018	924,712.36	70.00	13,210.04	64.71	854,768.65
2019	346,862.45	70.00	4,955.13	65.51	324,615.74
2020	743,877.14	70.00	10,626.71	66.32	704,768.12
2021	734,571.31	70.00	10,493.77	67.13	704,470.99
2022	644,872.02	70.00	9,212.36	67.95	625,952.64
2023	5,571,402.03	70.00	79,590.64	68.77	5,473,182.38
2024	6,586,132.50	70.00	94,086.64	69.59	6,547,307.21
Total	75,054,110.27	70.00	1,072,190.55	41.21	44,188,477.50

Composite Average Remaining Life ... 41.21 Years

NIPSCO

Gas Division

380.20 Services - Plastic

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2024

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1971	326,857.33	70.00	4,669.34	31.26	145,948.20
1972	3,166,709.16	70.00	45,238.24	31.85	1,440,781.56
1973	4,433,803.28	70.00	63,339.40	32.45	2,055,154.42
1974	5,244,203.25	70.00	74,916.42	33.05	2,476,303.11
1975	5,893,654.42	70.00	84,194.20	33.67	2,834,437.69
1976	5,740,071.61	70.00	82,000.18	34.29	2,811,415.30
1977	6,555,864.18	70.00	93,654.24	34.91	3,269,441.24
1978	7,901,618.99	70.00	112,879.11	35.54	4,011,928.42
1979	9,349,450.00	70.00	133,562.20	36.18	4,832,093.38
1980	6,033,079.06	70.00	86,185.96	36.82	3,173,421.36
1981	10,438,420.27	70.00	149,118.76	37.47	5,587,694.71
1982	8,656,592.84	70.00	123,664.34	38.13	4,714,756.80
1983	7,924,688.76	70.00	113,208.68	38.79	4,391,061.70
1984	7,498,255.07	70.00	107,116.83	39.45	4,226,063.80
1985	7,837,460.46	70.00	111,962.57	40.13	4,492,544.73
1986	10,394,710.39	70.00	148,494.34	40.80	6,058,868.78
1987	12,528,065.66	70.00	178,970.53	41.48	7,424,267.43
1988	11,766,289.79	70.00	168,088.13	42.17	7,088,633.86
1989	10,122,923.90	70.00	144,611.71	42.86	6,198,594.49
1990	9,824,553.34	70.00	140,349.32	43.56	6,113,927.95
1991	7,951,121.05	70.00	113,586.28	44.26	5,027,756.59
1992	11,878,442.38	70.00	169,690.29	44.97	7,631,210.91
1993	10,536,105.12	70.00	150,514.24	45.68	6,875,859.41
1994	11,995,181.42	70.00	171,357.97	46.40	7,950,552.62
1995	12,187,507.15	70.00	174,105.46	47.12	8,203,657.48
1996	13,476,975.80	70.00	192,526.25	47.84	9,210,956.20
1997	12,559,205.57	70.00	179,415.38	48.57	8,714,599.98

NIPSCO
Gas Division
380.20 Services - Plastic

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1998	13,003,825.31	70.00	185,767.02	49.30	9,159,109.16
1999	15,120,746.53	70.00	216,008.44	50.04	10,809,389.30
2000	12,703,047.55	70.00	181,470.24	50.78	9,215,339.33
2001	13,336,096.53	70.00	190,513.71	51.52	9,816,177.58
2002	11,117,471.54	70.00	158,819.39	52.27	8,302,076.52
2003	11,818,887.38	70.00	168,839.51	53.02	8,952,608.22
2004	8,025,236.31	70.00	114,645.05	53.78	6,165,620.38
2005	13,821,660.62	70.00	197,450.26	54.54	10,768,526.28
2006	11,617,640.39	70.00	165,964.59	55.30	9,177,886.91
2007	11,777,464.46	70.00	168,247.76	56.07	9,432,833.65
2008	11,645,366.58	70.00	166,360.67	56.83	9,454,762.53
2009	7,475,109.51	70.00	106,786.18	57.61	6,151,521.26
2010	7,230,185.78	70.00	103,287.31	58.38	6,029,987.73
2011	8,841,990.09	70.00	126,312.85	59.16	7,472,706.75
2012	14,184,947.81	70.00	202,640.03	59.94	12,146,648.52
2013	15,279,437.27	70.00	218,275.43	60.73	13,255,448.72
2014	13,723,245.04	70.00	196,044.34	61.52	12,059,995.62
2015	20,037,767.56	70.00	286,250.88	62.31	17,835,757.03
2016	34,289,173.11	70.00	489,840.30	63.10	30,911,221.78
2017	30,435,335.34	70.00	434,786.04	63.90	27,784,132.42
2018	39,770,396.54	70.00	568,142.68	64.71	36,762,229.56
2019	39,710,004.92	70.00	567,279.95	65.51	37,163,125.40
2020	34,965,095.86	70.00	499,496.24	66.32	33,126,821.18
2021	45,713,093.48	70.00	653,037.48	67.13	43,839,920.97
2022	59,289,287.79	70.00	846,981.12	67.95	57,549,847.61
2023	65,242,694.55	70.00	932,028.91	68.77	64,092,514.60
2024	77,164,535.55	70.00	1,102,339.18	69.59	76,709,650.18

NIPSCO
Gas Division
380.20 Services - Plastic

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R1.5

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
Total	879,561,553.65	70.00	12,565,035.89	57.39	721,107,791.30

Composite Average Remaining Life ... 57.39 Years

NIPSCO
Gas Division
381.00 Meters

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 36 *Survivor Curve:* R2

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1960	977.11	36.00	27.14	0.70	18.97
1961	18,177.17	36.00	504.92	0.93	471.21
1962	6,047.67	36.00	167.99	1.19	200.56
1963	34,871.20	36.00	968.64	1.44	1,397.96
1964	899,524.48	36.00	24,986.63	1.71	42,706.46
1965	591,681.70	36.00	16,435.50	1.98	32,612.65
1966	816,544.02	36.00	22,681.63	2.27	51,533.68
1967	132,442.48	36.00	3,678.93	2.55	9,383.64
1968	80,661.95	36.00	2,240.60	2.83	6,351.12
1969	241,128.45	36.00	6,697.97	3.12	20,908.39
1970	402,153.46	36.00	11,170.86	3.41	38,098.62
1971	46,330.98	36.00	1,286.96	3.70	4,767.34
1972	1,432.19	36.00	39.78	3.99	158.86
1973	174.88	36.00	4.86	4.29	20.82
1975	3,516.96	36.00	97.69	4.88	476.80
1978	7,687.07	36.00	213.53	5.82	1,242.71
1979	90,209.39	36.00	2,505.80	6.15	15,411.71
1980	2,344,808.13	36.00	65,133.14	6.49	422,908.26
1981	1,097,897.71	36.00	30,496.96	6.85	208,783.36
1982	2,903.21	36.00	80.64	7.21	581.65
1983	25,209.09	36.00	700.25	7.59	5,317.14
1984	8,564.63	36.00	237.90	7.99	1,900.54
1985	431,151.96	36.00	11,976.37	8.40	100,591.68
1986	921,452.49	36.00	25,595.74	8.83	225,898.12
1987	1,467,847.22	36.00	40,773.27	9.27	377,894.99
1988	1,283,003.94	36.00	35,638.77	9.73	346,662.62
1989	1,721,421.41	36.00	47,816.95	10.20	487,818.05

NIPSCO
Gas Division
381.00 Meters

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 36 *Survivor Curve:* R2

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1990	1,716,806.22	36.00	47,688.75	10.69	509,986.11
1991	713,859.86	36.00	19,829.31	11.20	222,145.09
1992	123,599.74	36.00	3,433.30	11.73	40,266.09
1993	151,374.40	36.00	4,204.82	12.27	51,591.36
1994	821,126.55	36.00	22,808.92	12.83	292,557.43
1995	2,820,049.70	36.00	78,334.21	13.40	1,049,716.19
1996	1,517,490.58	36.00	42,152.24	13.99	589,713.15
1997	1,453,586.29	36.00	40,377.13	14.59	589,301.90
1998	2,062,481.85	36.00	57,290.79	15.21	871,606.73
1999	1,355,806.40	36.00	37,661.04	15.85	596,883.55
2000	1,862,748.56	36.00	51,742.68	16.50	853,659.94
2001	1,310,394.79	36.00	36,399.62	17.16	624,669.12
2002	1,305,814.10	36.00	36,272.38	17.84	646,989.05
2003	1,570,506.44	36.00	43,624.90	18.53	808,265.85
2004	25,729,607.24	36.00	714,706.67	19.23	13,744,612.54
2005	2,170,122.76	36.00	60,280.80	19.95	1,202,427.74
2006	2,220,407.84	36.00	61,677.60	20.68	1,275,201.47
2007	762,694.87	36.00	21,185.83	21.41	453,682.90
2008	26,095.28	36.00	724.86	22.17	16,067.78
2009	968,876.85	36.00	26,913.07	22.93	617,116.21
2010	404,713.68	36.00	11,241.97	23.70	266,483.06
2011	25,715.21	36.00	714.31	24.49	17,492.85
2013	18,980,683.50	36.00	527,237.79	26.09	13,755,655.06
2014	28,315,658.19	36.00	786,540.96	26.91	21,162,505.93
2015	16,317,039.07	36.00	453,248.14	27.73	12,569,067.85
2016	6,422,084.85	36.00	178,390.09	28.57	5,095,723.06
2017	1,040,551.05	36.00	28,904.01	29.41	850,041.10

NIPSCO
Gas Division
381.00 Meters

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: **36** *Survivor Curve:* **R2**

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2018	4,026,079.58	36.00	111,834.82	30.26	3,384,333.18
2019	8,379,031.62	36.00	232,749.37	31.12	7,243,893.98
2020	5,680,471.66	36.00	157,789.86	31.99	5,048,000.90
2021	5,877,202.11	36.00	163,254.55	32.87	5,366,129.39
2022	6,861,567.20	36.00	190,597.85	33.76	6,433,656.71
2023	14,659,076.17	36.00	407,193.92	34.65	14,108,430.20
2024	17,340,579.53	36.00	481,679.64	35.55	17,122,672.42
Total	197,671,724.69	36.00	5,490,845.60	25.48	139,884,663.79

Composite Average Remaining Life ... *25.48 Years*

NIPSCO
Gas Division
382.00 Meter Installations

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1949	350.31	55.00	6.37	11.44	72.85
1950	117.24	55.00	2.13	11.81	25.18
1951	404.23	55.00	7.35	12.20	89.63
1952	690.94	55.00	12.56	12.58	158.04
1953	889.17	55.00	16.17	12.97	209.70
1954	8,438.20	55.00	153.42	13.37	2,050.71
1955	6,319.24	55.00	114.89	13.77	1,581.80
1956	11,491.03	55.00	208.92	14.17	2,961.29
1957	11,520.52	55.00	209.46	14.59	3,055.01
1958	12,502.34	55.00	227.31	15.00	3,410.07
1959	9,468.63	55.00	172.15	15.42	2,655.27
1960	45,212.05	55.00	822.02	15.85	13,030.18
1961	75,295.46	55.00	1,368.98	16.28	22,293.20
1962	63,573.29	55.00	1,155.85	16.72	19,329.45
1963	69,537.36	55.00	1,264.29	17.17	21,704.76
1964	143,025.86	55.00	2,600.41	17.62	45,813.61
1965	151,979.47	55.00	2,763.20	18.07	49,941.82
1966	177,003.15	55.00	3,218.17	18.54	59,651.43
1967	189,163.70	55.00	3,439.27	19.00	65,356.77
1968	221,357.12	55.00	4,024.59	19.48	78,387.56
1969	226,680.72	55.00	4,121.38	19.96	82,251.45
1970	221,368.01	55.00	4,024.79	20.44	82,280.55
1971	946,553.41	55.00	17,209.69	20.94	360,298.35
1972	1,297,490.53	55.00	23,590.23	21.43	505,639.29
1973	1,255,670.72	55.00	22,829.89	21.94	500,847.41
1974	1,307,367.58	55.00	23,769.81	22.45	533,620.59
1975	1,304,003.65	55.00	23,708.65	22.97	544,517.28

NIPSCO
Gas Division
382.00 Meter Installations

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1976	1,357,053.35	55.00	24,673.17	23.49	579,593.51
1977	1,361,004.25	55.00	24,745.00	24.02	594,398.00
1978	1,385,038.17	55.00	25,181.97	24.56	618,375.10
1979	1,529,263.48	55.00	27,804.20	25.10	697,867.78
1980	932,239.01	55.00	16,949.44	25.65	434,731.87
1981	1,780,543.33	55.00	32,372.82	26.20	848,310.18
1982	1,390,995.43	55.00	25,290.29	26.77	676,926.30
1983	1,396,794.43	55.00	25,395.72	27.33	694,174.41
1984	1,316,833.77	55.00	23,941.92	27.91	668,161.07
1985	436,482.29	55.00	7,935.87	28.49	226,079.87
1986	2,736,126.90	55.00	49,746.70	29.08	1,446,391.06
1987	713,084.39	55.00	12,964.89	29.67	384,639.93
1988	1,407,325.05	55.00	25,587.18	30.27	774,430.32
1989	1,580,917.78	55.00	28,743.35	30.87	887,291.62
1990	1,744,510.18	55.00	31,717.69	31.48	998,468.20
1991	1,210,073.12	55.00	22,000.86	32.10	706,133.74
1992	2,746,202.55	55.00	49,929.89	32.72	1,633,553.76
1993	2,510,283.37	55.00	45,640.54	33.34	1,521,809.82
1994	2,692,920.67	55.00	48,961.15	33.97	1,663,447.82
1995	3,210,488.23	55.00	58,371.27	34.61	2,020,251.92
1996	2,797,603.97	55.00	50,864.44	35.25	1,793,069.19
1997	2,894,853.30	55.00	52,632.57	35.90	1,889,402.37
1998	2,780,082.06	55.00	50,545.87	36.55	1,847,366.79
1999	2,675,866.40	55.00	48,651.08	37.20	1,809,957.57
2000	3,320,023.39	55.00	60,362.77	37.86	2,285,355.24
2001	3,570,875.86	55.00	64,923.63	38.52	2,501,049.14
2002	3,031,113.00	55.00	55,109.97	39.19	2,159,707.93

NIPSCO
Gas Division
382.00 Meter Installations

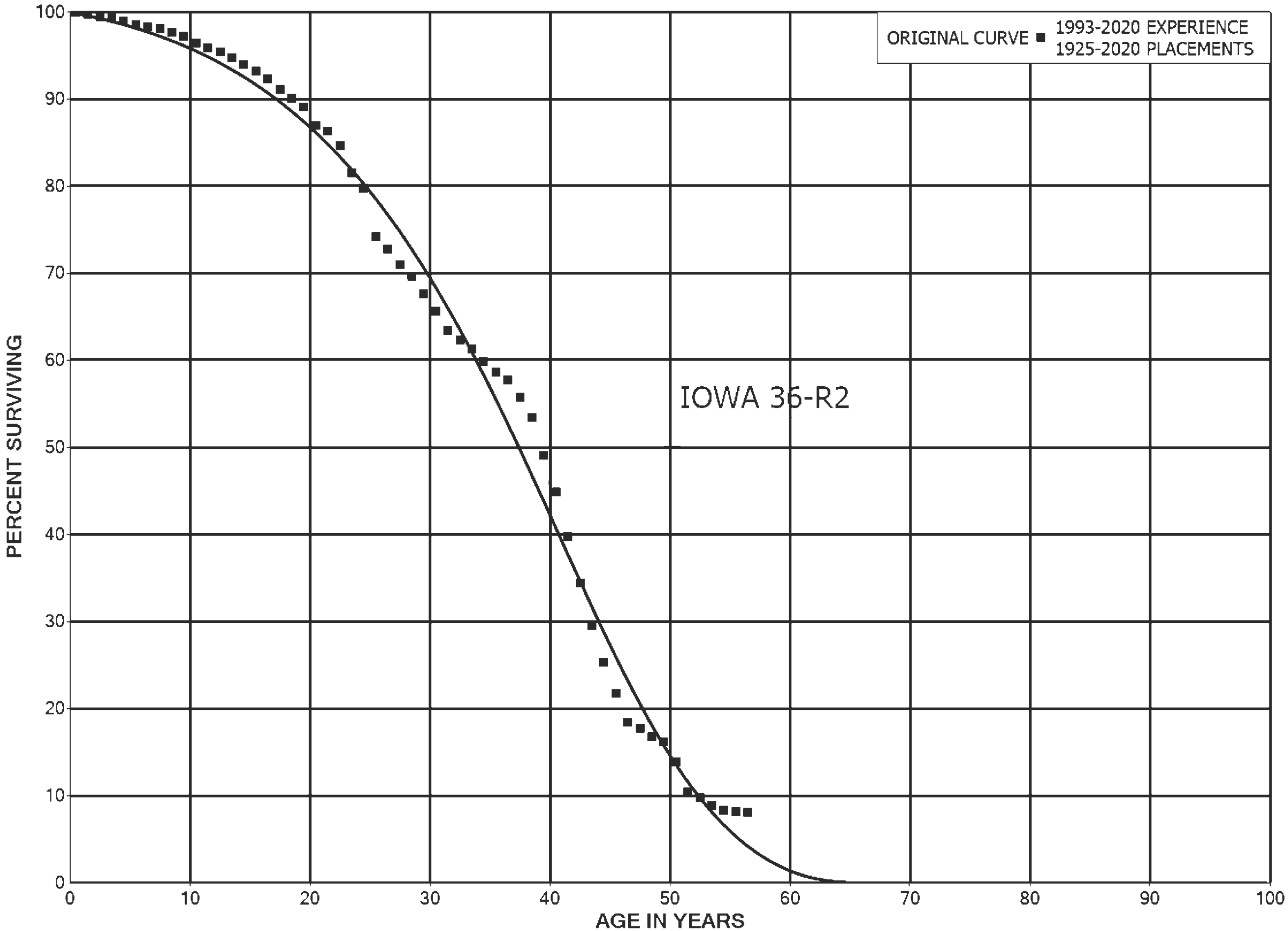
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 *Survivor Curve:* R1

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2003	3,741,461.89	55.00	68,025.13	39.86	2,711,380.47
2004	3,253,221.71	55.00	59,148.22	40.53	2,397,344.70
2005	3,966,750.49	55.00	72,121.20	41.21	2,971,881.25
2006	3,231,400.16	55.00	58,751.47	41.88	2,460,785.47
2007	2,292,694.44	55.00	41,684.46	42.57	1,774,350.46
2008	2,786,736.45	55.00	50,666.85	43.25	2,191,364.78
2009	2,733,663.64	55.00	49,701.91	43.94	2,183,768.61
2010	2,372,793.03	55.00	43,140.77	44.63	1,925,236.69
2011	4,437,515.70	55.00	80,680.38	45.32	3,656,306.98
2012	7,182,538.60	55.00	130,588.82	46.01	6,008,908.72
2013	4,988,537.58	55.00	90,698.75	46.71	4,236,768.53
2014	7,737,076.79	55.00	140,671.12	47.41	6,669,817.67
2015	10,061,535.10	55.00	182,933.09	48.12	8,802,604.37
2016	7,598,392.29	55.00	138,149.64	48.83	6,745,517.45
2017	6,168,479.28	55.00	112,151.77	49.54	5,555,862.94
2018	8,165,506.56	55.00	148,460.58	50.25	7,460,820.42
2019	11,763,269.27	55.00	213,873.05	50.97	10,901,965.76
2020	12,388,226.26	55.00	225,235.67	51.70	11,644,060.55
2021	13,400,189.33	55.00	243,634.60	52.42	12,772,385.45
2022	12,487,041.05	55.00	227,032.26	53.15	12,067,799.48
2023	17,041,789.24	55.00	309,844.09	53.89	16,697,522.57
2024	20,184,702.63	55.00	366,986.75	54.63	20,048,395.51
Total	230,249,593.15	55.00	4,186,266.80	44.73	187,247,026.60

Composite Average Remaining Life ... 44.73 Years

NORTHERN INDIANA PUBLIC SERVICE COMPANY
ACCOUNT 381.00 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



Gannett Fleming

VII-115

Northern Indiana Public Service Company
December 31, 2020

Attachment DJG-14
Cause No. 45967
Page 1 of 4

NORTHERN INDIANA PUBLIC SERVICE COMPANY

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1925-2020 EXPERIENCE BAND 1993-2020

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	151,078,352	83,038	0.0005	0.9995	100.00
0.5	146,396,322	318,119	0.0022	0.9978	99.95
1.5	148,318,015	417,390	0.0028	0.9972	99.73
2.5	174,738,602	381,226	0.0022	0.9978	99.45
3.5	140,161,745	437,652	0.0031	0.9969	99.23
4.5	137,160,730	605,073	0.0044	0.9956	98.92
5.5	123,612,411	301,361	0.0024	0.9976	98.48
6.5	97,133,923	218,140	0.0022	0.9978	98.24
7.5	78,664,205	326,333	0.0041	0.9959	98.02
8.5	78,467,212	366,330	0.0047	0.9953	97.62
9.5	78,218,727	625,045	0.0080	0.9920	97.16
10.5	77,489,533	404,375	0.0052	0.9948	96.38
11.5	77,647,373	351,713	0.0045	0.9955	95.88
12.5	81,314,464	598,829	0.0074	0.9926	95.45
13.5	80,333,663	637,113	0.0079	0.9921	94.74
14.5	78,410,920	703,374	0.0090	0.9910	93.99
15.5	75,549,803	717,139	0.0095	0.9905	93.15
16.5	49,885,337	622,323	0.0125	0.9875	92.27
17.5	49,170,822	547,194	0.0111	0.9889	91.11
18.5	49,185,870	561,747	0.0114	0.9886	90.10
19.5	49,103,988	1,201,383	0.0245	0.9755	89.07
20.5	48,076,451	363,022	0.0076	0.9924	86.89
21.5	48,114,503	890,516	0.0185	0.9815	86.24
22.5	47,301,736	1,770,428	0.0374	0.9626	84.64
23.5	45,517,995	987,070	0.0217	0.9783	81.47
24.5	44,296,089	3,057,733	0.0690	0.9310	79.71
25.5	40,067,396	809,796	0.0202	0.9798	74.20
26.5	39,644,371	972,397	0.0245	0.9755	72.70
27.5	39,769,677	755,266	0.0190	0.9810	70.92
28.5	40,498,067	1,128,997	0.0279	0.9721	69.57
29.5	40,202,658	1,175,903	0.0292	0.9708	67.63
30.5	38,970,157	1,349,236	0.0346	0.9654	65.66
31.5	36,581,776	636,751	0.0174	0.9826	63.38
32.5	34,879,462	570,127	0.0163	0.9837	62.28
33.5	32,707,960	755,345	0.0231	0.9769	61.26
34.5	30,935,184	658,421	0.0213	0.9787	59.85
35.5	29,718,355	441,792	0.0149	0.9851	58.57
36.5	29,272,763	1,003,935	0.0343	0.9657	57.70
37.5	28,249,769	1,156,581	0.0409	0.9591	55.72
38.5	27,021,279	2,217,126	0.0821	0.9179	53.44

NORTHERN INDIANA PUBLIC SERVICE COMPANY

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1925-2020 EXPERIENCE BAND 1993-2020

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	23,601,531	2,034,258	0.0862	0.9138	49.06
40.5	18,435,780	2,112,459	0.1146	0.8854	44.83
41.5	16,209,594	2,151,610	0.1327	0.8673	39.69
42.5	14,044,497	2,023,704	0.1441	0.8559	34.42
43.5	12,017,574	1,722,611	0.1433	0.8567	29.46
44.5	10,290,317	1,437,136	0.1397	0.8603	25.24
45.5	8,842,864	1,341,744	0.1517	0.8483	21.71
46.5	7,488,876	267,839	0.0358	0.9642	18.42
47.5	7,206,017	416,051	0.0577	0.9423	17.76
48.5	6,701,234	206,905	0.0309	0.9691	16.74
49.5	6,304,786	914,692	0.1451	0.8549	16.22
50.5	4,951,576	1,237,347	0.2499	0.7501	13.87
51.5	3,456,585	218,790	0.0633	0.9367	10.40
52.5	3,153,703	296,540	0.0940	0.9060	9.74
53.5	2,714,411	151,391	0.0558	0.9442	8.83
54.5	1,712,491	23,546	0.0137	0.9863	8.33
55.5	1,067,662	12,958	0.0121	0.9879	8.22
56.5	108,811	7,074	0.0650	0.9350	8.12
57.5	64,853	5,649	0.0871	0.9129	7.59
58.5	53,395	9,989	0.1871	0.8129	6.93
59.5	24,076	598	0.0248	0.9752	5.63
60.5	17,476	3,353	0.1919	0.8081	5.49
61.5	14,811	565	0.0381	0.9619	4.44
62.5	14,701	2,285	0.1554	0.8446	4.27
63.5	12,909	32	0.0025	0.9975	3.61
64.5	13,984	1,552	0.1110	0.8890	3.60
65.5	12,432	63	0.0051	0.9949	3.20
66.5	12,369	1,108	0.0896	0.9104	3.18
67.5	12,106		0.0000	1.0000	2.90
68.5	12,106		0.0000	1.0000	2.90
69.5	12,106	129	0.0107	0.9893	2.90
70.5	11,977		0.0000	1.0000	2.87
71.5	11,977	109	0.0091	0.9909	2.87
72.5	11,868	845	0.0712	0.9288	2.84
73.5	11,023		0.0000	1.0000	2.64
74.5	11,023	239	0.0217	0.9783	2.64
75.5	10,784		0.0000	1.0000	2.58
76.5	10,784	6,875	0.6375	0.3625	2.58
77.5	3,910	648	0.1658	0.8342	0.94
78.5	3,262	1,874	0.5744	0.4256	0.78

NORTHERN INDIANA PUBLIC SERVICE COMPANY

ACCOUNT 381.00 METERS

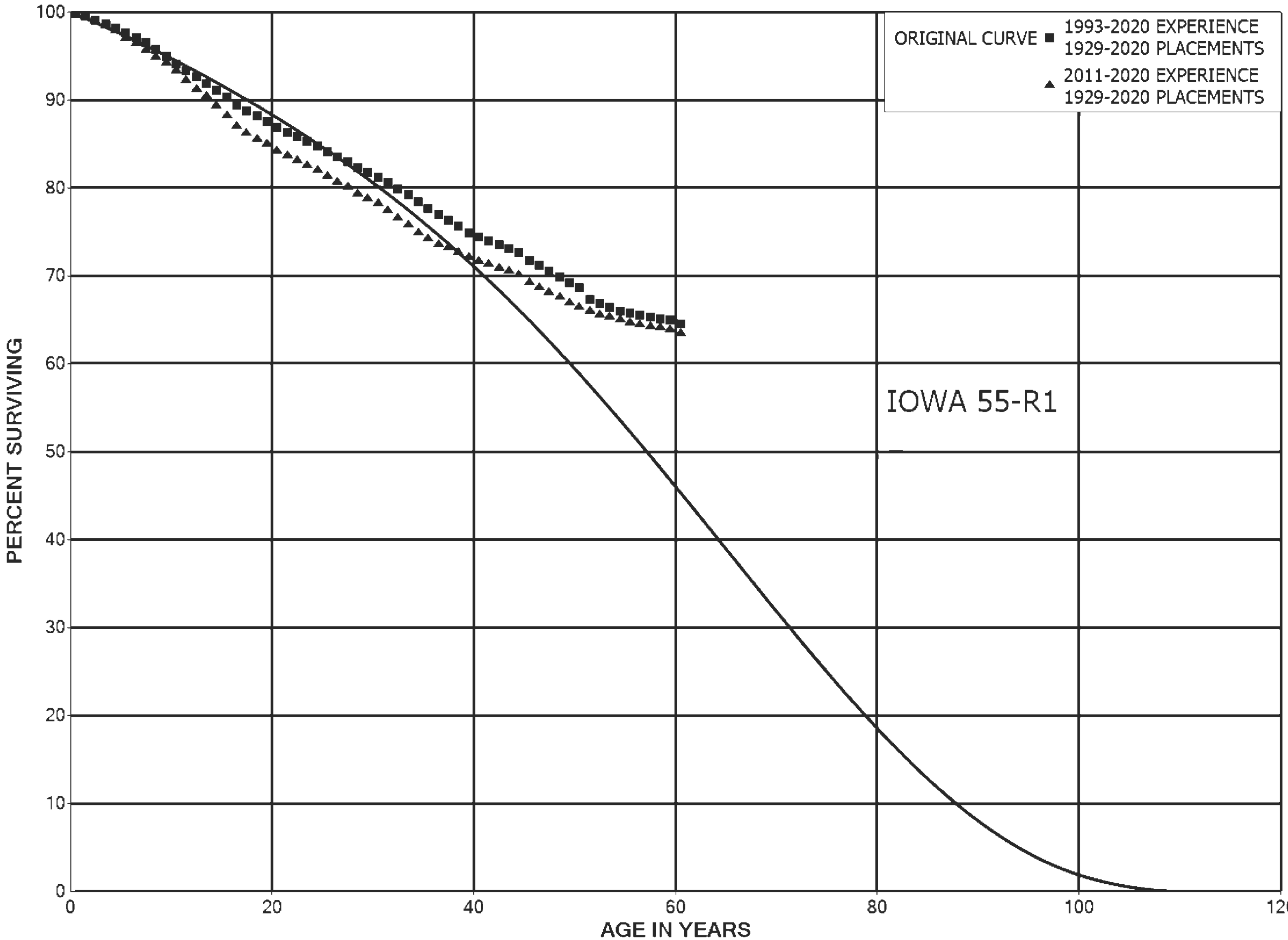
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1925-2020 EXPERIENCE BAND 1993-2020

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	1,388	68	0.0492	0.9508	0.33
80.5	1,320		0.0000	1.0000	0.32
81.5	1,320		0.0000	1.0000	0.32
82.5	1,320	191	0.1450	0.8550	0.32
83.5	1,070	688	0.6430	0.3570	0.27
84.5	382		0.0000	1.0000	0.10
85.5	382	382	1.0000		0.10
86.5					

Gannett Fleming

NORTHERN INDIANA PUBLIC SERVICE COMPANY
ACCOUNT 382.00 METER INSTALLATIONS
ORIGINAL AND SMOOTH SURVIVOR CURVES



NORTHERN INDIANA PUBLIC SERVICE COMPANY

ACCOUNT 382.00 METER INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-2020 EXPERIENCE BAND 1993-2020

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	145,270,682	214,529	0.0015	0.9985	100.00
0.5	136,244,251	505,645	0.0037	0.9963	99.85
1.5	125,297,375	539,708	0.0043	0.9957	99.48
2.5	119,202,017	504,828	0.0042	0.9958	99.05
3.5	114,359,584	496,328	0.0043	0.9957	98.63
4.5	107,776,536	634,791	0.0059	0.9941	98.21
5.5	97,916,772	513,464	0.0052	0.9948	97.63
6.5	92,748,818	631,247	0.0068	0.9932	97.12
7.5	87,877,870	675,474	0.0077	0.9923	96.45
8.5	81,653,009	653,568	0.0080	0.9920	95.71
9.5	78,174,565	695,864	0.0089	0.9911	94.95
10.5	76,838,339	668,582	0.0087	0.9913	94.10
11.5	75,501,490	582,014	0.0077	0.9923	93.28
12.5	73,236,270	543,150	0.0074	0.9926	92.56
13.5	72,133,455	635,975	0.0088	0.9912	91.88
14.5	69,804,995	637,874	0.0091	0.9909	91.07
15.5	66,725,937	619,546	0.0093	0.9907	90.24
16.5	64,707,821	494,687	0.0076	0.9924	89.40
17.5	62,032,343	404,315	0.0065	0.9935	88.71
18.5	60,086,784	393,659	0.0066	0.9934	88.14
19.5	57,556,266	441,303	0.0077	0.9923	87.56
20.5	55,243,806	368,610	0.0067	0.9933	86.89
21.5	53,440,588	323,115	0.0060	0.9940	86.31
22.5	50,631,558	320,822	0.0063	0.9937	85.79
23.5	47,690,054	308,006	0.0065	0.9935	85.24
24.5	44,857,305	323,482	0.0072	0.9928	84.69
25.5	41,486,510	273,609	0.0066	0.9934	84.08
26.5	38,706,852	242,682	0.0063	0.9937	83.53
27.5	36,139,798	307,871	0.0085	0.9915	83.00
28.5	33,216,735	229,244	0.0069	0.9931	82.30
29.5	31,881,423	223,772	0.0070	0.9930	81.73
30.5	29,992,964	219,292	0.0073	0.9927	81.15
31.5	28,246,596	248,616	0.0088	0.9912	80.56
32.5	26,611,921	224,299	0.0084	0.9916	79.85
33.5	25,676,869	271,047	0.0106	0.9894	79.18
34.5	22,632,468	204,025	0.0090	0.9910	78.34
35.5	21,993,836	177,804	0.0081	0.9919	77.64
36.5	20,486,818	192,833	0.0094	0.9906	77.01
37.5	18,898,712	166,013	0.0088	0.9912	76.28
38.5	17,328,024	166,605	0.0096	0.9904	75.61

NORTHERN INDIANA PUBLIC SERVICE COMPANY

ACCOUNT 382.00 METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2020 EXPERIENCE BAND 1993-2020

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	15,377,350	99,487	0.0065	0.9935	74.89
40.5	14,332,674	92,648	0.0065	0.9935	74.40
41.5	12,681,336	69,447	0.0055	0.9945	73.92
42.5	11,197,495	64,387	0.0058	0.9942	73.52
43.5	9,740,066	65,502	0.0067	0.9933	73.09
44.5	8,285,175	105,324	0.0127	0.9873	72.60
45.5	6,844,893	52,608	0.0077	0.9923	71.68
46.5	5,454,034	51,375	0.0094	0.9906	71.13
47.5	4,118,179	36,840	0.0089	0.9911	70.46
48.5	2,759,283	27,185	0.0099	0.9901	69.83
49.5	1,753,364	13,368	0.0076	0.9924	69.14
50.5	1,514,516	28,616	0.0189	0.9811	68.61
51.5	1,255,512	8,720	0.0069	0.9931	67.32
52.5	1,021,169	6,182	0.0061	0.9939	66.85
53.5	822,621	5,697	0.0069	0.9931	66.44
54.5	636,445	2,480	0.0039	0.9961	65.98
55.5	478,698	1,650	0.0034	0.9966	65.73
56.5	331,198	1,234	0.0037	0.9963	65.50
57.5	258,982	628	0.0024	0.9976	65.26
58.5	193,533	591	0.0031	0.9969	65.10
59.5	115,641	708	0.0061	0.9939	64.90
60.5	68,715	260	0.0038	0.9962	64.50
61.5	58,785	1,621	0.0276	0.9724	64.26
62.5	44,414	168	0.0038	0.9962	62.48
63.5	33,684	79	0.0023	0.9977	62.25
64.5	21,681	63	0.0029	0.9971	62.10
65.5	15,168	269	0.0177	0.9823	61.92
66.5	6,238	38	0.0061	0.9939	60.82
67.5	5,286	1,284	0.2430	0.7570	60.45
68.5	3,249	563	0.1732	0.8268	45.76
69.5	1,925		0.0000	1.0000	37.84
70.5	1,805		0.0000	1.0000	37.84
71.5	1,342		0.0000	1.0000	37.84
72.5	1,342		0.0000	1.0000	37.84
73.5	1,342		0.0000	1.0000	37.84
74.5	1,342		0.0000	1.0000	37.84
75.5	1,342		0.0000	1.0000	37.84
76.5	1,342	147	0.1098	0.8902	37.84
77.5	1,194	14	0.0116	0.9884	33.68
78.5	1,181		0.0000	1.0000	33.29

NORTHERN INDIANA PUBLIC SERVICE COMPANY

ACCOUNT 382.00 METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2020 EXPERIENCE BAND 1993-2020

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	1,181		0.0000	1.0000	33.29
80.5	1,181		0.0000	1.0000	33.29
81.5	1,181		0.0000	1.0000	33.29
82.5	1,181		0.0000	1.0000	33.29
83.5	1,181		0.0000	1.0000	33.29
84.5	1,181		0.0000	1.0000	33.29
85.5	1,181		0.0000	1.0000	33.29
86.5	1,181	1,181	1.0000		33.29
87.5					

AFFIRMATION

I affirm, under the penalties for perjury, that the foregoing representations are true.

David Garret
OUCC Consultant
Indiana Office of
Utility Consumer Counselor
Cause No. 45967
Northern Indiana Public Service Co.

1-31-2024

Date

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing has been served upon the following counsel of record in the captioned proceeding by electronic service on January 31, 2024.

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