Company: San Diego Gas & Electric Company (U 902 M)
Proceeding: 2024 General Rate Case
Application: A.22-05-016
Exhibit: SDG&E-36-R

REVISED

PREPARED DIRECT TESTIMONY OF

DANE A. WATSON

(DEPRECIATION)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

August 2022

TABLE OF CONTENTS

ATTACHMENTS

SDG&E 2024 GRC Testimony Revision Log –August 2022

SUMMARY

I sponsor the depreciation rates used in the calculation of the Test Year (TY) 2024 depreciation and amortization expense proposals for Gas Plant depreciation for San Diego Gas and Electric Company (SDG&E or Company). I also provide depreciation and amortization expense recommendations for SDG&E's electric and common plant, based upon my depreciation study. The Policy Overview testimony of Bruce Folkmann (Exhibit (Ex.) SDG&E-01), echoes SDG&E's support for that study. That said, Mr. Folkmann provides SDG&E's proposal to keep depreciation rates for electric and common plant at current levels—based upon the Company's one-time, non-precedential policy determination to maintain those current levels given the current state of wildfire mitigation expenditures—as well as the need to soon update the Company's electric and common depreciation rates based upon grid modernization for electrification, which will increase load.

The purpose of depreciation and amortization expense is to provide for recovery of the original cost of plant (less estimated net salvage) over the used and useful life of the property by means of an equitable plan of charges to operating expenses. Tangible assets, usually referred to as plant, property, and equipment, are depreciated. Intangible assets, such as software, land rights and rights-of-way, are amortized. The technical definition for depreciation and related terms is provided in Section II of my testimony.

The cumulative depreciation costs recovered through depreciation rates is captured in the depreciation reserve. The reserve represents the return of the investment and provides an ongoing record of one of the components in calculating rate base. SDG&E's rate base proposals are sponsored in Exhibit SDG&E-35, in the Rate Base direct testimony of Steven Dais. SDG&E is requesting the adoption of proposed service lives and net salvage rates for gas plant only that were developed in accordance with the California Public Utilities Commission Standard Practice U-4.

REVISED PREPARED DIRECT TESTIMONY OF DANE A. WATSON DEPRECIATION

I. INTRODUCTION

A. Summary of Proposals

I sponsor the depreciation rates used in the calculation of Test Year (TY) 2024 depreciation and amortization expense proposals for Gas Plant depreciation for San Diego Gas and Electric Company (SDG&E). I also provide depreciation and amortization expense recommendations SDG&E's electric and common plant, based upon my depreciation study. While supporting those recommendations, the Policy Overview testimony of Bruce Folkmann (Ex. SDG&E-01), provides SDG&E's proposal to maintain depreciation rates for electric and common plant at current levels based upon the Company's one-time policy determinations, as described in Mr. Folkmann's testimony.

Based on my study and analysis, gas depreciation rates for all SDG&E gas depreciable property are shown in Appendix A of my Depreciation Rate Study (Depreciation Study) report attached to my testimony as Attachment C. As shown in Table SDG&E-DW-1, the Gas Plant depreciation and amortization expense (excluding Common) for Recorded Year 2021 is $67 million. The Gas Plant expense requested for TY 2024 is $95 million. Beginning in TY 2024, the requested expense is calculated using new depreciation rates resulting from an updated depreciation study.

Table SDG&E-DW-1
SAN DIEGO GAS & ELECTRIC COMPANY
TEST YEAR 2024
GAS DEPRECIATION & AMORTIZATION EXPENSE
(Thousands of Dollars)

Line No.	Description	2021 Recorded (2021$)	2024 Test Year (2024$)
	Depreciation Expense		
1	Underground Storage	95	105
2	Transmission	10,937	9,029
3	Distribution & General Plant	55,839	85,019
4	TOTAL DEPRECIATION	66,871	94,153
	Amortization Expense		
5	Land Rights	186	360
6	TOTAL AMORTIZATION	186	360
7	TOTAL GAS DEPR. & AMORT. (EXCLUDING COMMON)	67,057	94,513

My analysis of a reasonable Recorded Year 2021 depreciation and amortization expense is based on the application of depreciation parameters authorized by the California Public Utilities Commission (Commission or CPUC) in SDG&E's 2019 General Rate Case (GRC) Decision (D.) 19-09-051. The depreciable plant growth and the investments for the Recorded Year 2021 through TY 2024 are addressed in the Rate Base testimony of Steven Dais (Exhibit SDG&E-35).

The increase in SDG&E's depreciation expense is what my analysis found would be reasonable and necessary to ensure appropriate recovery of plant and equipment costs. The depreciation study, analysis and results of the study as described in this testimony support this increase. My study analyzed life and net salvage characters for SDG&E through year end 2020. Due to time constraints based on a May 2022 filing, the study was not able to incorporate 2021 activity in the life and net salvage analysis, but it did incorporate 2021 balances for purposes of calculating depreciation rates. Using the life and net salvage parameters developed from the

2020 analysis, my study used actual plant asset balances and depreciation reserves as of December 31, 2021, to compute the proposed depreciation rates in my study.

The accompanying workpapers (Exhibit SDG&E-36-WP) support the underlying depreciation rate recommendations.

B. Organization of Testimony

My testimony is organized as follows:

1. In Section II, I explain the definitions of depreciation and the type of property analyzed in the Depreciation Study the property included or excluded from the Depreciation Study.
2. In Section III, I explain the four-phase approach I used to conduct the Depreciation Study and the depreciation system (straight-line method, Broad (Average) Life Group (ALG) procedure, remaining-life technique) used for the Depreciation Study. Next, I explain how depreciation rates are determined. This portion of my Direct Testimony also explains and fully discusses each portion of the depreciation rate formula that is supported by my Depreciation Study. Section III is broken into the following subparts, which align with the components of the depreciation rate formula that the Depreciation Study supports: (A) Depreciation Rate Formula; (B) Theoretical Reserve; (C) Net Salvage Amounts and Percentages; (D) Remaining Life Analysis; and (E) Depreciation Rates and Depreciation Accrual Rates.
3. Section IV, discusses the Commission's approach to gradualism and how I recommend it be applied in this depreciation study.
4. Section V, discusses the specific changes in life and net salvage parameters by plant account.
5. Section VI, describes the change in depreciation expense as a result of the proposed depreciation rates. Specifically, I explain why SDG&E's depreciation expense is increasing. Note that the 2021 Gas depreciation expense shown in this section is different from that shown in the table above due to the depreciation expense in this section being calculated as of December 31, 2021 for comparison purposes instead of the actual recorded depreciation expense during 2021.
6. Section VII, details my witness qualifications.

II. DEPRECIATION DEFINITIONS AND APPROACH

The term "depreciation," used here is considered in the accounting sense – that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. Depreciation is a process of allocation, not valuation. In other words, depreciation expense allocates the cost of the asset, including any estimated net salvage necessary to remove the asset, as an ongoing cost of operations over the economic life of the asset.

However, the amount allocated to any one accounting period does not necessarily represent an actual loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. On retirement, the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

A depreciation study is a comprehensive analysis of the property characteristics of a utility's assets. It is specific to each utility and that utility's assets in order to determine the appropriate annual depreciation accrual rate for each asset account. The primary factors that influence the depreciation rate for an account are the remaining investment to be recovered in the account, the depreciable life of the account, and the net salvage for the account.

The key functions of the Depreciation Study are to: (1) determine the average service lives for Common, Electric Generation, Electric Distribution, Electric General, and Gas Storage Gas Transmission, Gas Distribution, and Gas General Plant; (2) determine the net salvage percentages for Common, Electric Generation, Electric Distribution, Electric General, and Gas Storage Gas Transmission, Gas Distribution, and Gas General Plant; (3) calculate the theoretical reserve of each property group based on the remaining life of the group, the total life of the group and the estimated net salvage; and (4) develop depreciation rates, including the annual depreciation accrual.

After following all these steps, I conclude that the depreciation rates developed for the Company's Utility Plant accounts as set forth in the Depreciation Study encompass the best and most recent information for calculating the Company's depreciation and amortization expense associated with these assets. Based on life and net salvage parameters developed for actual plant asset balances and depreciation reserves as of December 31, 2021, the depreciation rates in the Depreciation Study would result in an increase in the annual depreciation expense for SDG&E's

utility assets of approximately $618.3 million per year. I calculated that amount by comparing the depreciation expense based on the current depreciation rates to the depreciation expense based on the proposed depreciation rates as of December 31, 2021. This comparison is shown in detail in Appendix B of my Depreciation Study and is summarized in Appendix C of my Depreciation Study, which is presented later in my Direct Testimony.

III. DEPRECIATION STUDY

In this section of my Direct Testimony, I testify to the property included or excluded from the Depreciation Study; the four-phase approach I used to conduct the Depreciation Study; and the depreciation system (straight-line method, ALG procedure, remaining-life technique) used for the Depreciation Study. There are seven general classes, or functional groups, of depreciable property that are analyzed in the Study: (1) Common Plant, (2) Electric Production Plant, (3) Electric Distribution Plant property, (4) Electric General Property, (5) Gas Storage and Transmission Plant, (6) Gas Distribution Plant property, and (7) Gas General Property.

A. Depreciation Study Process

With the assistance of my staff, I conducted the Depreciation Study in four phases, as described at pages 14-15 of the Depreciation Study. The four phases are: Data Collection, Analysis, Evaluation, and Calculation. During the initial phase of the Depreciation Study, I collected historical data through December 31, 2020 to be used in the analysis. After the data was assembled, I performed analyses to determine the lives and net salvage percentages for the different property groups being studied. As part of this process, I conferred with field personnel, engineers, and managers responsible for the installation, operation, and removal of the assets to gain their input into the operation, maintenance, and salvage of the assets. I then evaluated the information obtained from field personnel, engineers, and managerial personnel, combined with the Depreciation Study results, to determine how the results of the historical asset activity analysis, in conjunction with the Company's expected future plans, should be applied. In the final phase, I calculated depreciation rates and the theoretical reserve.

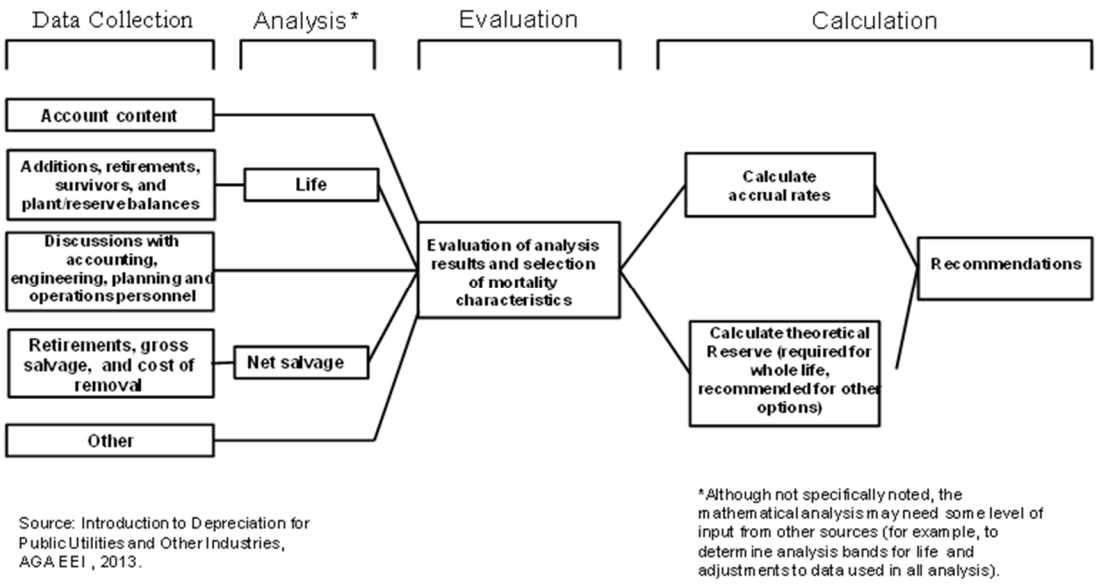
The authoritative treatise, DEPRECIATION SYSTEMS, documents the following stages of a depreciation study: statistical analysis, evaluation of statistical analysis, discussions with management, forecast assumptions, and document recommendations.[1] My approach mirrors this

[1] W.C. Fitch and F.K. Wolf, DEPRECIATION SYSTEMS, at page 289 (Iowa State Press, 1994).

process, and following this approach ensures that Alliance comprehensively and thoroughly projects the future expectations for the Company's assets.

Figure DW-1 demonstrates the four phases of the Depreciation Study.

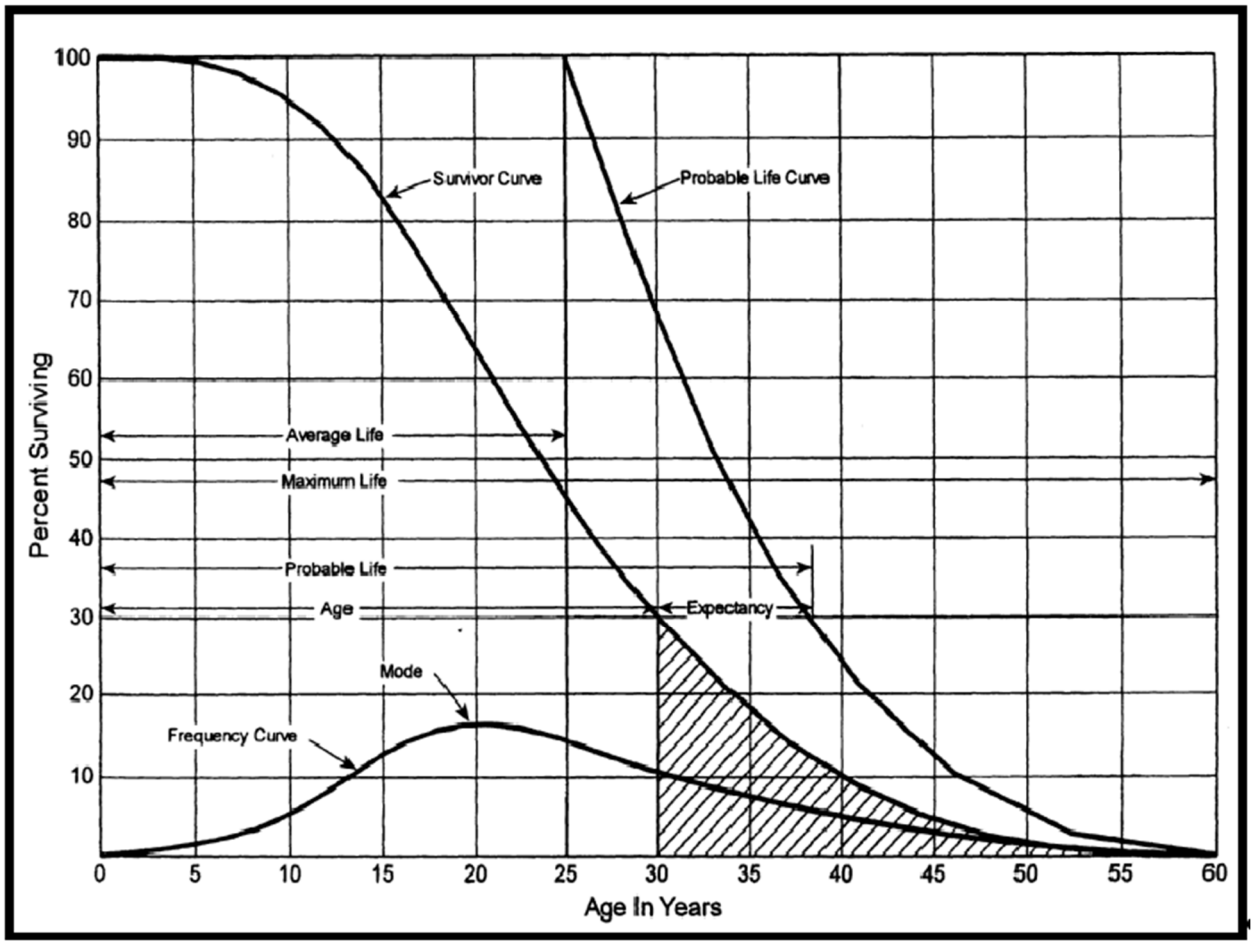
FIGURE DW-1
Stages to Develop a Depreciation Study



I used the straight-line (method), ALG (procedure), remaining-life (technique) depreciation method for this Depreciation Study, as discussed at page 4. This is the same methodology used by the Company in past GRCs and is consistent with CPUC Standard Practice U-4.

A survivor curve represents the percentage of property remaining in service at various age intervals. Iowa Curves, the predominantly used survivor curve method in the utility industry, are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the twentieth century. Through common usage, revalidation and regulatory acceptance, the Iowa Curves have become a descriptive standard for the life characteristics of industrial property. An example of an Iowa Curve is shown below in Figure DW-2. For more detail on survivor curves, see pages 5-10 of the Depreciation Study.

FIGURE DW-2
Survivor Curve



Most property groups can be closely fitted to one Iowa Curve with a unique average service life. By blending judgment concerning current conditions and future trends with the matching of historical data, a depreciation analyst can make an informed selection of an account's average service life and survivor curve. When selecting an average service life, the analyst also selects a survivor curve. When recommending depreciation rates, a depreciation analyst selects the average service life and survivor curve that are used to compute remaining life, annual depreciation accrual, and annual depreciation accrual rate.

Historical lives and net salvage data are not the only factors to consider in making life and net salvage recommendations. It is **crucial** to incorporate future trends, changes in equipment and Company-specific operational information before finally making life and net salvage recommendations. Once all the calculations and data are prepared, I take into account

my judgment, Company expectations, and trends to recommend the appropriate net salvage percentages. A summary of the proposed net salvage percentages is shown below in Attachment B of this testimony.

For instance, if most of the dollars in an account are associated with assets that have projected lives between 20 and 40 years, an overall life of 60 years for that account would not be reasonable. This is true even if a particular mathematical curve match mechanically produces a 60-year overall life. A statistical analysis may suggest a longer life because, among other things, there may be insufficient retirement data (*i.e.*, the full life cycle of assets is not yet visible in the mathematical calculations)[2] or because recent changes in technology or changes in how the assets are operated are not adequately reflected in the statistical results. While the results of the calculations themselves may seem accurate to someone who is not aware of or ignores the actual life cycles exhibited, failure modes, and engineering expectations for the various assets in the account, the results are inaccurate because they do not reflect the real-life expectations of the account assets.

As noted above, the manner in which the Company currently uses its assets provides important indicators as to the expected service life of those assets and reveals flaws in generic statistical assumptions. The information was extracted from interviews with Company subject matter experts and is described in my study and accompanying workpapers.

As an example, if a Company expert suggests a life for a specific asset that is shorter or longer than I would expect from my experience, I conduct further investigation as to why they understand the life expectation to vary from what I would normally expect, conduct my own research of the asset as necessary, and use my judgment to determine how much weight to give the SME's feedback.

Accordingly, as I noted before, one must consider the operational information, the expectations across the country for similar assets in similar environments, and the statistical analysis to verify the reasonableness of the results. Information provided by Company experts on the specific plant and equipment being studied is of critical importance in the depreciation study process to ensure the statistical analysis accurately reflects the expected service lives of the assets. In its 1996 edition of the publication *Public Utility Depreciation Practices*, the National

[2] This is the case for Accounts 367, 376 and 380, as discussed in the account level results section.

Association of Regulatory Utility Commissioners (NARUC), specifically advises against strict reliance on historical data and curve fitting:

> Depreciation analysts should avoid becoming ensnared in the historical life study and relying solely on mathematical solutions. The reason for making an historic life analysis is to develop a sufficient understanding of history in order to evaluate whether it is a reasonable predictor of the future. The importance of being aware of circumstances having direct bearing on the reason for making an historical life analysis cannot be understated…. The analyst should become familiar with the physical plant under study and its operating environment, **including talking with the field people who use the equipment being studied**.[3]

B. Methodology

The methods used to calculate the mortality characteristics (*i.e.*, service lives, retirement dispersions, and net salvage rates) and to calculate the straight-line remaining life depreciation rates are consistent with CPUC Standard Practice U-4.

C. Determination of the Depreciation Rates

In this section, I explain how depreciation rates are determined, and I identify the formula for depreciation rates. I also explain and fully discuss each portion of the depreciation rate formula that is supported by my Depreciation Study. Section III is broken into the following subparts, which align with the components of the depreciation rate formula that the Depreciation Study supports: (A) The Depreciation Rate Formula; (B) Theoretical Reserve; (C) Net Salvage Amounts or Percentages; (D) Remaining Life Analysis; and (E) Depreciation Rates and Depreciation Accrual Rates.

The formula to derive depreciation rates calculates annual depreciation accrual amounts for each group by dividing the original cost of the asset (gross plant), less allocated depreciation reserve, less estimated net salvage, by the group's respective remaining life. The resulting annual accrual amounts for all depreciable property within an account are accumulated, and the total is divided by the original cost (gross plant) of all depreciable property within the account to determine the annual accrual amount and the annual accrual rate. The Depreciation Study determines several pieces of the overall formula used to derive depreciation rates. The portions of the formula derived by the Depreciation Study are:

[3] NARUC, *Public Utility Depreciation Practices* (1996) at 126 (emphasis added).

- **Depreciation Reserve Balance**: To calculate depreciation reserve, the Company provided me with the actual gross plant balance amounts and the actual depreciation reserve as of December 31, 2020. I calculated the theoretical reserve that is used as a point of comparison to the book depreciation reserve balance.
- **Net Salvage Amounts or Percentages**: For Common, Electric Production, Electric Distribution Electric Distribution, Electric General, Natural Gas Storage, Natural Gas Transmission, Natural Gas Distribution and Natural Gas General Plant, I calculated the net salvage percentages reflected in the Depreciation Study. For these plant accounts, I calculated salvage and removal cost percentages by dividing the current cost of salvage or removal, as supported by the Depreciation Study, by the original installed cost of the retired asset.
- **Remaining Life**: The Depreciation Study supports the remaining life calculation by determining the appropriate average service lives and retirement survivor curve for each account within a functional group.
- **Resulting Annual Depreciation Accrual and Depreciation Rates**: As discussed above, I calculated the depreciation rates, and I then derived the annual accrual amounts from these rates. The computations of the annual depreciation rates and annual accrual amounts are shown in Appendix A, of the Depreciation Study.

Annual depreciation expense amounts for the SDG&E's depreciable accounts were calculated by the straight-line method, life-span procedure, and remaining-life technique. With this approach, remaining lives were calculated according to standard ALG group expectancy techniques, using the Iowa Curves noted in the calculation. For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the allocated book depreciation reserve, was divided by the average remaining life to yield the annual depreciation expense. These calculations are shown in Appendix A to the Depreciation Study.

In a whole life representation, the annual accrual rate is computed by the following equation,

$$\text{Annual Accrual Rate} = \frac{(100\% - \text{Net Salvage Percent})}{\text{Average Service Life}}$$

In the case of natural gas assets, each vintage within the group has a unique average service life and remaining life determined by computing the area under the Iowa Curve. Use of the remaining life depreciation system adds a self-correcting mechanism, which accounts for any differences between theoretical and book depreciation reserve over the remaining life of the group. For each vintage,

$$\text{Remaining Life(i)} = \frac{\text{Area Under Survivor Curve to the Right of Age (i)}}{\text{Survivors (i)}}, \text{ and}$$

$$\text{Average Service Life} = \frac{\text{Area Under Survivor Curve}}{\text{Survivors at age zero}}$$

With the straight line, remaining life, average life group system using Iowa Curves, composite remaining lives were calculated by computing a direct weighted average of each remaining life by vintage within the group. Within each group (plant account/unit), for each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the allocated book depreciation reserve, was divided by the composite remaining life to yield the annual depreciation expense as noted in this equation.

$$\textit{Annual Depreciation Expense} = \frac{\textit{Original Cost - Book Reserve - (Original Cost * Net Salvage \%)}}{\textit{Composite Remaining Life}}$$

where the net salvage percent represents future net salvage.

Within a group, the sum of the group annual depreciation expense amounts, as a percentage of the depreciable original cost investment summed, gives the annual depreciation rate as shown below:

$$\text{Annual Depreciation Rate} = \frac{\sum \text{Annual Depreciation Expense}}{\sum \text{Original Cost}}$$

These calculations are shown in Appendix A of the Depreciation Study. The calculations of the theoretical depreciation reserve values and the corresponding remaining life calculations are shown in the workpapers.

The theoretical reserve represents the portion of a property group's cost that would have been accrued as depreciation reserve if current expectations were used throughout the life of the property group for future depreciation accruals. The theoretical reserve for the asset group serves as a point of comparison to the book reserve to determine if the unrecovered investment of the asset and its removal cost are over or under-accrued.

In the Depreciation Study, I computed theoretical reserves based on projected plant balances as of December 31, 2021. I calculated the theoretical reserve using a reserve model that relies on a prospective concept relating future retirement and accrual patterns for property, given current life and salvage estimates. More specifically, I determined the theoretical reserve of a property group from the estimated remaining life of the group, the total life of the group, and estimated net salvage. This computation for the straight-line, remaining-life theoretical reserve ratio, which I describe in more detail starting on page 12 of the Depreciation Study, involves multiplying the vintage balances within the property group by the theoretical reserve ratio for each vintage.

While discussed more fully in the Study, net salvage is the difference between the gross salvage (what the asset was sold for) and the COR (cost to remove and dispose of the asset). If the COR exceeds gross salvage, net salvage is negative. Some plant assets can experience significant negative removal cost percentages due to the amount of removal cost and the timing of any capital additions versus the retirement. Salvage and removal cost percentages are calculated by dividing the current cost of salvage or removal by the original installed cost of the assets retired.

The Depreciation Study separately calculates the net salvage percentages for the Common, Electric Production, Electric Distribution, Electric General, Natural Gas Underground Storage, Natural Gas Transmission, Natural Gas Distribution, and Natural Gas General Plant accounts. To determine the appropriate net salvage percentages for each account, I started by using an industry-standard method that divides the current cost of salvage or removal by the original installed cost of the assets retired. However, I also applied judgment to select a net salvage percentage that represents the future expectations for each account.

To apply this judgment, I compiled historical salvage and removal data by functional group and account to determine values and trends in gross salvage and removal cost. As detailed in the Depreciation Study, for most accounts, data for retirements, gross salvage and COR covered the period from 2002-2020. I calculated moving averages with this data to remove timing differences between retirement and salvage and removal cost. Those moving averages are analyzed over periods varying from one to 10 years. These calculations are found in Appendix D of the Depreciation Study.

The current and proposed net salvage percentages are shown in Appendix C-2 of the Depreciation Study, and a detailed history is shown in Appendix D of the Depreciation Study. For the Depreciation Study, I analyzed all Common Plant, Electric Production Plant, Electric Distribution Plant, and Electric General Plant, Natural Gas Storage and Transmission, Natural Gas Distribution, and Natural Gas General Plant accounts using actuarial analysis (retirement rate method) to estimate the life of the property in each account where sufficient activity is available. In much the same manner as human mortality is analyzed by actuaries, depreciation analysts use models of property mortality characteristics that have been validated in research and empirical applications. Aged retirements are combined to develop retirements and property exposed to retirement for each age interval. Interval exposures (total property subject to retirement at the beginning of the age interval, regardless of vintage) and age interval retirements are calculated.

The complement of the ratio of interval retirements to interval exposures establishes a survivor ratio. The survivor ratio is the fraction of property surviving to the end of the selected age interval, given that it has survived to the beginning of that age interval. Survivor ratios for all of the available age intervals were chained by successive multiplications to establish a series of survivor factors, collectively known as an observed life table.

The observed life table shows the experienced mortality characteristic of the account and may be compared to standard mortality curves such as the Iowa Curves. Where data was available, accounts were analyzed using this method. Placement bands were used to illustrate the composite history over a specific era, and experience bands were used to focus on retirement history for all vintages during a set period.

The Depreciation Study report provides details regarding the life selection for each account. Graphs and other data supporting the proposed life estimate are provided in the

"Determination of the Lives" section of the Depreciation Study. A summary comparison of the depreciable lives is shown in Attachment B attached to this testimony.

IV. GRADUALISM

My study applies the Commission's gradualism policy (describe below) in the selections for life and net salvage parameters for SDG&E's depreciable and amortized assets. In recent proceedings, the Commission has applied a principle of gradualism for depreciation rates based upon concerns about the growing cost burdens associated with increasing cost trends for negative net salvage.[4] The Commission explained that:

> [t]he principle of gradualism applies where there is a recognized need to revise estimated parameters, but where the change is allowed to occur incrementally over time rather than all at once. Applying gradualism thus limits the approved increase that would otherwise be warranted, all else being equal and mitigates the short-term impact of large changes in depreciation parameters. Also, it is advisable to be cautious in making large changes in estimates of service lives and net salvage for property that will be in service for many decades, as future experience may show the current estimates to be incorrect.[5]

The Commission gave specificity to this directive in Pacific Gas and Electric Company's 2014 general rate case by allowing "no more than 25% of the estimated net [salvage] increase from current [net salvage] rates."[6] The Commission has then applied this principle to Southern California Edison Company in D.15-11-021[7] and D.19-05-020.[8]

By contrast, in SDG&E's 2019 GRC, the depreciation rates, lives, and net salvage parameters from the 2016 GRC were retained.[9] As such, since the Company's depreciation rates were set in D.16-06-054, no changes in authorized life or net salvage rates have been made. That is, even with the CPUC's guidance for gradualism, the Company was not allowed to gradually increase net salvage estimates (impacted by increased removal costs) or increase lives in the last GRC.

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4 Decision (D.)14-08-032 at 598.

5 *Id.*

6 *Id.* at 600.

7 D.15-11-021 at 413, 421, 425.

8 D.19-05-020 at 315-320.

9 D.19-09-051 at 623.

This exacerbated the gap between the Company's actual life and net salvage experience and the authorized amount. In examining parameters for SDG&E's accounts with the largest plant balances, as of December 31, 2020, five of the six plant accounts show an increase in negative net salvage and four of six accounts shown an increase in life between the depreciation rates set in D.16-06-054 and D.19-09-051 and the parameters proposed in this proceeding.

Table SDG&E-DW-2
SDG&E Changes in Life Largest Accounts

Acct	D.13-05-010 Approved Life	D.16-06-054 & D.19-09-051 Approved Life	Current Study Proposed Life
E364.00-Poles, Towers & Fxtr	44	47	47
E365.00-Overhead Cond & Dev	48	55	55
E366.00-Underground Conduit	53	57	61
E367.00-Undergrnd Cond & Dev	40	45	52
E368.10-Line Transformers	33	34	36
G376.00-Mains	60	69	69

While the lives show gradual change, the net salvage parameters for these same accounts show a more dramatic change over the past 9 years.

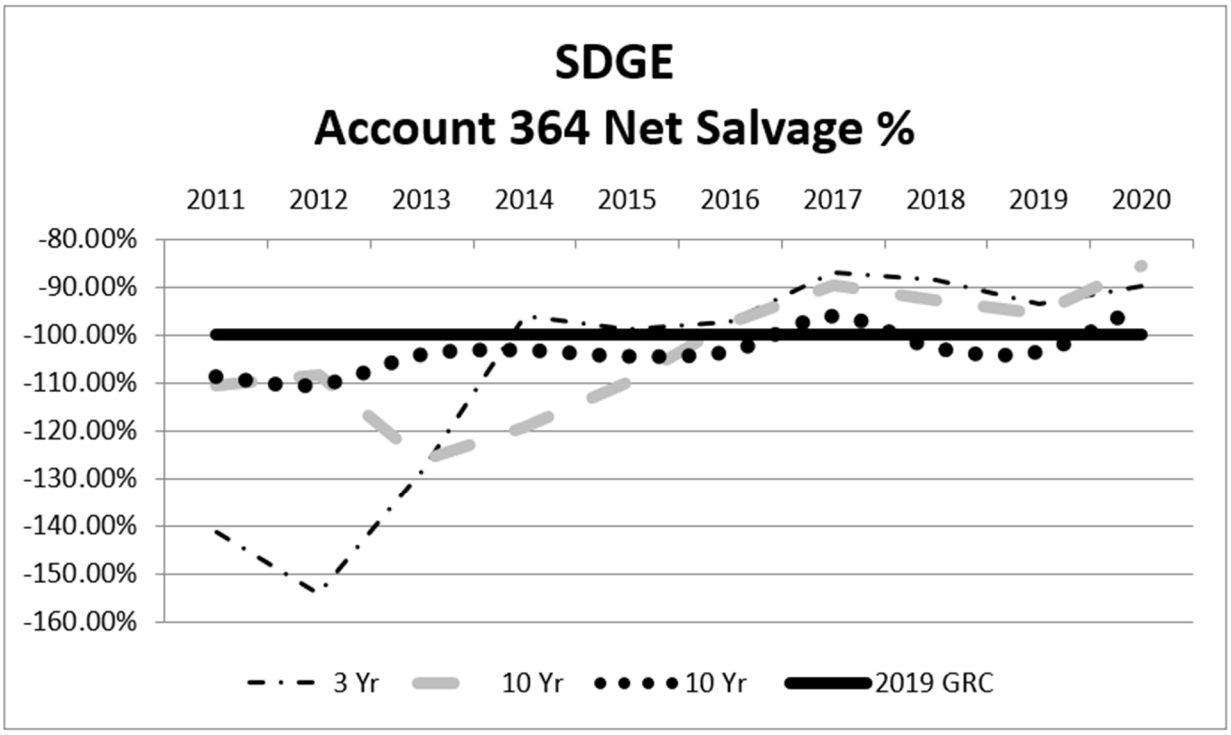
Table SDG&E-DW-3
SDG&E Changes in Net Salvage Largest Accounts

Acct	D.13-05-010 Net Salvage	D.16-06-054 & D.19-09-051 Net Salvage	Current Study Proposed Net Salvage
E364.00-Poles, Towers & Fxtr	-95	-100	-95
E365.00-Overhead Cond & Dev	-70	-70	-95
E366.00-Underground Conduit	-40	-50	-75
E367.00-Undergrnd Cond & Dev	-55	-65	-90
E368.10-Line Transformers	-45	-70	-95
G376.00-Mains	-45	-55	-80

By having to retain the same net salvage factors over the past nine years, the Company has not been able to recover its increasing net salvage expenditures from customers using those

assets. In some cases, like Account E364, the net salvage indications have not changed greatly from 2012 GRC levels. The graph below shows that net salvage has remained stable over the past several years.

FIGURE DW-3
SDG&E Account 364 Net Salvage Experience 2011-2020



But the other largest accounts show a robust trend to increasingly higher negative net salvage, as demonstrated in the graphs below.

FIGURE DW-4
SDG&E Account 365 Net Salvage Experience 2011-2020

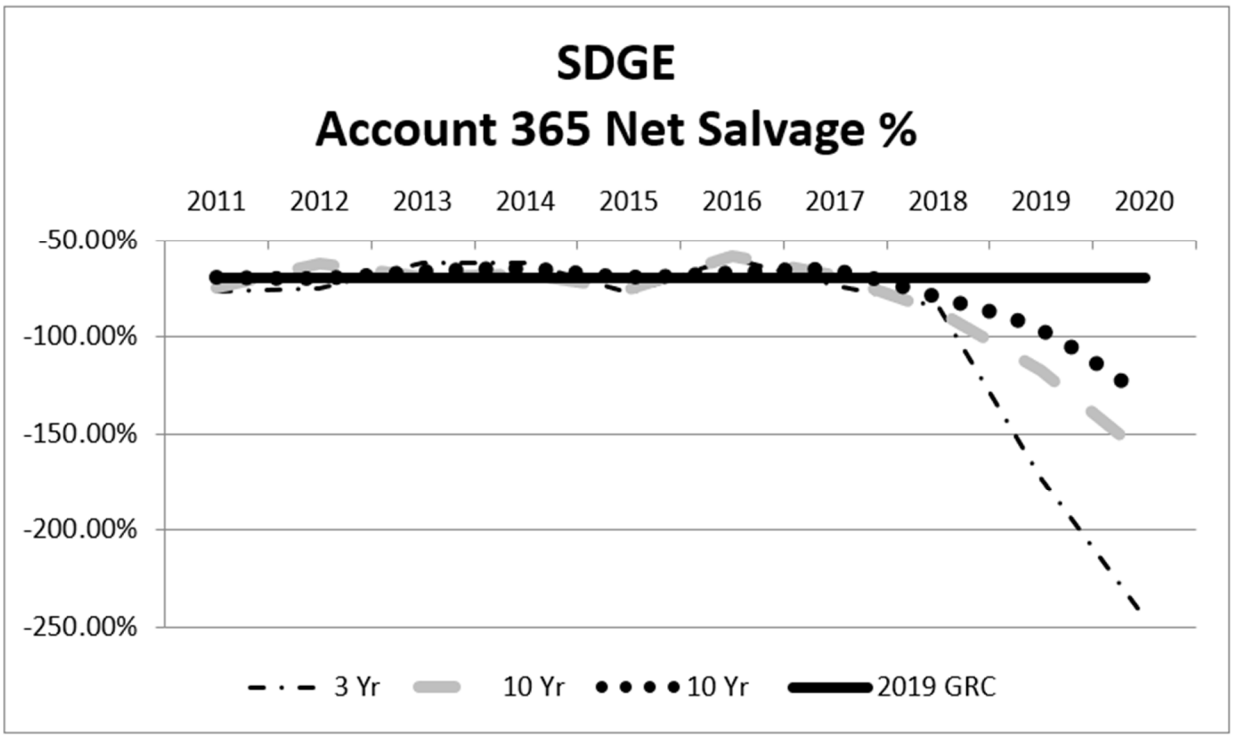


FIGURE DW-5
SDG&E Account 366 Net Salvage Experience 2011-2020

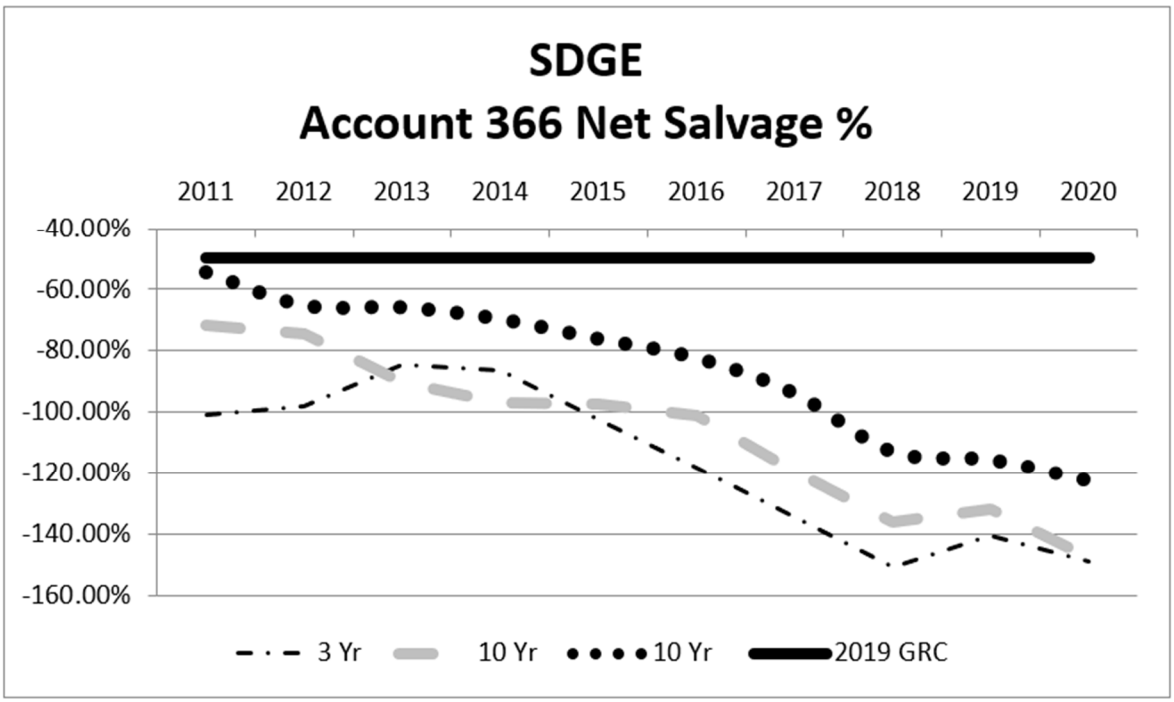


FIGURE DW-6
SDG&E Account 367 Net Salvage Experience 2011-2020

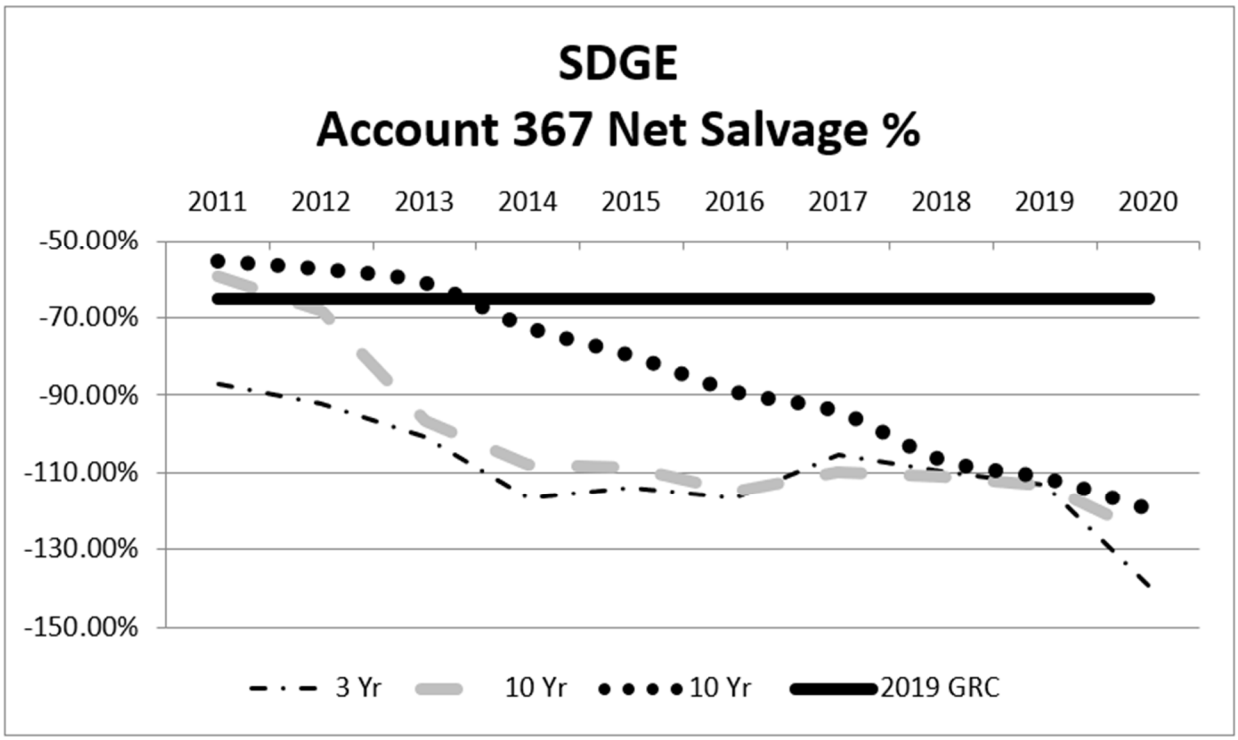


FIGURE DW-7
SDG&E Account 368 Net Salvage Experience 2011-2020

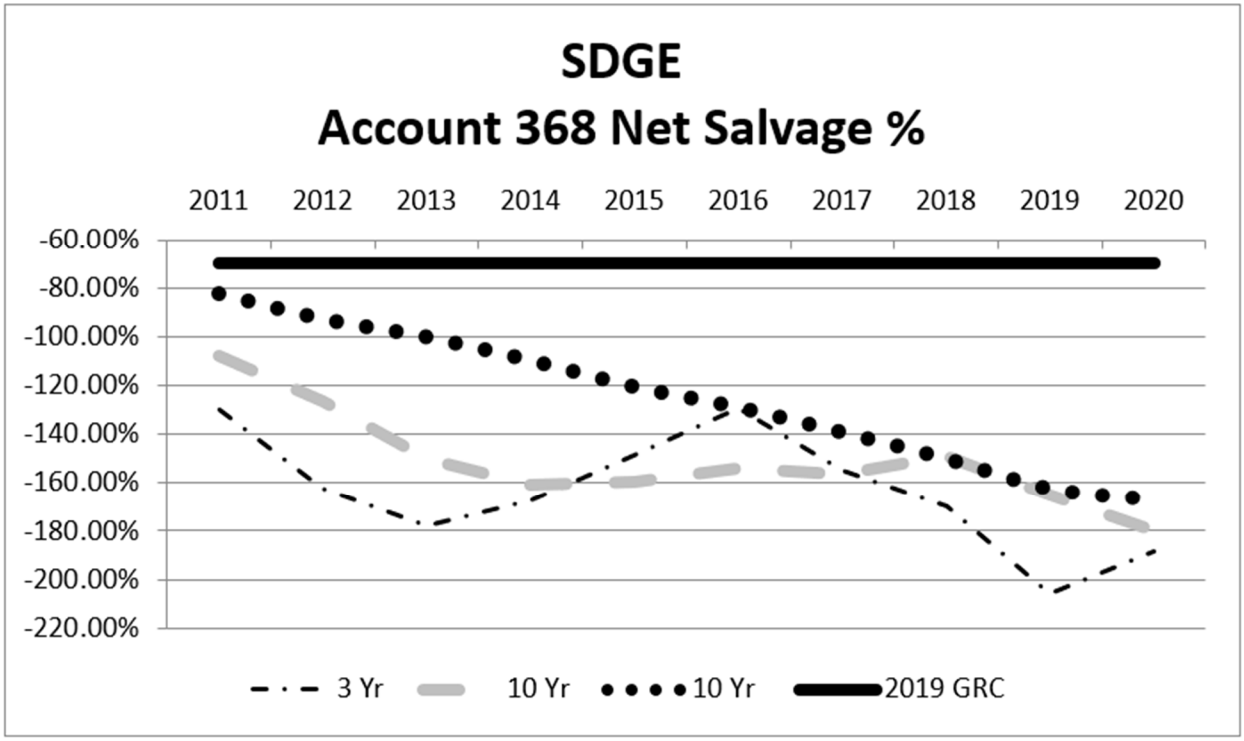
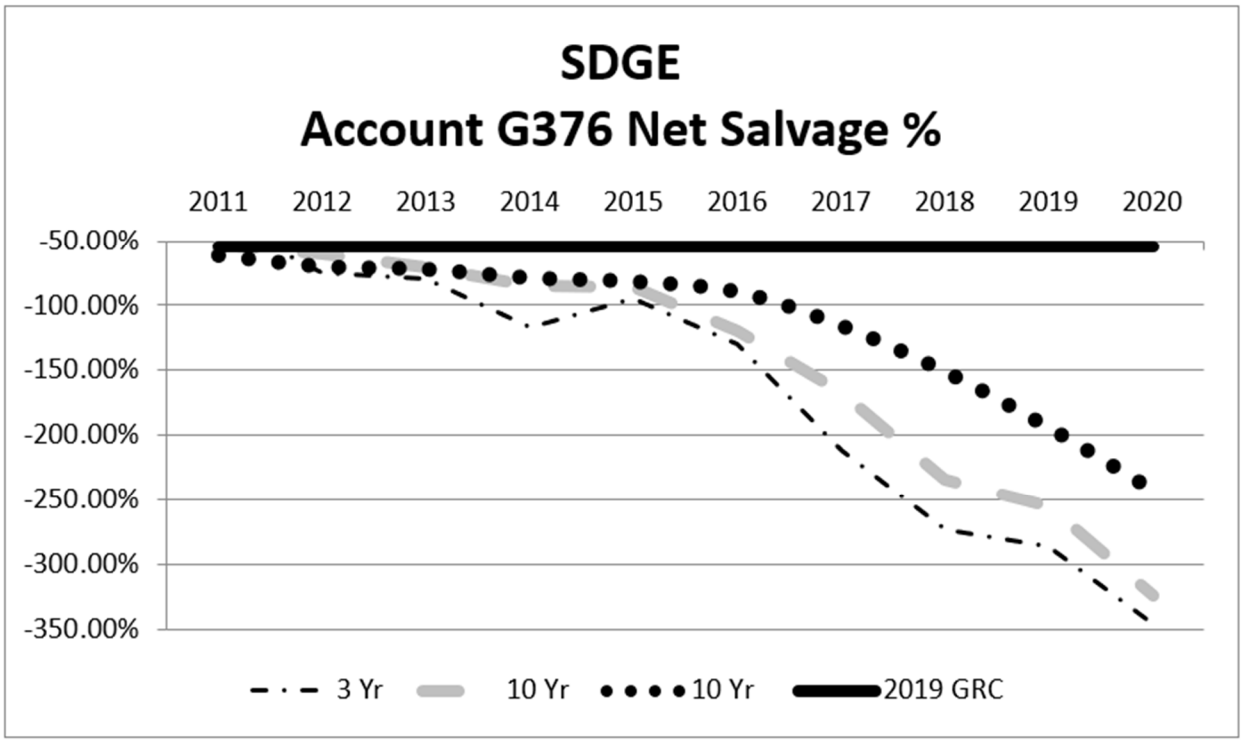


FIGURE DW-8
SDG&E Account 376 Gas Net Salvage Experience 2011-2020



V. RESULTS OF DEPRECIATION STUDY

The recommended life and curve dispersion and net salvage rates by account, grouped by functional class, are presented below. Documentation in support of these results is found in my workpapers, Exhibit SDG&E-36-WP. The service life and curve dispersion selections and estimated net salvage rates for each account were derived from statistical analyses of historical data, visual matching to Iowa curves, informed judgment, discussions with field personnel, and expectations about the future projection of life and dispersion curve and net salvage.

A. Common Plant

1. Account C303.10 Cloud Computing Costs

This account includes the cost of cloud computing, which is the delivery of services through the internet. It includes tools and applications such as data storage service, data bases, and software. There is approximately $2.0 million in this account. The approved life for this account is 5 years and a Square (SQ) dispersion. Given the contractual period of time the Company has agreed, my study proposes retaining the current life for these assets. The current

net salvage percentage is 0 percent, which would be retained. These assets have no value at the end of their lives.

2. Account C303 Intangible Plant

This account includes the cost of intangible software used for utility service. There is approximately $687.2 million in this account. Software projects are assigned a life based on the expectation by Company IT subject matter experts of the period that the software will be used and useful. Currently assets in this account have lives of 5 or 15 years. Those assets lives are retained, and the Company also requests the addition of a 3-year and 10-year category. The current net salvage percentage is 0 percent, which is retained. These assets have no value at the end of their lives.

3. Account C389.2 Land Rights

This account consists of land rights associated with common buildings and other facilities. The current plant balance is $28,000. The approved life for this account is 40 years with a SQ dispersion. This account is fully accrued. Since the life for account 390.1 is being extended, my study recommends a life of 45 years with a SQ dispersion, to match the increase in life in Common Account 390.10. Currently this account has 0 percent net salvage, which is retained in this depreciation study.

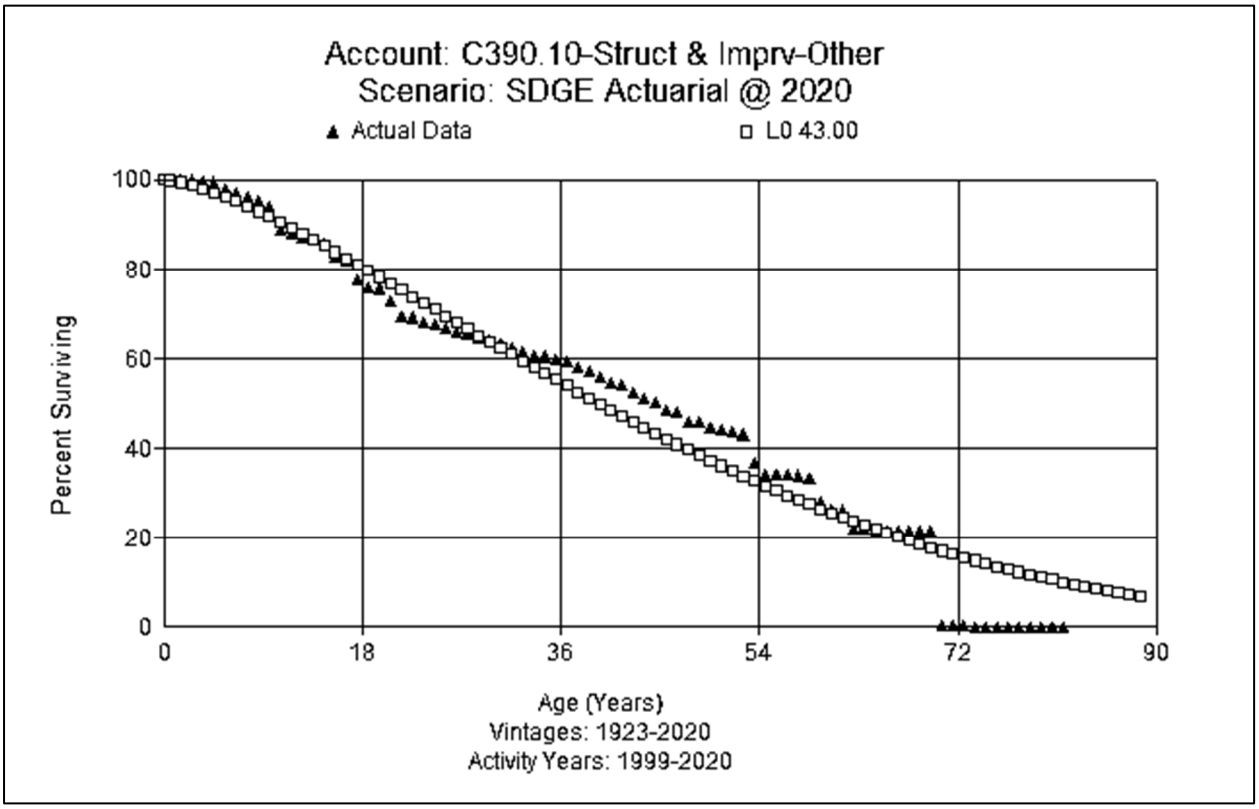
4. Account C390.10 Structures & Improvements

This account includes the cost of general structures and improvements used for utility service. There is approximately $508.5 million in this account, with an approved life of 30 years and an S1 dispersion. Numerous building shells are over 40 years old.

Yet many of the other assets related to the buildings have much shorter lives. Based on the experience of the Company's experts and my experience, various components in this account will have much shorter lives than the shell of the buildings—generators have a life of 15-25 years, AC systems 15-20 years, roofs 20-25 years, security systems 7-10 years, and carpets about 10 years.

After performing actuarial analysis, a longer life than is currently approved is indicated. After evaluating input from Company experts and actuarial analysis, my study recommends increasing the life to 43 years but moving to a slightly flatter dispersion, the L0, which is shown below in Figure DW-9.

Figure DW-9
Account C390.10 – Struct & Imprv-Other



The currently authorized net salvage rate for this account is negative 15 percent. The five- and 10-year moving averages show negative 9 percent for both periods. Based on recent experience, my study recommends moving to negative 10 percent net salvage for this account.

5. Account C391.1 Office Furniture and Equipment

This account consists of miscellaneous office furniture such as desks, chairs, filing cabinets, and tables used for general utility service. There is approximately $43.0 million in this account. This account currently has a life of 18 S6.

In the early 2000s, the Company refurbished office furniture at Century Park. They are now starting a new refresh cycle. There is also a safety component related to furniture, as SDG&E moves to more ergonomically friendly designs. Based on Company experience, the 18-year life is still reasonable.

To continue the use of vintage group amortization, my study recommends an amortization period of 18 years with an SQ dispersion. The current authorized net salvage for this account is 0 percent. The five- and 10-year moving averages show 0 percent for both

periods. Based on the type of assets and Company experience, my study recommends retaining the approved 0 percent net salvage for this account.

6. Account C391.2 Computer Equipment

This account consists of computer equipment used for general utility service. There is approximately $103.8 million in this account. This account currently has a life of 5 S6, which is still consistent with the Company's refresh cycle for computer equipment. In order to continue the use of vintage group amortization, my study recommends an amortization period of 5 years with an SQ dispersion.

The current authorized net salvage for this account is 0 percent. The five- and 10-year moving averages show 0 and 1 percent, respectively. Based on the type of assets and Company experience, my study recommends retaining the approved 0 percent net salvage.

7. Account C392.1 Autos

This account consists of automobiles and similar transportation equipment used for general utility service, worth about $406,000. This account currently has a life of 10 SQ. Based on the practices and expectations of the Company's fleet operations, this life is still reasonable.

In order to continue the use of vintage group amortization, my study recommends an amortization period of 10 years with an SQ dispersion. The current authorized net salvage for this account is 0 percent. There has been limited activity in this account. Based on judgment, my study recommends retaining the approved 0 percent net salvage for this account.

8. Account C392.2 Trailers

This account consists of trailers and other transportation equipment used for general utility service. There is approximately $108,000 in this account. This account currently has a life of 20 L0.

Based on the practices and expectations of the Company's fleet operations, as well as the results of the actuarial analysis, this life is still reasonable. In order to continue the use of vintage group amortization, my study recommends an amortization period of 20 years with an SQ dispersion. The current authorized net salvage for this account is 0 percent. There has been limited retirement and/or net salvage activity in this account. Based on judgment, my study recommends retaining the approved 0 percent net salvage for this account.

9. Account C392.3 Aviation Equipment

This account consists of aviation equipment ranging from helicopters to drones. These assets are used for wildfire mitigation and monitoring equipment in areas that are difficult to access. There is approximately $12.0 million in this account. This account currently has a life of 10 SQ. The Company has purchased a 2017 Airbus H145a 2020 Sikorsky Blackhawk, configured as a Firehawk (final delivery will be in late 2022/early 2023) and a 2021 Bell 412 EPX (with delivery in late 2022). After purchase, the Company operates the helicopters with strict adherence to maintenance schedules, engine warranties, and part replacement at required intervals. The Company plans to operate the helicopters it owns for an additional 20 years.

The Company buys drones about every two years. Those assets are replaced as technology improves with better cameras and security features. The drones are a small portion of this account compared to helicopters, with drones being $0.3 million of the current plant in service. My study recommends a 25-year life with an SQ dispersion based on discussion with Company experts who are familiar with these assets.

The current authorized net salvage for this account is 0 percent. There is a robust market for used helicopters. The company plans to keep its current helicopter 25 years and maintain the helicopter with manufacturer recommendations.

There is limited data in the public domain to predict the value of the helicopters 25 years from now. The small number of drones in this account have no value at the end of their lives and no salvage is predicted for those assets. There has been limited retirement and/or net salvage activity in this account. Based on judgment, my study recommends moving to positive 50 percent net salvage for this account.

10. Account C393.10 Stores Equipment

This account consists of stores equipment used for general utility service. There is approximately $333 thousand in this account. This account currently has a life of 19 L0. Based on the practices and expectations of the Company's operating personnel and the 25-year life recommendation for similar assets in Account E393.10, this study recommends moving to a 25-year life with an SQ dispersion, matching the life of Account E393.10.

The current authorized net salvage for this account is 0 percent. The five- and 10-year moving averages show 0 percent for both periods. Based on the type of assets and Company experience, my study recommends retaining the approved 0 percent net salvage for this account.

11. Account C394.11 Portable Tools

This account consists of portable tools such as mobile computer data, test equipment, and pumps. There is approximately $1.5 million in this account. This account currently has a life of 23 R2.5.

In this common function, two-thirds of the total plant is ruggedized laptops (MDTs) used in the field. Company experts believe that a life of 23 years is not reasonable for these laptops. Company Experts believe a life of 10 years for this account based on the asset mixture is operationally reasonable.

In order to continue the use of vintage group amortization, my study recommends an amortization period of 10 years with an SQ dispersion associated with portable tools such as mobile computer data, test equipment, and pumps. The current authorized net salvage for this account is 0 percent. The five- and 10-year moving averages show 0 percent for both periods. Based on the type of assets and Company experience, my study recommends retaining the approved 0 percent net salvage for this account.

12. Account C394.21 Shop Equipment

This account consists of shop equipment such as ammeters, purifiers, and steam cleaners. There is approximately $143 thousand in this account. This account currently has a life of 35 L1.5.

Based on the practices and expectations of the Company's operating personnel, this life is longer than expected for these types of assets. Account E394.20, Shop Equipment, has a current and proposed 26-year life. Since those assets are similar between electric general and common plant, my study proposes moving to a 26-year life.

In order to continue to use vintage group amortization, my study recommends an amortization period of 26 years with an SQ dispersion. The current authorized net salvage for this account is 0 percent. There was gross salvage received in 2017 that has not occurred in other periods. Based on judgment, my study recommends retaining the approved 0 percent net salvage for this account

13. Account C394.31 Garage Equipment

This account consists of various garage equipment such as lathes and other tools. There is approximately $1.8 million in this account. This account currently has a life of 19 R3.

Based on the practices and expectations of the Company's operating personnel, this life is still appropriate. In order to continue to use vintage group amortization, my study recommends an amortization period of 19 years with an SQ dispersion. The current authorized net salvage for this account is 0 percent. The five- and 10-year moving averages show 0 percent for both periods. Based on the type of assets and Company experience, my study recommends retaining the approved 0 percent net salvage for this account.

14. Account C395.10 Laboratory Equipment

This account consists of laboratory equipment used in general utility service. There is approximately $1.7 million in this account. This account currently has a life of 25 R5.

Company experts report that the items used for laboratory equipment are increasingly technology driven. Based on their recent experience, they do not believe these assets can last 25 years. Their expectations are 15 years at most.

My study continues to use vintage group amortization with an amortization period of 15 years with an SQ dispersion. The current authorized net salvage for this account is 0 percent. The five- and 10-year moving averages show 1 percent for both periods. Based on the type of assets and Company experience, my study recommends retaining the approved 0 percent net salvage for this account.

15. Account C397.10 Communication Equipment

This account consists of miscellaneous communication equipment used in general utility service. Assets in this account include AV equipment, network infrastructure equipment, and telecom equipment. There is approximately $306.1 million in this account.

This account currently has a life of 13 S6. Company personnel report that these assets are very technology driven. Based on the practices and expectations of the Company's operating personnel, this life is still appropriate.

In order to continue to use vintage group amortization, my study recommends an amortization period of 13 years with an SQ dispersion. The current authorized net salvage for this account is 0 percent. The five- and 10-year moving averages show 0 percent for both periods. Based on the type of assets and Company experience, my study recommends retaining the approved 0 percent net salvage for this account.

16. Account C398.10 Miscellaneous Equipment

This account consists of miscellaneous equipment used in general utility service. There is approximately $3.6 million in this account. This account currently has a life of 13 R0.5.

Based on the types of assets in this account expectations of the Company's operating personnel, this life is still appropriate. In order to continue to use vintage group amortization, my study recommends an amortization period of 13 years with an SQ dispersion. The current authorized net salvage for this account is 10 percent. The five- and 10-year moving averages show 0 percent for both periods. Based on the type of assets and Company experience, my study recommends moving to 0 percent net salvage for this account.

B. Electric Production Plant

The balance for Electric Steam Production Plant as of December 31, 2020, was $533.2 million. The accumulated reserve was $277.0 million. The balance for Other Production Plant as of December 31, 2020, was $578.8 million. The accumulated reserve was $301.7.0 million.

Electric steam production and other production plant consists of several, large-scale, generation plants, and numerous, smaller, renewable-energy projects. While these plants are discussed as single units, the unique assets comprising them are accounted for across the FERC accounts below, with separate delineation by large-scale facility and renewable-energy type.

Table SDG&E-DW-4
Electric Production FERC Accounts

Steam Production	Other Production
310: Land Rights	**340:** Land Rights
311: Structures and Improvements	**341:** Structures and Improvements
312: Boiler Plant Equipment	**342:** Fuel Holders, Producers, and Accessories
313: Engines and Engine-Driven Generators	**343:** Prime Movers
314: Turbogenerator Units	**344:** Generators
315: Accessory Electric Equipment	**345:** Accessory Electric Equipment
316: Miscellaneous Power Plant Equipment	**346:** Miscellaneous Power Plant Equipment

1. Cuyamaca Peak Energy Plant

The Cuyamaca Peak Energy Plant (CPEP) is a 45-megawatt (MW) single unit simple-cycle peaking power plant that was purchased from CalPeak Power-El Cajon LLC in January 2012.[10] The depreciation study models CPEP to be retired in 2027. Sargent & Lundy (S&L)

[10] SDG&E Peaker Plants Fact Sheet (May 27, 2014).

performed an undated, independent dismantling cost study for CPEP. The results of this updated study are included in the calculation of depreciation rate for CPEP.[11]

As a single unit production site, SDG&E continues to utilize end-of-life accounting with a fixed decommissioning date of mid-2027 based on a 25-year service life. No interim retirements for this plant were modeled in the depreciation study. Additionally, while S&L notes that "[t]he decommissioning costs are expected to increase by the end of service life of the asset due to escalation,"[12] the FNS% proposal in the depreciation study is based on a conservative, non-escalated, allocation across associated depreciation accounts for this plant.

Table SDG&E-DW-5
Depreciation Parameters - CPEP

	Current				Proposed		
		Decom.				Decom.	
Account	Curve	Date	FNS%		Curve	Date	FNS%
E341.00	SQ	mid-2027	-17.45%		SQ	mid-2027	-24.20%
E342.00	SQ	mid-2027	-5.02%		SQ	mid-2027	-11.12%
E343.00	SQ	mid-2027	0.00%		SQ	mid-2027	0.00%
E315.00	SQ	mid-2027	-9.07%		SQ	mid-2027	-5.44%
E345.00	SQ	mid-2027	-14.47%		SQ	mid-2027	-31.86%
E346.00	SQ	mid-2027	0.00%		SQ	mid-2027	0.00%
			-3.30%				-3.58%

2. Desert Star Energy Center

The Desert Star Energy Center (DSEC) is a 480-MW electric generating facility situated on land leased from the City of Boulder. In mid-2000, DSEC entered commercial operation as El Dorado Energy, LLC, and SDG&E purchased DSEC from Sempra Energy in October 2011. The depreciation study models DSEC to retire in 2026 based on the lease requirements and is supported by Company witness Daniel S. Baerman in the Electric Generation testimony, Ex. SDG&E-14.

S&L performed an updated, independent dismantling cost study for DSEC. The results of this updated study are included in the calculation of depreciation rate for DSEC. As a production site, SDG&E continues to utilize end-of-life accounting with a fixed retirement and

[11] S&L, Cuyamaca Peak Energy Plant Decommissioning Study (April 4, 2022), Table ES-1 at ll.

[12] *Id*. at I.

decommissioning date based upon lease requirements. No interim retirements were modeled for this facility in the depreciation study. While S&L notes that "[t]he decommissioning costs are expected to increase by the end of service life of the asset due to escalation,"[13] the FNS% proposal in the depreciation study is based on a conservative, non-escalated, allocation across associated depreciation accounts.

Table SDG&E-DW-6
Depreciation Parameters - DSEC

	Current			Proposed		
Account	**Curve**	**Decom. Date**	**FNS%**	**Curve**	**Decom. Date**	**FNS%**
E311.00	SQ	mid-2026	10.58%	SQ	mid-2026	(12.47%))
E312.00	SQ	mid-2026	-4.27%	SQ	mid-2026	(3.90%)
E314.00	SQ	mid-2026	-10.49%	SQ	mid-2026	(7.68%)
E315.00	SQ	mid-2026	-0.08%	SQ	mid-2026	(0.83%)
E316.00	SQ	mid-2026	-0.70%	SQ	mid-2026	(0.73%)
E341.00	SQ	mid-2026	-30.74%	SQ	mid-2026	(81.68%)
E342.00	SQ	mid-2026	-24.16%	SQ	mid-2026	(1.38%)
E343.00	SQ	mid-2026	0.00%	SQ	mid-2026	-
E344.00	SQ	mid-2026	-0.42%	SQ	mid-2026	(0.74%)
E345.00	SQ	mid-2026	4.71%	SQ	mid-2026	(2.42%)
E346.00	SQ	mid-2026	0.00%	SW	mid-2026	-
			(2.57%)			(3.37%)

3. Miramar Energy Facility

The Miramar Energy Facility (MEF) consists of two units. The first facility entered service in 2005. The second, which is virtually identical to the first, entered service in 2009.

S&L performed an updated, independent dismantling cost study for MEF. The results of this updated study are included in the calculation of depreciation rate for MEF. As a single production site, SDG&E continues to utilize end-of-life accounting with affixed decommissioning date of mid-2032, based on a conservative 25-year ASL from the simple-average in-service date for the units.

No interim retirements were modeled for this facility in the depreciation study. While S&L notes that "decommissioning costs are expected to increase by the end of service life due to

[13] S&L, Desert Start Energy Center Decommissioning Study (April 4, 2022) at I.

escalation,"[14] the FNS% proposal is based on a conservative, non-escalated, allocation across associated depreciation accounts.

Table SDG&E-DW-7
Depreciation Parameters - MEF

	Current			Proposed		
Account	**Curve**	**Decom. Date**	**FNS%**	**Curve**	**Decom. Date**	**FNS%**
E341.00	SQ	mid-2032	(6.76%)	SQ	mid-2032	(6.45%)
E342.00	SQ	mid-2032	(2.92%)	SQ	mid-2032	(4.08%)
E343.00	SQ	mid-2032	-	SQ	mid-2032	-
E344.00	SQ	mid-2032	(2.63%)	SQ	mid-2032	(4.05%)
E345.00	SQ	mid-2032	(0.08%)	SQ	mid-2032	(3.22%)
E346.00	SQ	mid-2032	-	SW	mid-2032	-
			(1.09%)			(3.22%)

4. Palomar Energy Center

The Palomar Energy Center (PEC), which went into service in 2006, is a 588 MW, natural gas-fired, electric generation facility owned by SDG&E. S&L performed an updated, independent dismantling cost study for PEC. The results of this updated study are included in the calculation of depreciation rate for PEC.

As a single production site, SDG&E continues to utilize End-of-Life Accounting with a fixed decommissioning date of mid-2036, based on a 30-year ASL. No interim retirements were modeled for this facility in the depreciation study. While S&L notes that "[t]he decommissioning costs are expected to increase by the end of service life of the asset due to escalation,"[15] the FNS% recommendation is based on a conservative, non-escalated, allocation across associated depreciation accounts.

[14] S&L, Miramar Energy Facility Decommissioning Study (April 4, 2022) at I.
[15] S&L, Palomar Energy Center Decommissioning Study (April 4, 2022) at I.

Table SDG&E-DW-8
Depreciation Parameters - PEC

	Current			Proposed		
Account	**Curve**	**Decom. Date**	**FNS%**	**Curve**	**Decom. Date**	**FNS%**
E311.00	SQ	mid-2036	-2.30%	SQ	mid-2036	(3.11%)
E312.00	SQ	mid-2036	-2.30%	SQ	mid-2036	(3.10%)
E314.00	SQ	mid-2036	-1.41%	SQ	mid-2036	(2.64%)
E315.00	SQ	mid-2036	-0.32%	SQ	mid-2036	(1.30%)
E316.00	SQ	mid-2036	-0.25%	SQ	mid-2036	(0.28%)
E341.00	SQ	mid-2036	-3.29%	SQ	mid-2036	(4.29%)
E342.00	SQ	mid-2036	-1.45%	SQ	mid-2036	(2.32%)
E343.00	SQ	mid-2036	0	SQ	mid-2036	-
E344.00	SQ	mid-2036	-0.60%	SQ	mid-2036	(1.31%)
E345.00	SQ	mid-2036	3.06%	SQ	mid-2036	(5.02%)
E346.00	SQ	mid-2036	0	SW	mid-2036	-
			(-1.24%)			(2.08%)

5. Account E344.1 Solar Energy Projects

SDG&E has installed numerous solar energy projects (SEP), or photovoltaic (PV) power-generation equipment, throughout its service territory. Currently, the approved life and curve for these facilities is 25 years with a SQ dispersion. The same 25-year life is used in this depreciation study.

S&L performed an independent dismantling cost estimates for SEP. The results of this updated study are included in the calculation of depreciation rate for SEP. There are two types of solar assets are in this account: the Ramona facility and various rooftop solar installations.

The two estimates computed by S&L were combined to produce the net salvage percentages shown below. While S&L notes that "[d]ecommissioning costs are expected to increase by the end of service life due to escalation,"[16] the FNS% recommendation is based on a conservative, non-escalated, allocation across associated depreciation accounts.

[16] S&L, Ramona Solar Energy Plant Decommissioning Study (April 4, 2022) at I.

Table SDG&E-DW-9

Depreciation Parameters - SEP

	Current		Proposed	
Account	**Curve**	**FNS%**	**Curve**	**FNS%**
E341.10	SQ-25	-	SQ-25	0.00%
E344.10	SQ-25	-	SQ-25	-19.22%
E345.10	SQ-25	-	SQ-25	-13.91%
		-		-18.98%

6. Account E344.2 Generators Other

This account consists of generators, gas turbines and control systems, circulating water systems, and other related assets. A pro-forma adjustment was made in 2021 to transfer assets into this account. After those adjustments, the plant balance in this account is $5.4 million.

No specific power plant is mentioned for these assets. The assets transferred into this account are large portable generators that can be used at any location. Currently there are no interim retirements modeled for generation assets.

The ability to move these assets to different locations results in more wear and tear. Given those circumstances, I recommend in my judgment a 20-year life with an R1 dispersion for these assets. The current net salvage percentage is 0 percent. There has been no historical activity, and there is no interim net salvage estimated for this account. Based on judgment, my study recommends 0 percent net salvage for this account.

7. Account E303 Intangible Plant

This account includes the cost of intangible software used for electric utility service. There is approximately $192.3 million in this account. Software projects are assigned a life based on the expectation by Company IT subject matter experts of the period that the software will be used and useful.

Currently assets in this account have lives of 5 and 10 years. Those assets lives are retained. The Company also requests the addition of a 3-year category. The current net salvage percentage is 0 percent, which is retained. These assets have no value at the end of their lives, given the pace of technology change.

C. Electric Distribution Plant

The balance for Electric Distribution General plant as of December 31, 2020, was $7.914 billion, excluding $16.5 million for land which is non-depreciable. The accumulated reserve was $3.367 billion.

1. Account E360.2 Land Rights (65 SQ)

This account contains right of way for distribution plant. On December 31, 2020, there was approximately $83.9 million in this account. The current approved life for this account is 45 years with an SQ dispersion.

My study proposes extending the life of this account to correspond to the longest lives of assets within this functional group. Since the longest proposed life for this functional group is 61 years for Account 361 Structures and Improvements, my study proposes moving to a 65-year life with an SQ dispersion. The currently approved net salvage estimate for this account is zero percent. Since land rights intrinsically have no removal costs (removal costs are attributed to the property on the land) and have no salvage value, a zero percent net salvage estimate is retained for this account.

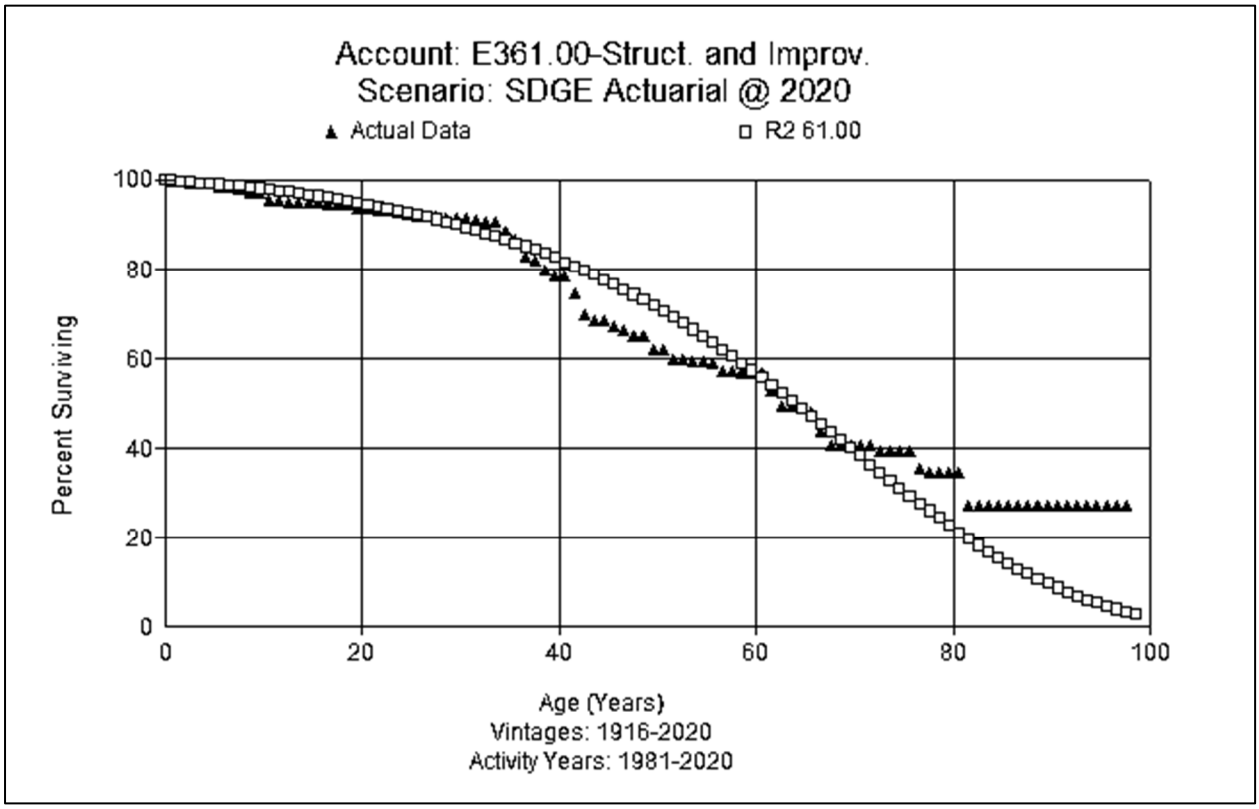
2. Account E361.0 Structures & Improvements

This grouping contains facilities such as building station control, fencing, yard improvements, and other structures for distribution plant. On December 31, 2020, there was approximately $12.3 million in this account. There is a diverse mixture of assets in the accounts that have a wide range of lives.

Longer lived assets include site preparation, drainage, and foundations. Shorter lived assets are security system upgrades, which have been added in the past few years. The existing approved life is 63 years with an R2.5 dispersion curve.

The Company is planning to remove all 12kV - 4 kV substations over the next 10 years (around 10-20 stations out of around 180-200 stations). Some of the more recent bands are showing a slight reduction in life to 57 years. To move partway in direction of this trend, my study recommends a slight decrease in average life. Based on the actuarial analysis, the type of assets in this account, and judgment, my study recommends moving the life to 61 years and moving to an R2 dispersion. A graph of the observed life table versus the proposed curve is shown below in Figure DW-10.

Figure DW-10
Account 361- Structures and Improvements



The current approved net salvage estimate for this account is negative 125 percent. Transactional history shows a negative net salvage in nearly every year analyzed. In the most recent period, a moving average of negative 520 and negative 431 percent exists for the five-year and 10-year bands, respectively. Given the continued trend in negative net salvage, my study recommends implementing the 25 percent change that would be permitted by the Commission's gradualism precedent. Based on the transactional history, a proposed net salvage estimate of negative 150 percent is supported and recommended for this account.

3. Account E362.1 Station Equipment

This grouping contains switchboards, station wiring, transformers, and a wide variety of other equipment, from circuit breakers to switchgear, for distribution plant. On December 31, 2020, there was approximately $618.0 million in this account. The existing approved life is 51 years with an R1.5 dispersion curve.

As with Account 361, the Company is planning to remove all 12kV - 4 kV substations over the next 10 years (around 10-20 stations out of around 180-200 stations). CBM (Condition

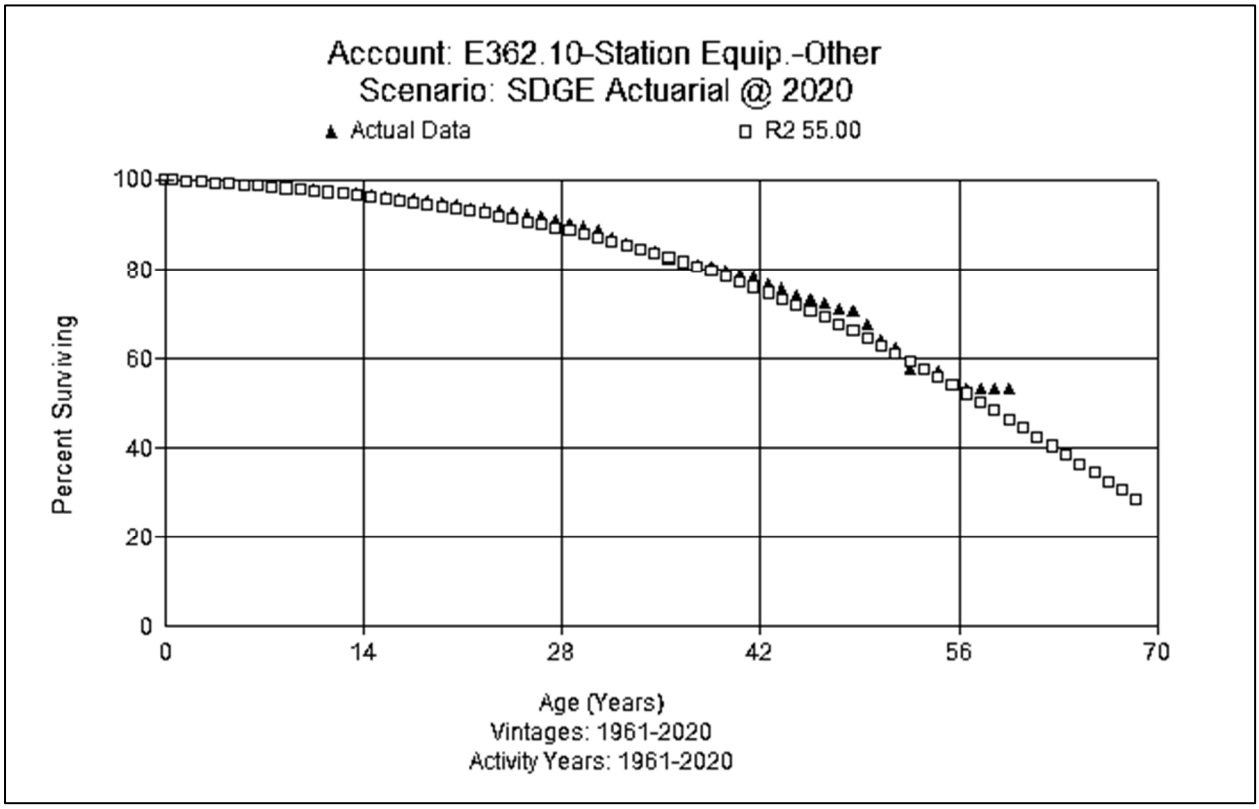
Based Monitoring) is in place for transformers in this account. Many transformers are older than the 51-year approved life.

Company Experts expect transformers to have a 40–60-year life. At this point, 30-35 transformers are past the 60-year mark. Breakers are a mix of oil, vacuum, and air. The life expectations for different types of breakers are: oil 50 years, vacuum 30 years, and metal clad 30-50 years.

There are some electromechanical relays on the system, but the Company would replace those with solid state relays upon replacement. Company Experts state that the ranges of life for relays are 20 years for solid state and 30-40 years for electromechanical. Ground grids are generally maintained rather than having a full-scale replacement. Batteries are estimated to have a life in the range of 10–20 years.

From an operations perspective, Company experts support a slight increase in life. Based on the analysis, type of assets, and Company input, my study recommends moving to a 55 R2. A graph of the observed life table versus the proposed curve is shown in Figure DW-11.

Figure DW-11
Account 362- Station Equipment



The current approved net salvage estimate for this account is negative 125 percent. In the most recent period, a moving average of negative 196 and negative 186 percent exists for the five-year and 10-year bands. Given the continued trend in negative net salvage, my study recommends a 25 percent change, consistent with the Commission's gradualism requirements. After examining SDG&E history, I recommend moving toward the more negative indications with a negative 150 percent net salvage estimate.

4. Account E363 Energy Storage Equipment

This account includes energy storage equipment such as batteries, inverters, and containers. Switchgear, transformers, conduit, and the like would be booked to other accounts. There is $126.0 million in plant in this account.

The current life of this account is 10 years with an SQ dispersion. Company Experts report that some battery projects will reach their end of life at around 10-15 years (Li Ion). The Tesla time frame is 10 years. Miramar and Fallbrook have 20-year LTSAs. Newer battery chemistry (Iron Phosphate) would allow less degradation and more cycling.

Due to the mix of lives expected for batteries, moving from a 10 year to a 15-year life is reasonable from an operations perspective. Based on information from Company Experts and judgment, my study recommends a 15-year life with SQ dispersion for this account. No graph is shown.

The current approved net salvage estimate for this account is 0 percent. The Company had a consultant, Renewance, perform a decommissioning study on the batteries that will be booked in this account.[17] There will be disposal costs associated with batteries and it is necessary to request a small amount of removal cost associated with them. Based on information from the decommissioning studies, negative 3.60 percent net salvage is recommended for this account.

5. Account E364.0 Poles, Towers & Fixtures

This account contains poles, towers, and fixtures for distribution plant. As of December 31, 2020, there was approximately $942.1 million in this account. The approved life is 47 R0.5.

The Company uses poles made of wood, steel, and concrete. For the past 30 years, the Company has gradually been moving from wood poles to steel and concrete. The wood poles

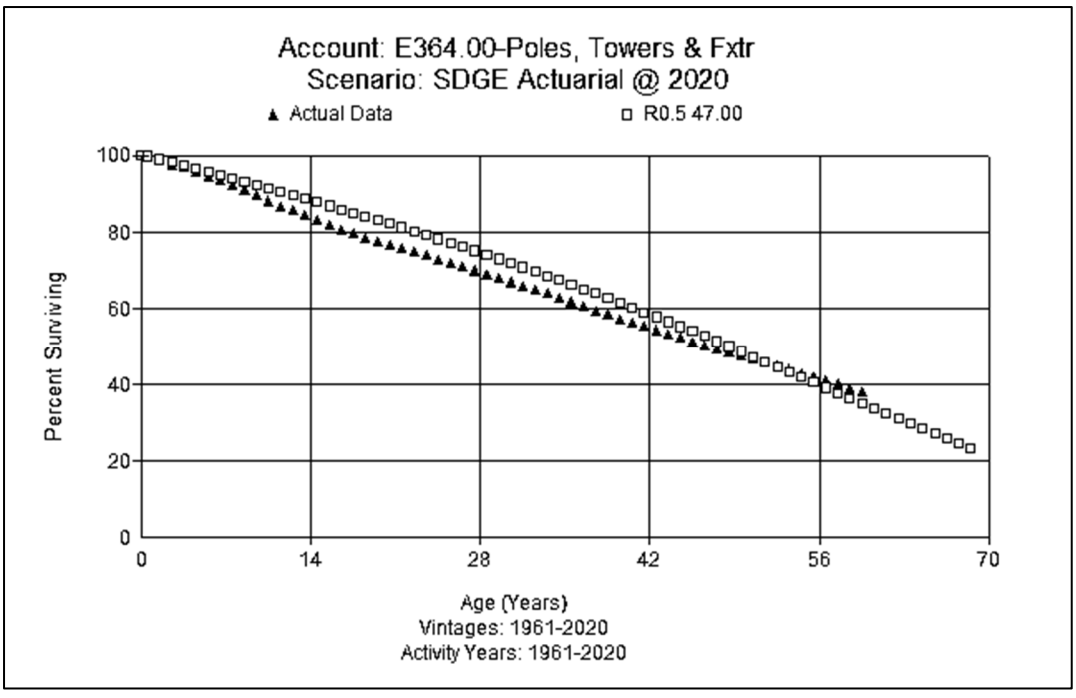
[17] Renewance, SDG&E Battery Energy Storage System Decommissioning Plans and Study (January 2022).

being replaced are likely 50+ years old at retirement. Company experts state that steel poles have a 50+ year life per the manufacturer, which is also support by operations experience. Concrete poles installed over the past 20-30 years have issues with spalling corrosion. Fiberglass poles have a life of 30 or more years.

Company experts report that they are proactively undergrounding in certain fire hardening areas. The largest hardening effort is focused is on areas with wood poles. Some areas that may have had wood changed out to steel in the past would now, based on risk assessment, move to undergrounding or replacement with covered wire. And some portions of the steel poles in areas that have already been hardened may need to be reworked. Specifically, in high fire threat districts (HFTD), SDG&E is installing 233 miles of undergrounding, leading to 155 miles of overhead poles being removed in this GRC's three-year time frame.

Yet the undergrounding effort will not have a significant impact on the overall account as it will install only 880 miles of underground to convert 587 miles of overhead; a small percentage of the total number of poles. The total miles in the service territory are 6,431 overhead and 10,729 underground. Based on the actuarial analysis, Company input, and judgment, my study recommends retaining the 47-year life with the R0.5 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-12.

Figure DW-12
Account 364- Poles, Towers and Fixtures



The current approved net salvage estimate for this account is negative 100 percent. In the most recent period, a moving average of negative 86 percent and negative 94 percent exists for the five-year and 10-year bands, respectively. Given the slight movement in the Company's experience, the study recommends an incremental movement to a negative 95 percent net salvage estimate.

6. Account E365.0 Overhead Conductor & Devices

This account consists of overhead (OH) conductor of various thickness, as well as various switches and reclosers. As of December 31, 2020, there was approximately $974.3 million in the account. The approved life is 55 R0.5.

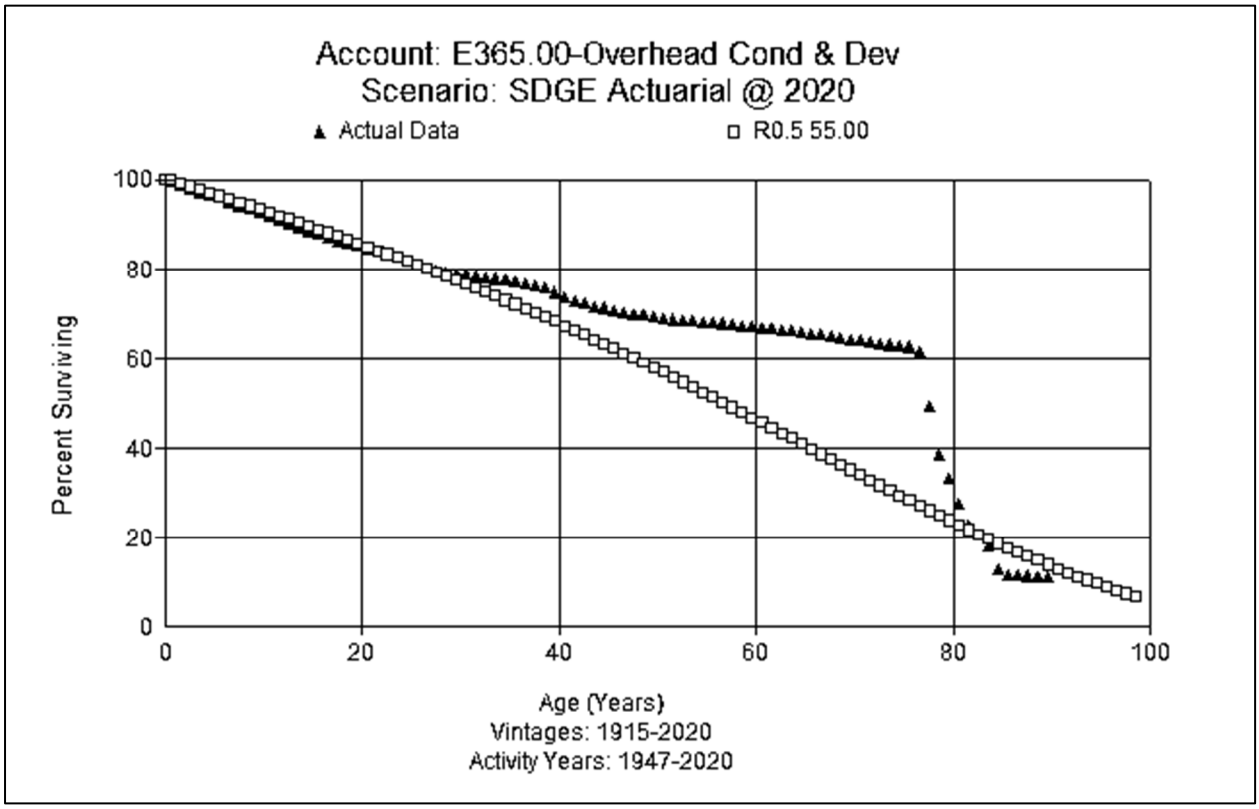
From an operations perspective, Company experts expect that overhead wire would have a longer life than poles. The Company has an active reconductoring program and will, in some cases, replace conductor when hardening the system. Specifically, the Company is replacing single strand with multistrand steel conductor.

With the 10-year plan, SDG&E is expecting over 800 miles of covered conductor to be installed, of which about 40% could be rework. There will be some early retirements with the rework. The Company has no current plans to replace conductor with covered conductor outside of the HFTD area.

Covered conductor is a newer technology for the company. Based on engineering analysis and history from other companies, Company experts expect the covered conductor to last as long as the bare wire. There will be areas where the conductor has been hardened but will now be replaced with covered conductor, but the steel poles will not be replaced.

Based on the actuarial analysis, Company input, the type of assets, and judgment, my study recommends retaining the current 55-year life with an R0.5 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-13.

Figure DW-13
Account 365- Overhead Conductor



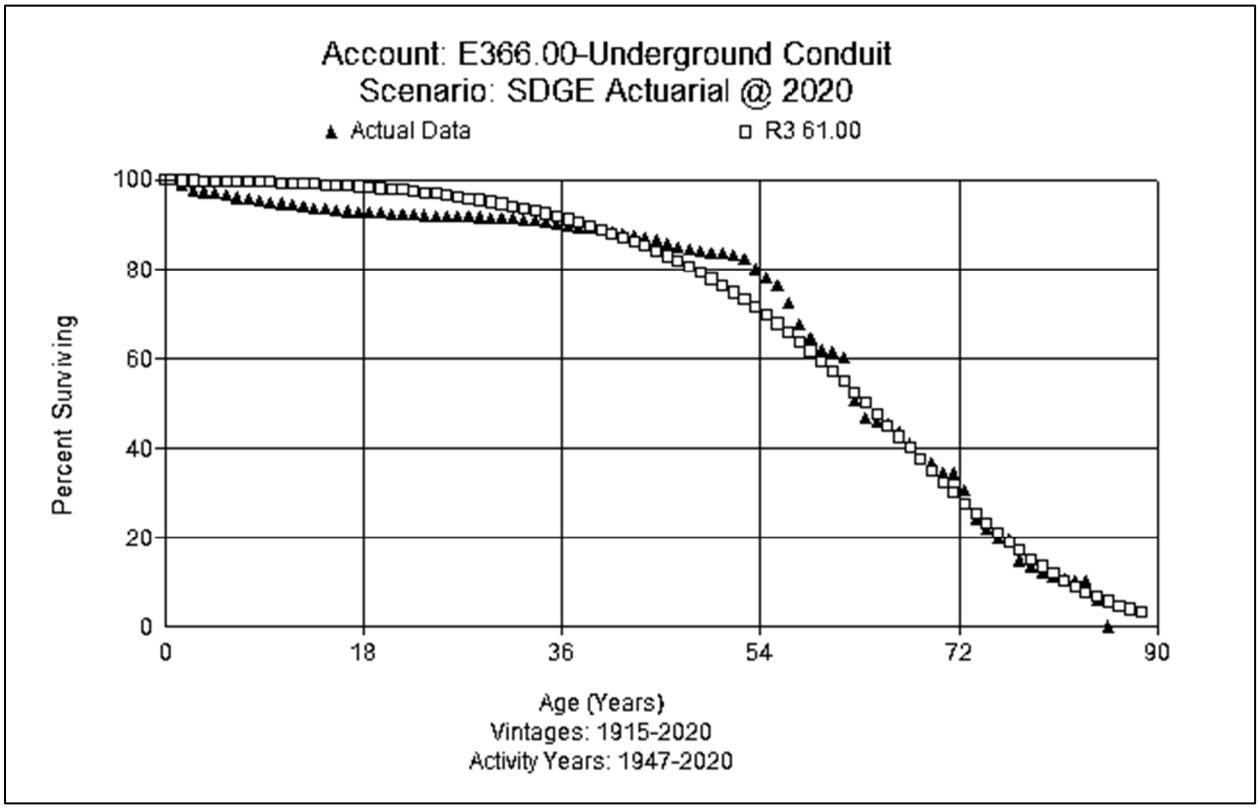
The current approved net salvage estimate for this account is negative 70 percent. In the most recent period, a moving average of negative 161 and negative 131 percent exists for the five-year and 10-year bands, respectively. My study recommends moving toward those indications with a negative 95 percent net salvage estimate.

7. Account E366.0 Underground Conduit

This account consists of underground conduit, duct banks, vaults, and ventilating system equipment. On December 31, 2020, there was approximately $1.6 billion in this account. The approved life is 57 years with an R3 dispersion pattern.

Company experts state that they have moved away from soil compacted back fill. Since the 1970s-1980s, SDG&E has used a slurry mix, which protects conductor better. Based on indications from the actuarial analysis, the type of assets in this account, and judgment, my study recommends increasing to a 61-year life and retaining the R3 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-14 below.

Figure DW-14
Account 366- Underground Conduit



The current approved net salvage estimate for this account is negative 50 percent. In the most recent period, a moving average of negative 148 and negative 122 percent exists for the five-year and 10-year bands, respectively. To incrementally model net salvage in the future and give recognition to the higher negative net salvage indications, a negative 75 percent net salvage estimate is recommended for this account at this time.

8. Account E367.0 Underground Conductors & Devices

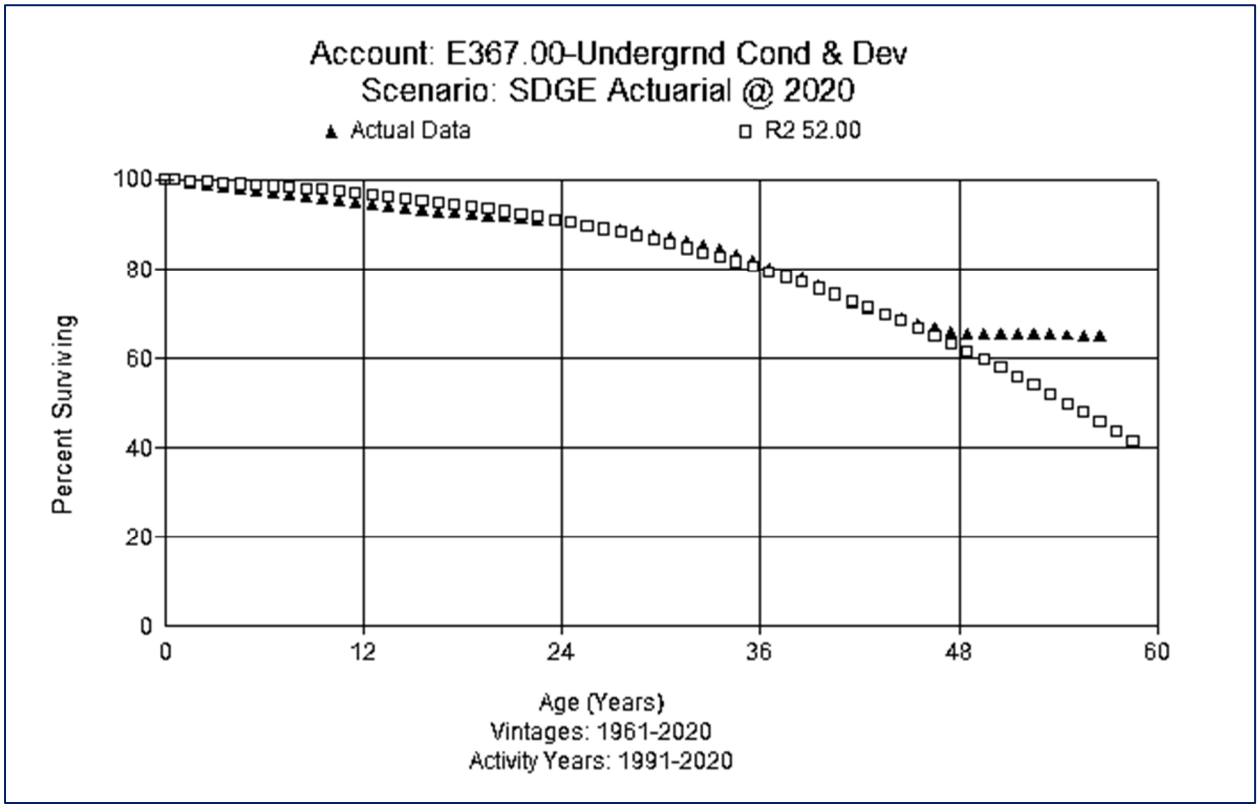
This account consists of underground conductor, switches, and switchgear for distribution plant. As of December 31, 2020, there was approximately $1.8 billion in this account. The currently approved life estimate is 45 years with the R3 dispersion curve.

Company experts report connectors and related materials have improved compared to historical standards. Cable technology has improved over time. The HFTD areas are generally not in coastal areas and thus face less water issues overall.

Analytics from actuarial analysis show a slightly longer life. Company experts agree that from an operations perspective moving the life of this account longer is reasonable. Based on

the analysis, Company input, the types of assets, and judgment, my study recommends an increase in life to 52 years while moving to the R2 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-15.

Figure DW-15
Account 367 Underground Conductor and Devices



The currently approved net salvage estimate for this account is negative 65 percent. In the most recent period, a moving average of negative 126 percent and negative 120 percent exists for the five-year and 10-year bands, respectively. Based on current trends to higher negative net salvage my study recommends negative 90 percent net salvage estimate for this account at this time.

9. Account E368.0 Line Transformers

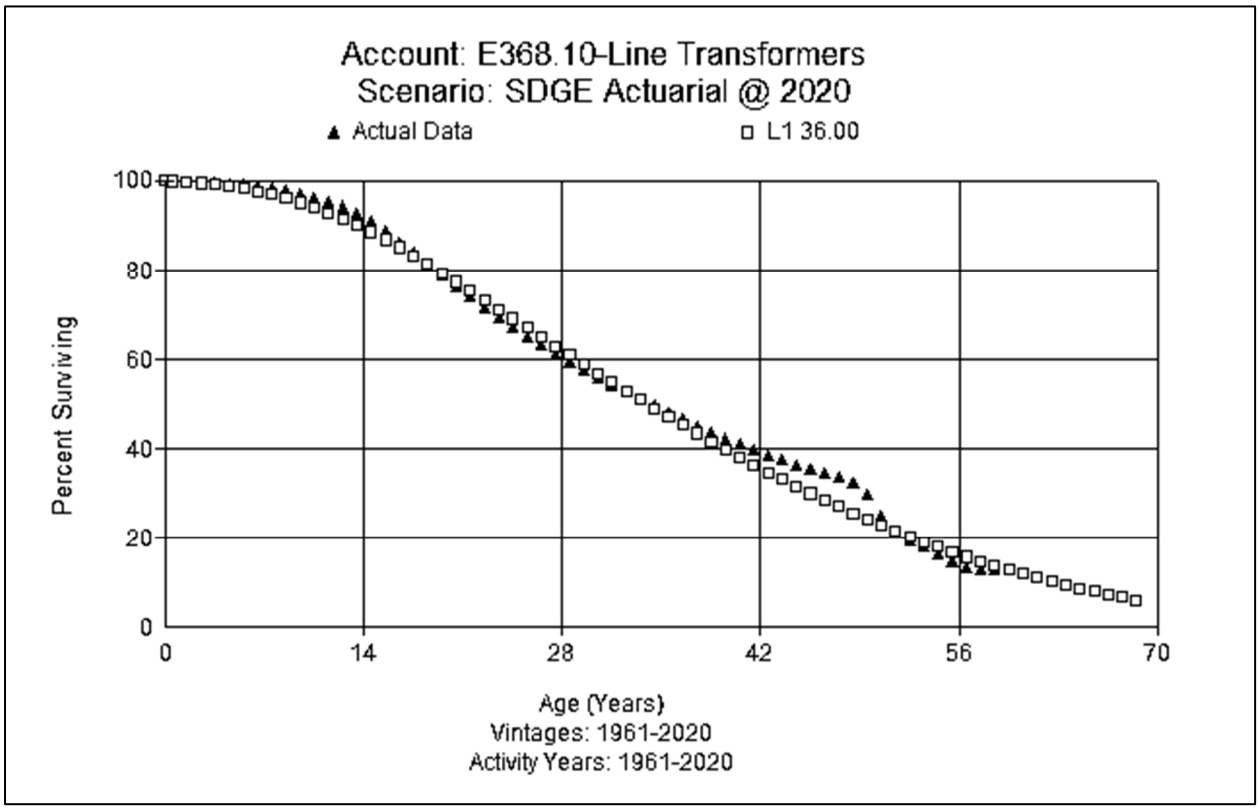
This account consists of line transformers, regulators, and capacitors. On December 31, 2020, there was approximately $721.7 million in this account. The current approved life for this account is 34 years with an L0.5 dispersion pattern.

Company experts report that they have better protection and better lightning arrestors than in the past. The Company has reduced the amount of repairing of old transformers, and

newer transformers are more robust. When a line is hardened, the transformers and capacitors would also be changed out, as well as the lightning arresters, fuses and associated parts.

These assets would be changed out in HFTD areas as necessary even if the pole or conductor was not replaced. Actuarial analysis shows a slightly longer life in the 37-year range. Company Experts state that, given the better materials and upgrades, a slightly longer life is reasonable operationally. Based on the actuarial analysis, the type of assets in this account, Company input, and judgment, the Study recommends an increase in the life to 36-years while moving to an L1 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-16.

Figure DW-16
Account 368.1- Line Transformers



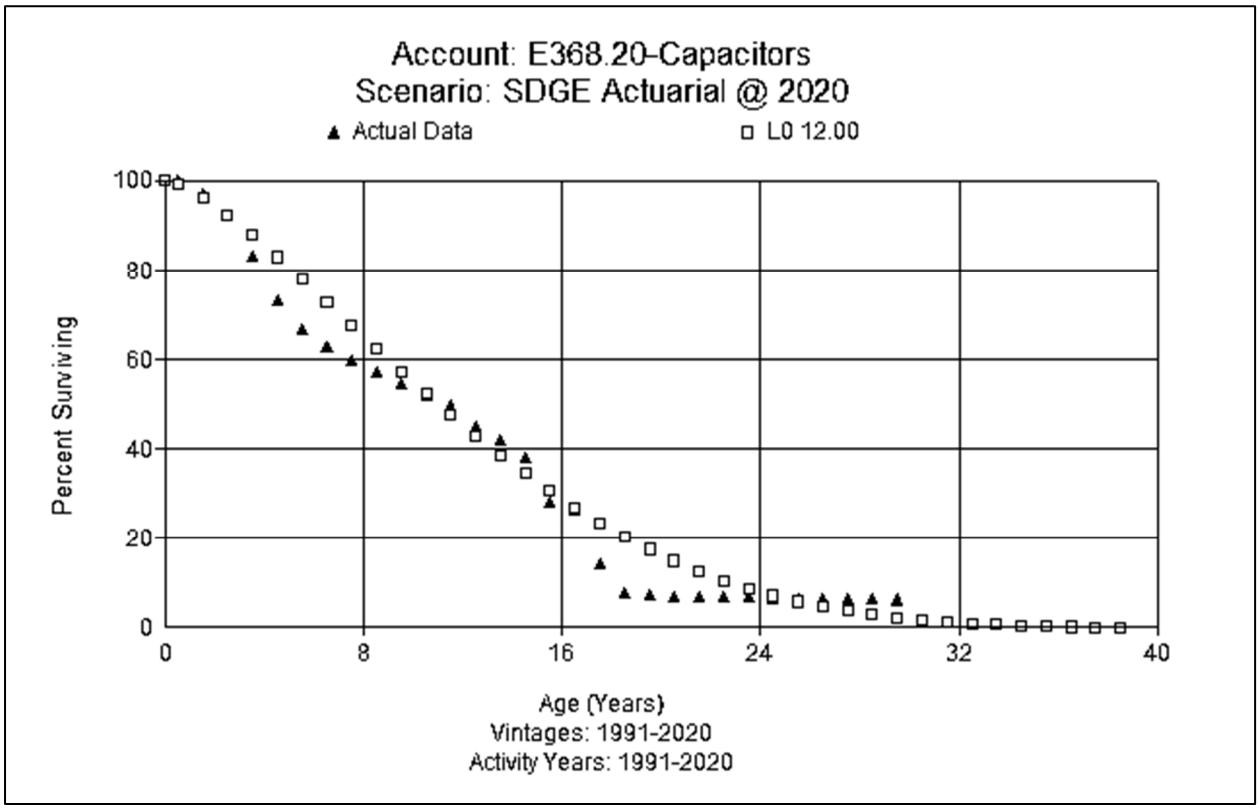
The currently approved net salvage estimate for this account is negative 70 percent. In the most recent period, a moving average of negative 180 and negative 167 percent exists for the five-year and 10-year bands, respectively. Based on current trends to higher negative net salvage my study recommends negative 95 percent net salvage estimate for this account at this time.

10. Account E368.2 Capacitor Banks

This account consists of capacitor banks installed around line transformers. On December 31, 2020, there was approximately $30.9 million in this account. The current approved life for this account is 12 years with an L0 dispersion pattern.

Company experts are not aware of any material changes in this account that would affect the life of capacitors. Some future activities (such as better communication) may shorten the life from a reliability standpoint. The current life is 12 years, which is consistent with the actuarial analysis. Based on the actuarial analysis, the type of assets in this account, Company input, and judgment, the Study recommends retention of the existing 12-year life with an L0 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-17.

Figure DW-17
Account 368.2- Capacitors



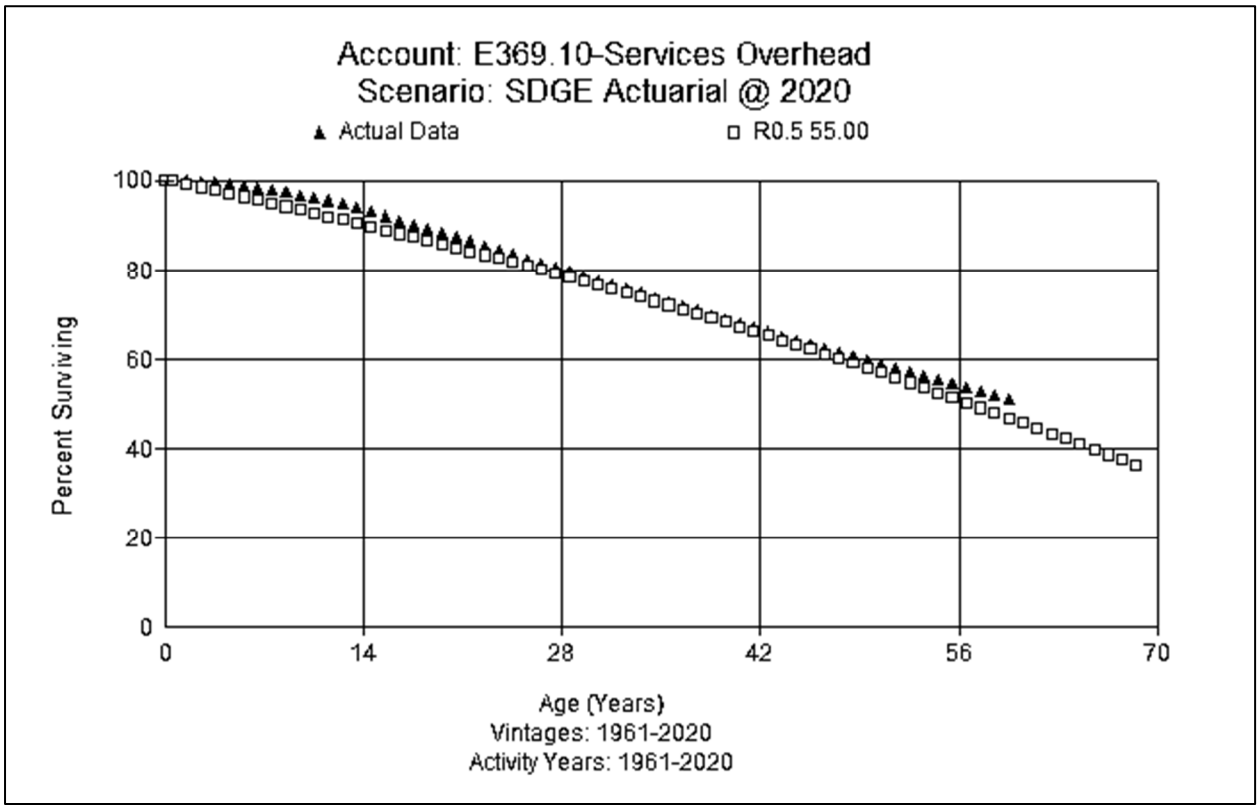
The currently approved net salvage estimate for this account is negative 70 percent. In the most recent period, a moving average of negative 35 percent and negative 79 percent exists for the five-year and 10-year bands, respectively. To model net salvage toward the indications, a negative 60 percent estimate is recommended.

11. Account E369.1 Overhead Services

This account includes overhead electric services. On December 31, 2020, the balance in this account was approximately $231.1 million. The current approved life for this account is 55 years with the R0.5 dispersion curve.

Company experts state that equipment in this account would be similar to assets in Account 365 Overhead Conductor (where the approved life is the same for both accounts). There are no drivers for a life change from an operations perspective. Based on the actuarial analysis, the type of assets in this account, Company input, and judgment, the Study recommends retaining the existing 55-year life with an R0.5 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-18.

Figure DW-18
Account 369.1- Overhead Services



The currently approved net salvage estimate for this account is negative 110 percent. In the most recent period, a moving average of negative 496 percent and negative 353 percent exists for the five-year and 10-year bands, respectively. To model net salvage toward the indications, a negative 135 percent estimate is recommended.

12. Account E369.2 Underground Services

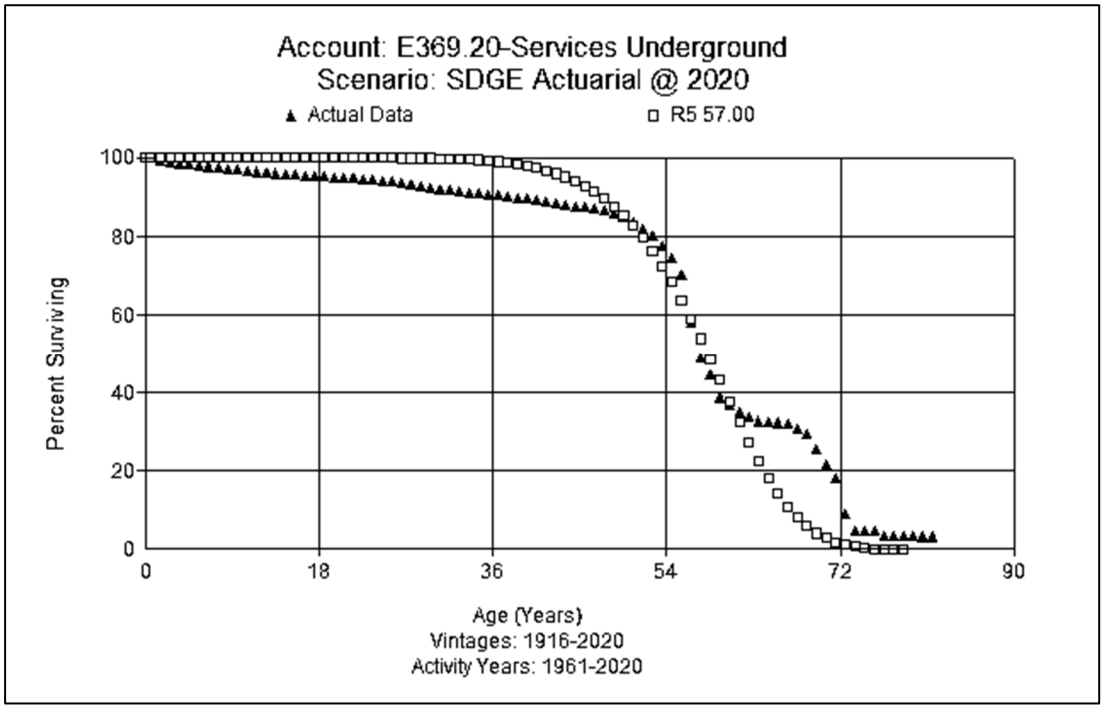
This account includes underground electric services. As of December 31, 2020, the balance in this account was approximately $389.6 million. The current approved life for this account is 53 years with the L4 dispersion curve.

Company experts report that they are installing increasing levels of underground services. The Company is also installing better hardware that would tend to increase the life from an operations perspective. And SDG&E just updated their cable to a better-quality material.

SDG&E no longer uses paper lead (1920-1960) and will replace those services when found. In the early 1960s the Company moved to in-conduit services, which gives higher reliability with fewer outages. Around the time of changing to conduit, the Company also started using Cross Linked Polyethylene (XLPE) cable.

Company experts believe they may see a slightly longer life in the future. Based on the analysis, type of assets, Company input, and judgment, the Study recommends moving to a 57-year life and move to the R5 dispersion. A graph of the observed life table versus the proposed curve is shown in Figure DW-19.

Figure DW-19
Account 369.2- Underground Services



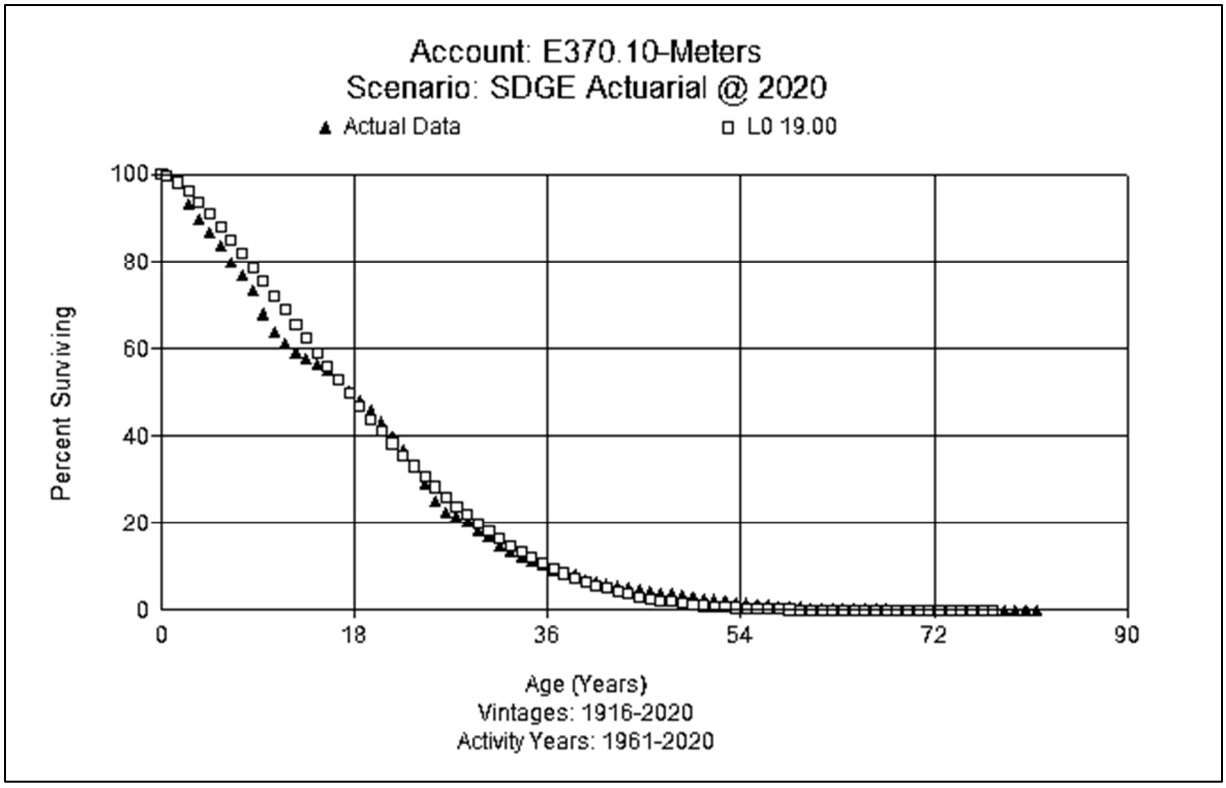
The currently approved net salvage estimate for this account is negative 75 percent. In the most recent period, a moving average of negative 403 percent and negative 282 percent exists for the five-year and 10-year bands, respectively. To model net salvage toward the indications, a negative 100 percent estimate is recommended for this account.

13. Account E370.10 Meters

This account includes all distribution meters, excluding Automatic Meter Reading (AMR) Meters. On December 31, 2020, there was approximately $7.6 million in this account. The current approved life is 48 years with an R0.5 dispersion curve. There are very few electromechanical meters left on the system, and the remaining electromechanical meters are mostly used for opt-out customers.

Analytics show a large drop in life for these assets. Based on the analysis, type of assets, Company input, and judgment, the Study recommends moving to a 19-year life and move to the L0 dispersion. A graph of the observed life table versus the proposed curve is shown Figure DW-20.

Figure DW-20
Account 370.1- Meters



The currently approved net salvage estimate for this account is 0 percent. In the most recent period, there is a moving average of 0 percent for the five-year and 10-year bands. To model net salvage indications, a 0 percent estimate is retained for this account.

14. Account E370.11 Meters Electronic

This account includes AMR equipment. On December 31, 2020, there was approximately $197.3 million in this account. The existing infrastructure is only lasting 10-12 years in some cases. Company experts report that some AMR meters have had early failures due to internal capacitors failing with a significant defective population identified in batches deployed in 2009-2010.

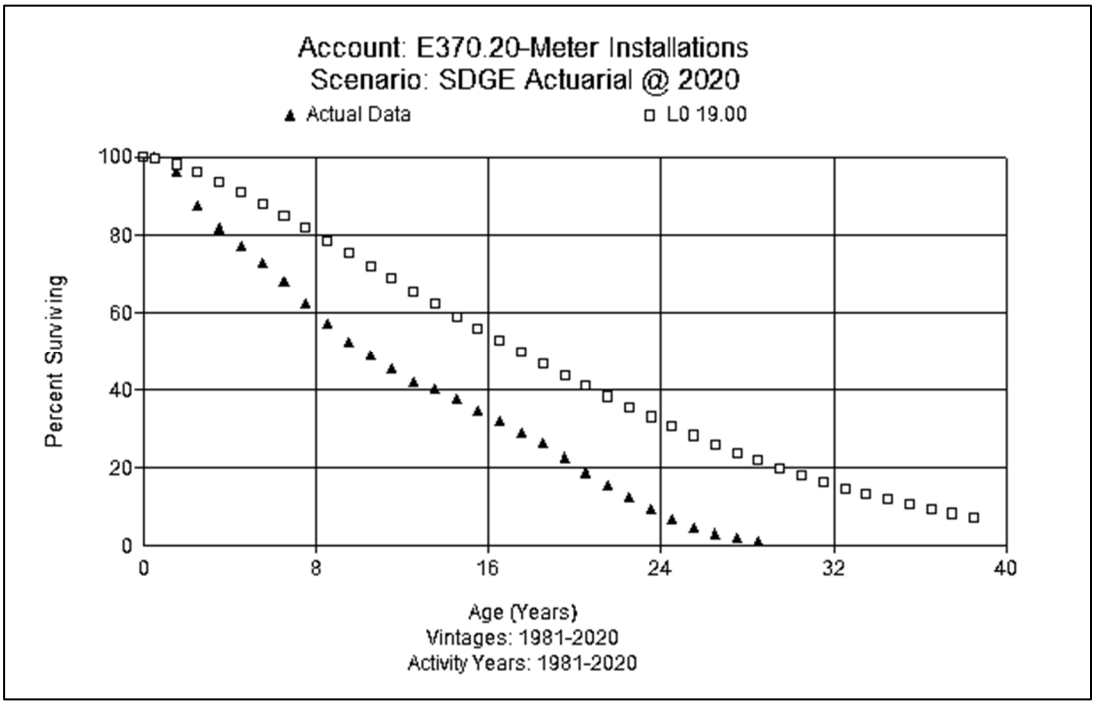
Although there are some advanced failures, a 15-year life is still generally reasonable from an operations perspective. Based on input from Company experts, my study thus recommends retention of the existing 15-year life with an SQ dispersion. The currently approved net salvage estimate for this account is 0 percent. In the most recent period, a moving average of 0 percent exists for the five-year and 9-year bands. To model net salvage indications, a 0 percent estimate is retained for this account.

15. Account E370.20 Meter Installations

This account includes meter installations for meters booked in account E370.10, non-AMR equipment. On December 31, 2020, there was approximately $8.8 million in the account. The current approved life is 48 years with the R0.5 dispersion curve.

Analytics show a reduction in life even larger than that found in Account E370.10. Meter installations are capitalized when service is established and retired when the location goes away. Given the relationship between this account and Account E370.10, my study recommends moving to a 19-year life and L0 dispersion which matches the recommendation for Account E370.10. A graph of the observed life table versus the proposed curve is shown Figure DW-21.

Figure DW-21
Account 370.2- Meter Installations



The currently approved net salvage estimate for this account is 0 percent. In the most recent period, a moving average of 0 percent exists for the five-year and 10-year bands. To model net salvage indications, a 0 percent estimate is retained for this account.

16. Account E370.21 Meter Installations Electronic Meters

This account includes meter installations for Smart meters/AMRs. As of December 31, 2020, there was approximately $59.4 million in the account. The current approved life is 15 years with the SQ dispersion curve. From an operations perspective, the life of this account is tied to Account E370.11 Electronic Meters.

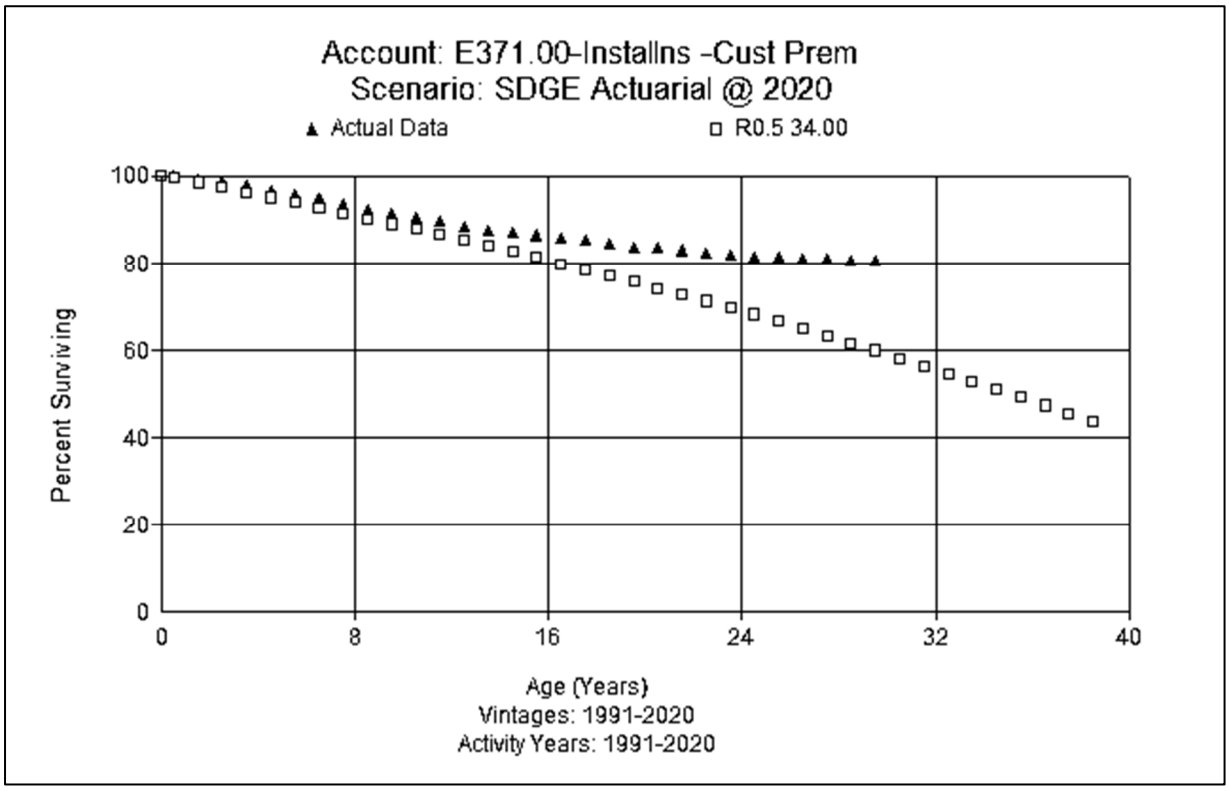
Based on the recommendation for Account E370.11, my study recommends retention of the existing 15-year life with an SQ dispersion. The currently approved net salvage estimate for this account is 0 percent. In the most recent period, a moving average of 0 percent for the five-year and 9-year bands, respectively. To model net salvage indications, 0 percent estimate is retained for this account.

17. Account E371.0 Installation on Customer Premises

This account consists of luminaire, pedestals, and poles. On December 31, 2020, there was approximately $10.0 million in this account. The current approved life for this account is 34 years with the R0.5 dispersion pattern.

Company experts report that they are migrating to LED bulbs for this account as current lighting fails. Operationally, they feel that a life of around 30 years is reasonable. They would expect the life to shorten as bulbs burn out and the heads are retired and replaced with LED (instead of replacing the bulbs under O&M). Based on the actuarial analysis, the type of assets in this account, and judgment, my Study recommends retaining the approved 34 R0.5. A graph of the observed life table versus the proposed curve is shown Figure DW-22.

Figure DW-22
Account 371- Installations on Customer Premises



The currently approved net salvage estimate for this account is negative 90 percent. In the most recent period, a moving average of negative 671 percent and negative 341 percent exists for the five-year and 10-year bands, respectively. To model net salvage toward the indications, a negative 115 percent estimate is recommended for this account.

18. Account E371.10 EV Charging Units

This account includes the service panel, the charge stub, and the wiring between the two for electric vehicles charging on customers' premises. There is $64.4 million in this account on December 31, 2020. Currently this account is being depreciated with a 10-year life and SQ retirement dispersion.

The Company only installs Level 2 or DC fast chargers. When they must transfer the charger to the customer, the period used in the calculation is between 8-10 years (as specified by the Commission). The first chargers were put into service in 2017. There have been a few sites where chargers had to be removed, mostly due to lease issues. The Company has not had any non-warranty failures or repairs in the four years they have been in operations. The warranty period is 2-year for parts and 1 year for service.

The only assets in the account are the charger itself: the pedestal mount and integrated charging unit. The communication devices inside the charger may need replacement over the 10-year time frame due to technology changes. Based on current operations and input from the Company as to how these assets are used, my study recommends retention of the current 10-year life with an SQ dispersion.

The currently approved net salvage estimate for this account is 0 percent. So far, no removal cost as been experienced for this account. The Company had Sargent & Lundy in 2022 perform a decommissioning study on Electric Vehicle (EV) charging units. The estimated assumes that there will be small amounts of removal cost in the future. Based on information from the decommissioning study and judgment, a negative 18.97 percent estimate is recommended for this account.

19. Account E373.2 Street Lighting & Signal Systems

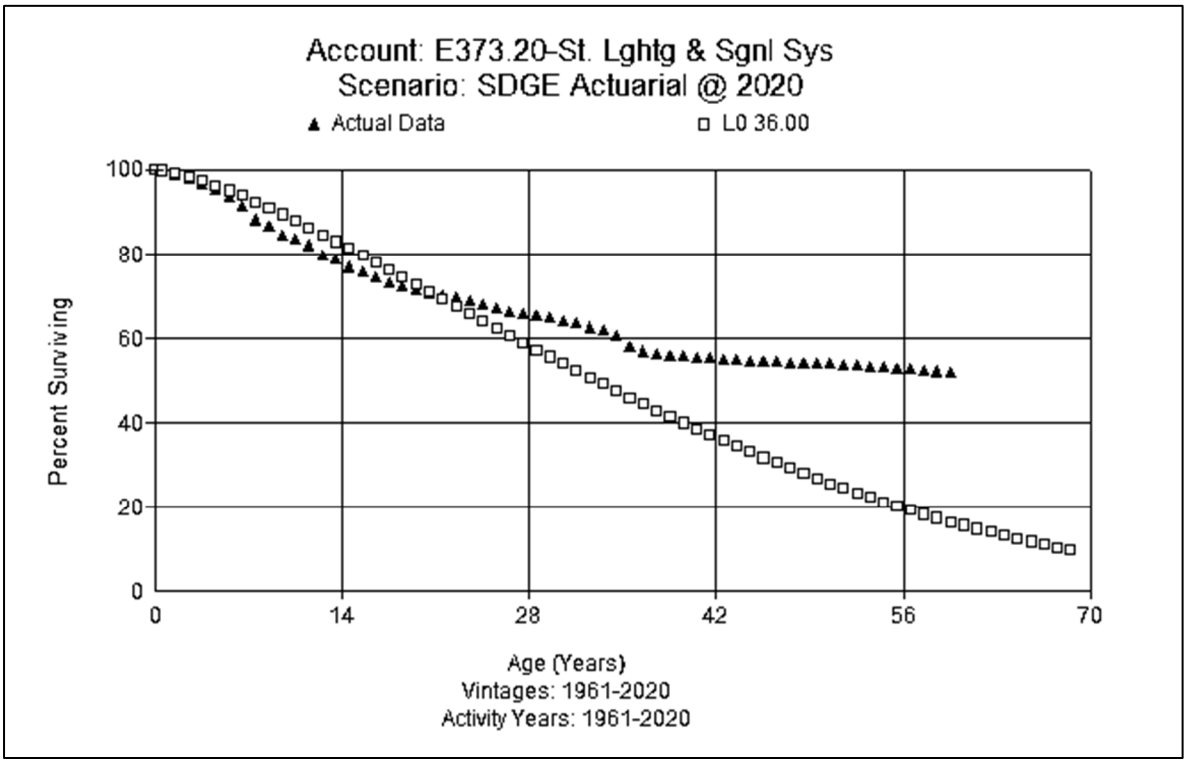
This account includes all distribution streetlights, conductor, conduit, luminaire, and standards. On December 31, 2020, there was approximately $34.1 million in this account. The current approved life for this account is 36 years with the L0 dispersion curve.

Company experts report that they are migrating to LED lights for this account as current lighting fails. On burnout, they replace the head and bulb with LED. But there is no active program to convert from HPS to LED.

Company experts believe that the life of this account will shorten in the future as bulbs burn out and the heads are retired and replaced with LED (instead of replacing the bulbs under

O&M). With the conversion to LEDs, the Company will replace the whole head (which would be a capital item). From an operations perspective, Company experts think the current life of 36 years would still be reasonable at this point. Based on the type of assets in this account, input from Company personnel, and judgment, the current Study recommendation is to retain the 36-year life and L0 dispersion curve. A graph of the observed life table versus the proposed curve is shown Figure DW-23.

Figure DW-23
Account 373- Street Lighting



The currently approved net salvage estimate for this account is negative 85 percent. In the most recent period, a moving average of negative 317 percent and negative 243 percent exists for the five-year and 10-year bands, respectively. My study recommends conservatively moving toward the indications with a negative 110 percent net salvage estimate for this account.

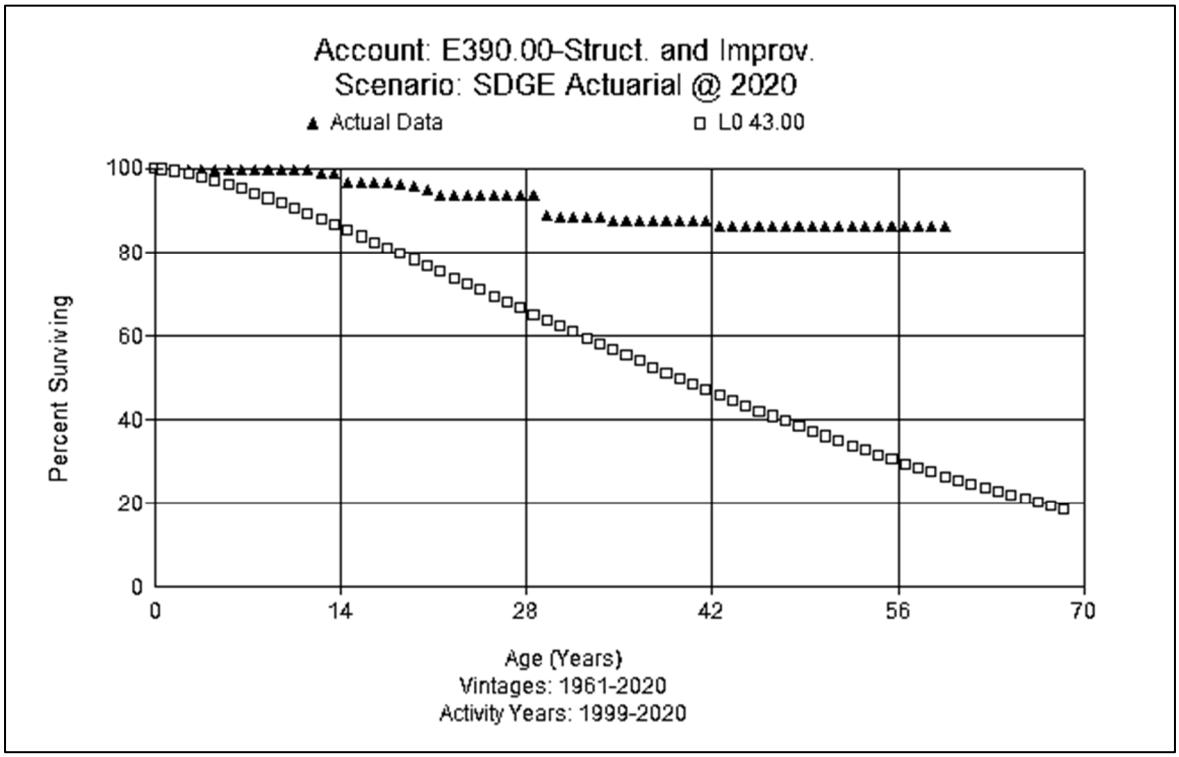
D. Electric General Plant

The balance for Electric General plant as of December 31, 2020 was $479.6 million, excluding $7.3 million for land which is non-depreciable. The accumulated reserve was $197.4 million.

1. Account E390 All Structures & Improvements (43 L0)

These accounts include the cost of buildings, yard improvements, and partitions used for utility service. On December 31, 2020, there was approximately $45.6 million in this account. The current approved life for this account is 34 S4. There have been limited retirements in this account. Based on the recommendation for Account 390 Common (which has had more retirement activity), my study recommends a 43-year life with an L0 dispersion. A graph of the observed life table compared to the proposed curve is shown Figure DW-24.

Figure DW-24
Account 390- Structures and Improvements



The currently approved net salvage estimate for this account is negative 10 percent. There have been limited retirement activity in recent years. Based on experience with Common Account 390 Structures and Improvements (which has more than 10 times the plant balance), my study recommends retaining a negative 10 percent net salvage estimate for this account.

2. Account E392.2 Trailers

This account consists of trailers and other transportation equipment used for general utility service. There is approximately $58,000 in this account. This account currently has a life of 27 S5.

Based on the practices and expectations of the Company's fleet operations, this life is still reasonable. In order to continue to use vintage group amortization, my study recommends retaining an amortization period of 27 years with an SQ dispersion. The currently approved net salvage estimate for this account is 0 percent. There has been no retirement or net salvage activity for this account. Based on judgment, my study recommends retention of a 0 percent net salvage estimate for this account.

3. Account E393.10 Stores Equipment

This account consists of stores equipment used for general utility service. There is approximately $47,000 in this account. This account currently has a life of 25 S5.

Based on the practices and expectations of the Company operations, this life is still reasonable. In order to continue to use vintage group amortization, my study recommends retaining an amortization period of 25 years with an SQ dispersion. The currently approved net salvage estimate for this account is 0 percent. In the most recent period, a moving average of negative 0 percent for the five-year and 10-year. My study recommends retention of the existing 0 percent net salvage estimate for this account.

4. Account E394.11 Portable Tools

This account consists of portable tools such as mobile computer data, test equipment, and pumps. There is approximately $37.4 million in this account. This account currently has a life of 27 S6.

Equipment in this account is similar to Common Account 394.11, with the newer equipment being more technology-based than prior equipment. Company experts suggest a life of 10 years for this account based on the asset mixture in this account. In order to continue to use vintage group amortization, my study recommends an amortization period of 10 years with an SQ dispersion. The currently approved net salvage estimate for this account is 0 percent. In the most recent period, a moving average of 0 exists for the five-year and 10-year bands. My study recommends retaining the currently approved 0 percent net salvage estimate for this account.

5. Account E394.20 Shop Equipment

This account consists of shop equipment such as ammeters, purifiers, and steam cleaners. There is approximately $278 thousand in this account. This account currently has a life of 26

L4. Based on the practices and expectations of the Company operations, this life is still reasonable.

In order to continue to use vintage group amortization, my study recommends an amortization period of 26 years with an SQ dispersion. The currently approved net salvage estimate for this account is 0 percent. In the most recent period, there is a moving average of 0 percent for the five-year and 10-year bands. My study recommends retaining the currently approved 0 percent net salvage estimate for this account.

6. Account E395.1 Laboratory Equipment

This account consists of laboratory equipment used in general utility service. There is approximately $5.3 million in this account. This account currently has a life of 22 L3.

Similar to Common Account C395.1, Company experts report that the items used for laboratory equipment are increasingly technology driven. They recommend shortening the life of this account to 15 years. In order to continue to use vintage group amortization, my study recommends an amortization period of 15 years with an SQ dispersion. The currently approved net salvage estimate for this account is 0 percent. Normally these assets have no residual value. My study recommends retaining the existing 0 percent net salvage estimate for this account.

7. Account E397.1 Communication Equipment

This account consists of miscellaneous communication equipment used in general utility service. There is approximately $364.5 million in this account. This account currently has a life of 30 R2.

Assets in this account include AV equipment, fiber optic equipment, retirement terminal units, and Supervisory Control and Data Acquisition (SCADA) equipment. Company personnel report that these assets are very technology driven. Given the changes in technology for these assets, Company experts recommend a shorter life for this account, in the 20-year range.

In order to continue to use vintage group amortization, my study recommends an amortization period of 20 years with an SQ dispersion. The currently approved net salvage estimate for this account is negative 50 percent. In the most recent period, a moving average of negative 28 percent and negative 51 percent exists for the five-year and 10-year bands, respectively. My study recommends moving in the direction of the trend in recent years with a negative 35 percent net salvage estimate for this account.

8. Account E397.2 Communication Equipment SWPL

This account consists of miscellaneous communication equipment used in Southwest Power Link (SWPL). There is approximately $8.2 million in this account. This account currently has a life of 30 R2.

Assets in this account include microwave equipment, remote terminal units, and other communication equipment. Given the changes in technology for these assets, Company experts recommend a shorter life for this account, in the 20-year range. In order to continue to use vintage group amortization, my study recommends an amortization period of 20 years with an SQ dispersion. The currently approved net salvage estimate for this account is negative 50 percent. There has been no retirement activity to date in this account. Based on the indications from Account 397.1, my study recommends conservatively moving toward the recent trends with a negative 35 percent net salvage estimate for this account.

9. Account E397.6 Communication Equipment SRPL

This account consists of miscellaneous communication equipment used in Sunrise Power Link (SRPL). There is approximately $14.1 million in this account. This account currently has a life of 30 R2.

Assets in this account include substation equipment, remote terminal units, and other communication equipment. Given the changes in technology for these assets, Company Experts recommend a shorter life for this account, in the 20-year range. In order to continue to use vintage group amortization, my study recommends an amortization period of 20 years with an SQ dispersion.

The currently approved net salvage estimate for this account is 0 percent. There has been no retirement activity to date in this account. Based on the indications from Account 397.1, my study conservatively recommends moving toward the recent trends with a negative 25 percent net salvage estimate for this account.

10. Account E397.7 Telecom

This account consists of miscellaneous telecommunication equipment used in general utility service. There is approximately $1.2 million in this account. This account currently has a life of 30 R2.

Assets in this account are telecom equipment and antennas. Similar to Accounts 397.1, 397.2, and 397.6, company personnel recommend shortening the life to 20 years. In order to

continue to use vintage group amortization, my study recommends an amortization period of 20 years with an SQ dispersion.

The currently approved net salvage estimate for this account is negative 50 percent. There have been no retirements in this account. Based on judgment, my study recommends negative 35 percent net salvage estimate for this account.

11. Account E398.0 Miscellaneous Equipment

This account consists of miscellaneous equipment used in general utility service. There is approximately $3.2 million in this account. This account currently has a life of 16 L4.

Based on the practices and expectations of the Company operations, this life is still reasonable. In order to continue to use vintage group amortization, my study recommends an amortization period of 16 years with an SQ dispersion.

The currently approved net salvage estimate for this account is 0 percent. In the most recent period, a moving average of 0 percent exists for the five-year and 10-year bands. My study recommends retaining the currently approved 0 percent net salvage estimate for this account.

E. Natural Gas Operations

Both SDG&E and its sister Company, Southern California Gas Company (SoCalGas) provide natural gas services. The SDG&E system is much smaller. After reviewing operations with subject matter experts from both companies, operationally, many assets common to both companies such as transmission and distribution plant have similar characteristics. In some cases, there may be insufficient SDG&E actuarial data to detect a solid trend. In such cases, input from experts is crucial (as well as consideration of characteristics of similar SoCalGas assets) in making life selection for each plant account.

F. Natural Gas Storage and Transmission Plant

SDG&E has no underground storage plant. But it has some Liquefied Natural Gas (LNG) assets. Storage and Transmission natural gas plant balance as of December 31, 2020 was $500.7 million, excluding $4.6 million for land, which is non-depreciable. The accumulated reserve was $201.7 million.

1. Account G363.60 LNG Distribution Storage Equipment

This account includes liquid natural gas storage equipment. There is currently $2.2 million in plant in this account and the current authorized life parameter is 20 years with an S4 dispersion.

SDG&E owns a small facility that was originally installed in 1956. The average age of investment in this account is 13.49 years. Tanks and vaporizers are original equipment. Cryogenic components, alarms/controls, and valves have been replaced.

The alarms/controls would have a 10–15-year life. There are two small cryogenic tanks, as well as storage and vaporization equipment. There was an upgrade to the system several years ago. Much of the cost in this account is related to alarms and instrumentation, which would have a short life.

Company personnel believe that the life of this equipment would be somewhere around that of Compressed Natural Gas (CNG) assets, about 20 years. Therefore, my study recommends retaining the approved 20-year life with an S4 dispersion for this account. Authorized net salvage for this account is 0 percent. Although there have been few retirements, there have been removal cost charges recorded consistently over the last several years. Therefore, my study recommends recognizing that by recommending a negative 5 percent net salvage for this account.

2. Account G365.2 Land Rights

This account includes the cost of land rights used in connection with gas transmission operations. There is approximately $3.5 million in this account. Currently, the approved life for this account is 40 years with an SQ dispersion. The average age of survivors in this account is 21.78 years.

These land rights are associated with various assets in this function, the longest proposed life being 69 years for transmission mains. Based on judgment and the proposed life for Account 367, my study recommends moving to a 70-year life with an SQ dispersion. The authorized net salvage rate for this account is 0 percent. Generally, little or no removal cost is incurred, and no salvage is received at the retirement of land rights. Therefore, my study recommends retaining

the approved 0 percent net salvage for this account. Although this recommendation will not be implemented in this proceeding, it is planned for implementation in SDG&E's 2028 GRC.[18]

3. Account G366 Structures and Improvements

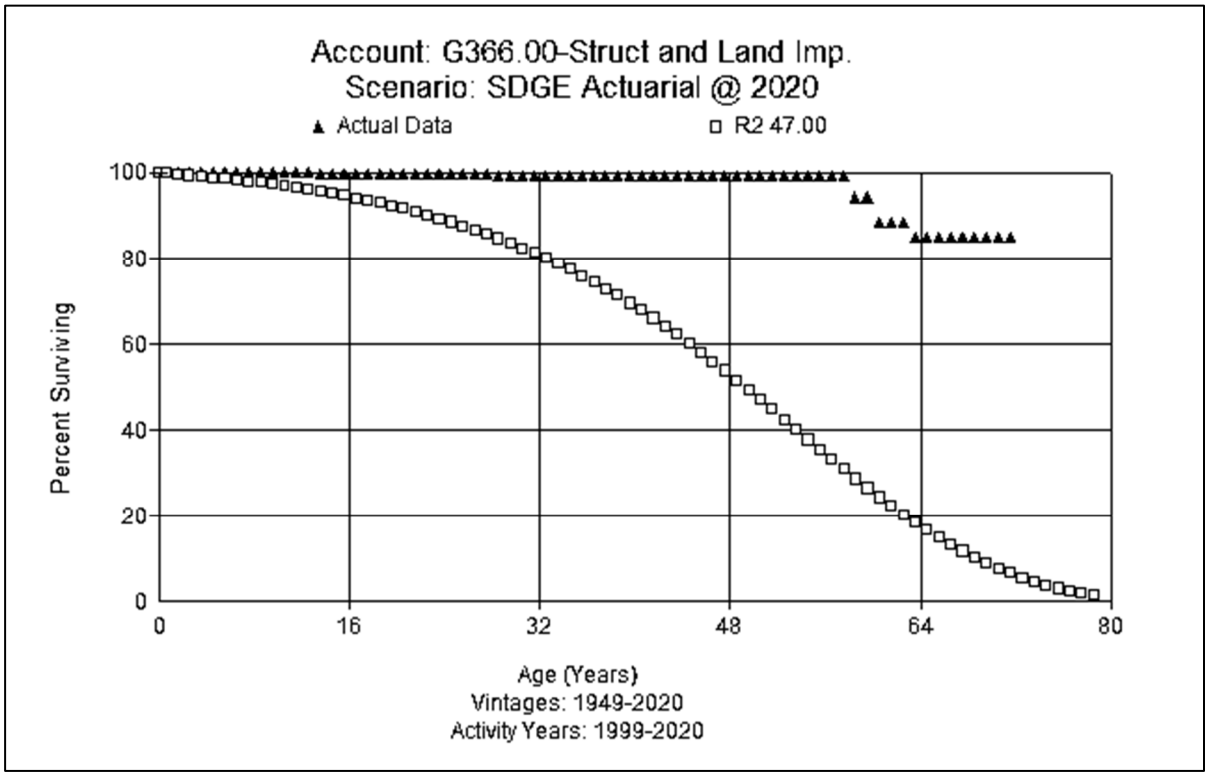
This account includes the cost of structures and improvements such as buildings, gas pumping and regulating stations, and other items used in connection with distribution operations. There is approximately $20.4 million in this account. Currently, the approved life for this account is 34 years with an S3 dispersion.

The average age of survivors in this account is 18.58 years. There is a difference in approved lives between SDG&E natural gas assets and SoCalGas life estimates. Company experts report that operating rules, maintenance practices, and other forces of retirement impacting this account have been the same for the past several years.

The current life for these assets seems shorter than Company experts would support from an operations perspective. With limited actuarial analysis indications, I gave input from Company experts and results from my SoCalGas analysis weight in my study to recommend moving to match the SoCalGas life of 47 years with an R2 dispersion. An observed life table is graphed for this account with the recommended life and curve in Figure DW-25.

[18] Due to timing constraints and complexity, the current proposal for land rights was not incorporated into the Results of Operation (RO) model logic. SDG&E proposes to include this model logic in the 2028 GRC.

Figure DW-25
Account 366- Gas Structures and Improvements



The authorized net salvage rate for this account is 0 percent. There have been no retirements since 2016 but removal cost has continued from 2016-2020. Based on judgment, my study recommends a slight change by moving to negative 5 percent net salvage for this account.

4. Account G367 Mains

This account includes the cost of transmission mains, primarily coated and wrapped steel. The current approved life for this account is 45 years with an S4 dispersion. There is approximately $353.2 million in plant in this account.

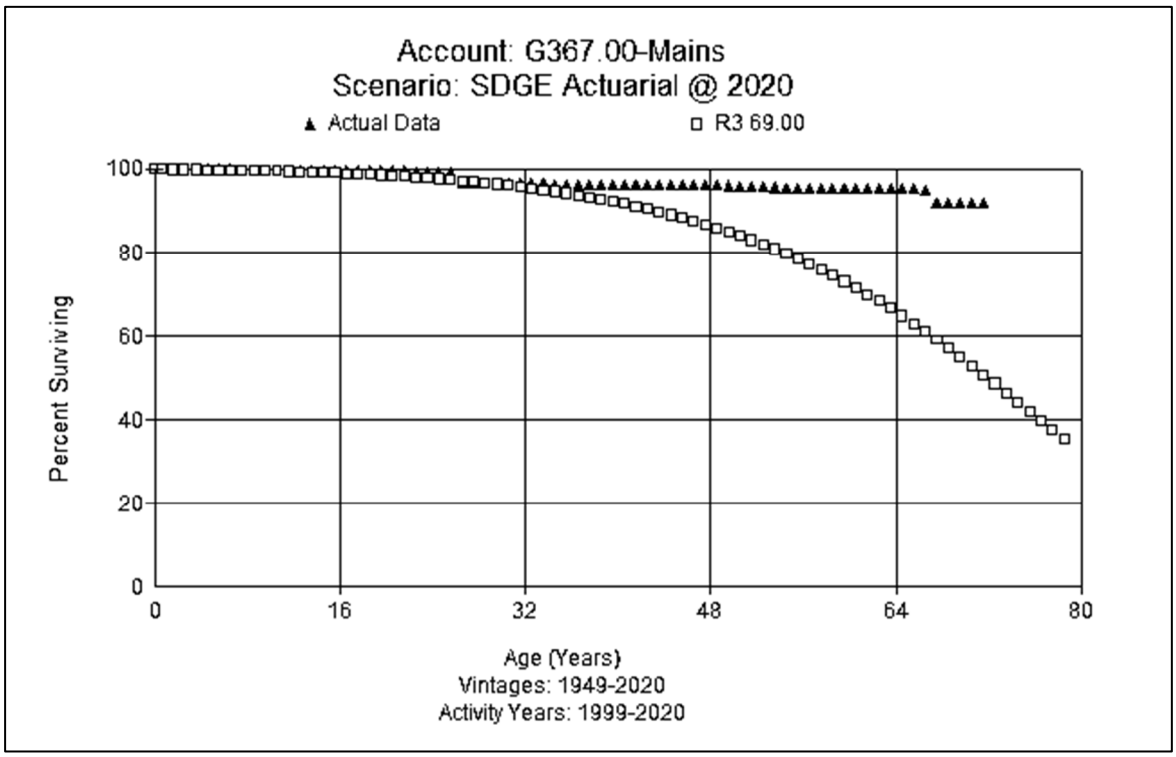
The average age of survivors in this account is 11.83 years. Operations personnel report that there has been a greater amount of replacement of these SDG&E assets than comparable ones for SoCalGas as a percentage of the overall system at SDG&E. Since SDG&E has a much smaller system, there is less mileage for SDG&E than SoCalGas, and the mains are newer. Operations personnel believe the life characteristics should be similar between SoCalGas and SDG&E.

The Company is also seeing some class changes as the population densities increase. The Integrity Management Program (IMP) forced the retirement of some valves. SDG&E has been

adding more instrumentation and automation (remote control) in recent years. For the most part, the automation could be added to existing assets (such as valves) in the majority of instances. But in maybe 40% of the cases, they would have to replace the full valve assembly.

My study recommends moving to a 69-year life and R3 dispersion—which is close to the 70 R2 recommended for SoCalGas and has support from the limited actuarial results. An observed life table is graphed for this account with the recommended life and curve in Figure DW-26. The authorized net salvage rate for this account is negative 25 percent. The five- and 10-year moving averages show negative 160 and negative 373 percent, respectively. Retirements appear to be backlogged since removal cost is higher in years 2017-2020. Until the retirement activity catches up with removal cost, my study recommends retention of the existing negative 25 percent net salvage for this account.

Figure DW-26
Account 367- Mains



1. Account G367.6 Hydro Test Costs

This is a new account that will be used as the Company complies with new regulations issued effective July 1, 2020 by the Pipeline Hazardous Materials and Safety Administration (PHMSA) that will impact pipeline of vintage 1970 and older. The rule, known as the Mega

Rule, combines previous regulations for onshore gas transmission regarding pipeline safety and environmental risk with the goal of improving pipeline safety.

In response to these new regulations for operations and increased requirements for reporting, pipeline operators have expanded Integrity Management Programs, verified Maximum Allowable Operating Pressure (MAOP), and tested previously untested pipe to ensure they are in compliance.[19] Costs incurred to comply the with Mega Rule will be treated as a capital item. After examining the remaining life of vintages 1970 and older, those assets will have an average remaining life of about 17 years, assuming the proposed life and curve for Account 367. Since this is a new account with no history, actuarial analysis was not utilized. The testing costs are proposed to be depreciated over 17 years with an SQ curve. Since these costs are not directly tied to specific mains, auto retirement is recommended. No net salvage is estimated for this account.

5. Account G368 Compressor Station Equipment

This account includes the cost of compressor station equipment used in connection with transmission operations. There is approximately $99.5 million in this account. Currently, the approved life for this account is 35 years with an S3 dispersion.

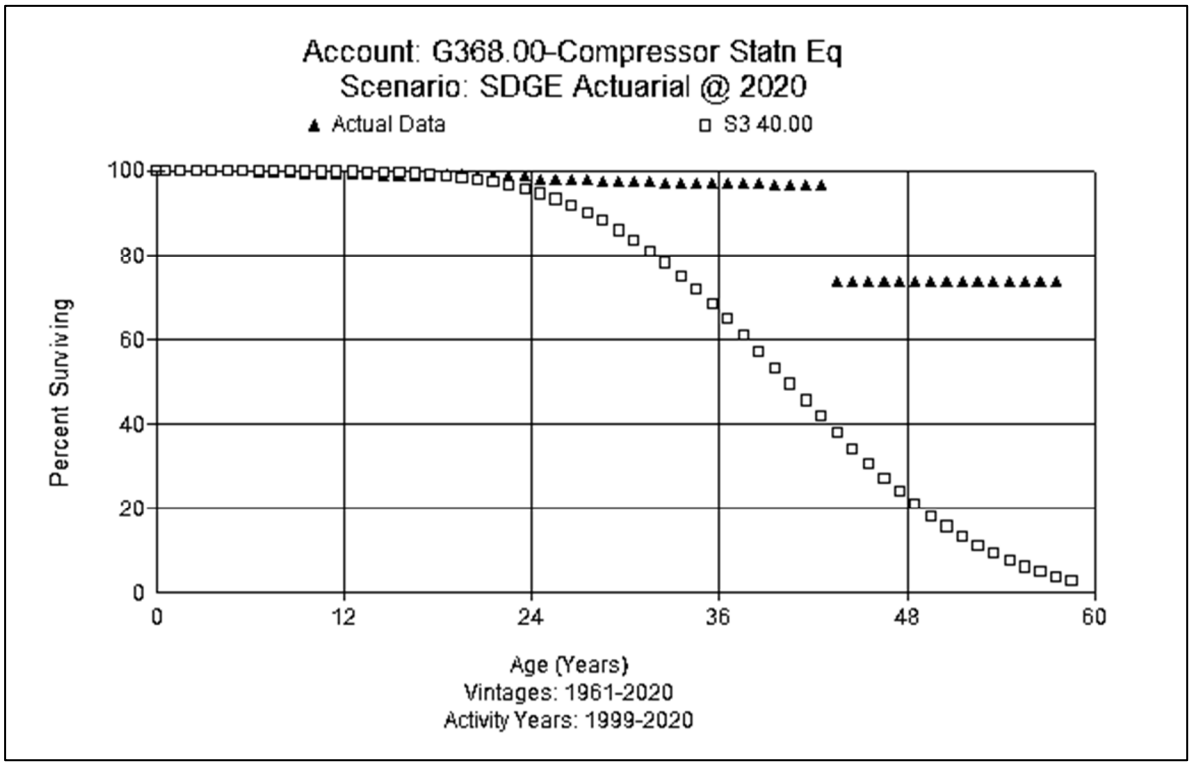
The average age of survivors in this account is 19.58 years. The Company relies heavily on turbine compressors. Company personnel report that the Company has a modernization program driven by emissions compliance and decarbonization initiatives. Higher risk regulating stations are being targeted for replacement.

The requirements for stations have changed more than the regulations for mains and services. As a result, the Company has upgraded stations. Actuarial analysis is inconclusive. Given the focus on the stations, the reliance on turbine compressors and the characteristics of the various assets in this account, my study recommends a slight increase in life to 40 years and retaining the S3 dispersion. An observed life table is graphed for this account with the recommended life and curve in Figure DW-27.

[19] Dynamic Risk, PHMSA's Final Ruling – What's Next for Pipeline Operators? (November 14, 2020), available at https://dynamicrisk.net/2020/11/14/phmsa-mega-rule-in-practice/#:~:text=PHMSA's%20Mega%20Rule%20is%20now,management%20programs%20and%20operating%20practices.

The authorized net salvage rate for this account is negative 10 percent. The five 10 year moving average shows negative 121 percent. Since retirements in 2016 have been much smaller than removal cost from 2016-2020, I recommend only a slight movement in net salvage. Based on judgment and Company history, my study recommends moving to negative 14 percent net salvage for this account, which reflect the Company's experience during a period with higher levels of retirements.

Figure DW-27
Account 368- Compressor Station Equipment



6. Account G369 Measuring and Regulating Station Equipment

This account includes the cost of measuring and regulating station equipment used in connection with transmission operations. There is approximately $29.1 million in this account. Currently, the approved life for this account is 31 years with an S3 dispersion. The average age of survivors in this account is 16.23 years.

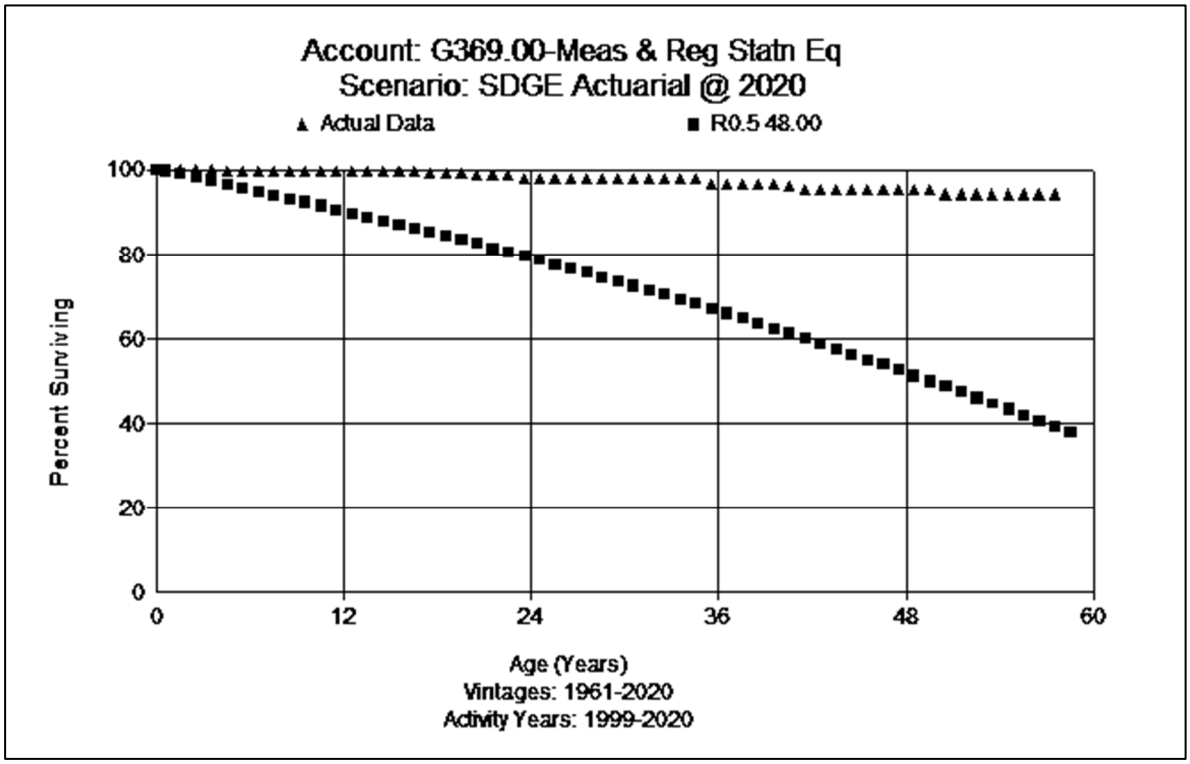
Company experts report that there has been a lot of investment related to IMP to retrofit for pigging. They have been adding more instrumentation and automation (remote control) in recent years. For the most part, the automation could be added to existing assets (such as valves)

in most instances. But in about 40% of the automation work they would have to replace the full valve assembly.

There have been activities to change out actuating equipment that might release methane. As communities become more developed, increasing population densities can trigger class location changes and the need for more accurate regulating equipment. Based on the characteristics of the assets within the account and the more comprehensive actuarial analysis for SoCalGas assets, an increase in life is reasonable. Based on input from Company personnel and experience with SoCalGas, my study recommends moving to a 48-year life and a R0.5 dispersion.

Below in Figure DW-28 is a graph of the limited actuarial results and recommended curve. The authorized net salvage rate for this account is negative 5 percent. There have been no retirements since 2015. But SDG&E has faced removal costs. Since retirements are lagging removal costs, my study recommends retention of the existing negative 5 net salvage parameter for this account.

Figure DW-28
Account 369- Measuring and Regulating Equipment



7. Account G371 Other Equipment

This account includes the cost of other equipment used in connection with transmission operations. There is approximately $2.8 million in this account. Currently, the approved life for this account is 27 years with an SQ dispersion.

The average age of survivors in this account is 2.74 years. There have been no retirements to date, and Company experts do not expect a change from the current life parameter. Based on input from Company personnel and judgment, my study recommends retaining the existing 27-year life and SQ dispersion.

The authorized net salvage rate for this account is 0 percent. There has not been any retirement or net salvage received in this account. Based on judgment, my study recommends retention of 0 percent net salvage for this account.

G. Natural Gas Distribution Plant

SDG&E'S distribution natural gas plant balance as of December 31, 2020, was $2.14 billion, excluding $1.5 million for land which is non-depreciable. The accumulated reserve was $899.7 million.

1. Account G374.2 Rights of Way (ROW)

This account includes the cost of land rights used in connection with gas distribution operations. There is approximately $8.5 million in this account. Currently, the approved life for this account is 31 years with an SQ dispersion. The average age of survivors in this account is 32.00 years. There have been few retirements in this account. Generally, the life of the right of way should be equal to the life of the underlying assets residing on the ROW. Since the longest life proposed for any account in this function is 70 years, my study recommends moving to a 70-year life and retaining the SQ dispersion. No graph is shown.

Generally, little or no removal cost is incurred, and no salvage is received at the retirement of land rights. The historical data also supports a 0 percent net salvage for this account. Therefore, my study recommends retaining the approved 0 percent net salvage. Although this recommendation will not be implemented in this proceeding, it is planned for implementation in SDG&E's 2028 GRC.[20]

[20] Due to timing constraints and complexity, the current proposal for land rights was not incorporated into the Results of Operation (RO) model logic. SDG&E proposes to include this model logic in the 2028 GRC.

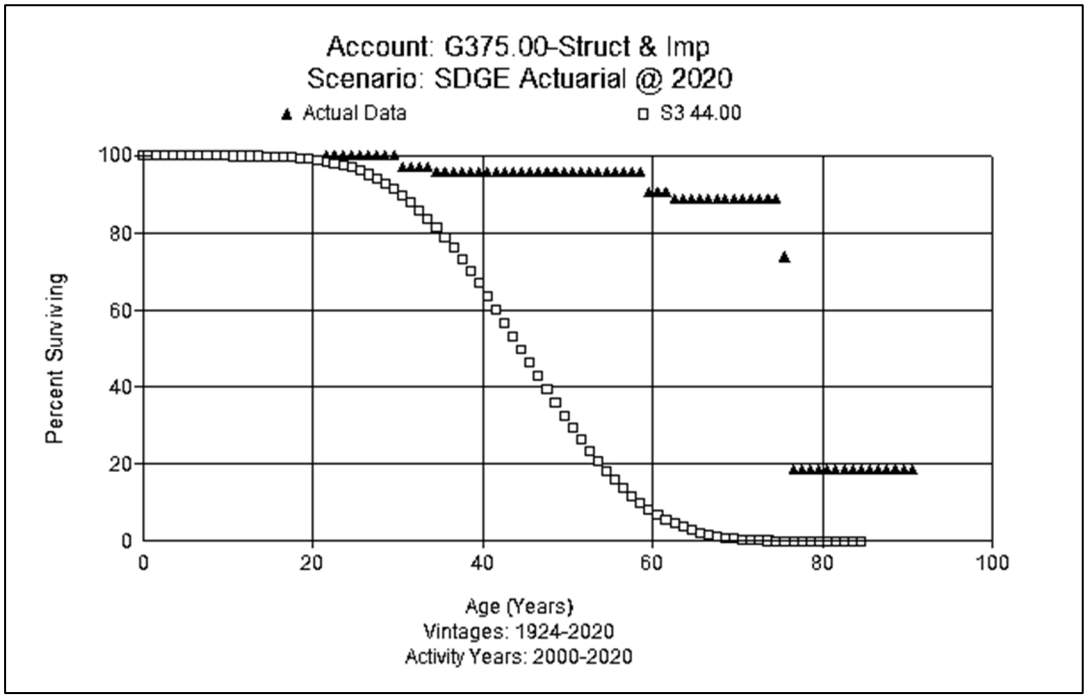
2. Account G375 Structures and Improvements

This account includes the cost of structures and improvements used in connection with gas distribution operations. There is approximately $43,000 in this account. Currently, the approved life for this account is 44 years with an S3 dispersion.

Operations personnel state that there are no obvious changes in the usage or characteristics of these assets that would suggest a material change in life. There are numerous assets with shorter lives within the group: roofs, fire protection systems, plumbing, water systems, parking lots and other small items that would moderate the building lives. Based on input from Company experts and an inconclusive actuarial analysis, my study recommends retaining the 44-year life and S3 dispersion. An observed life table is graphed with the proposed life and dispersion curve in Figure DW-29.

The Commission has authorized a 0 percent net salvage rate for this account. There have been no retirements over the period from 2002-2020, with a small amount of removal cost. There is expected to be a small amount of removal cost when the assets in this account are retired. Based on judgment, my study recommends moving to negative 5 percent net salvage.

Figure DW-29
Account 375- Gas Structures and Improvements



3. Account G376 Mains

This account includes the cost of mains used in connection with distribution operations. There is approximately $1.4 billion in this account. Currently, the approved life for this account is 69 years with an R3 dispersion.

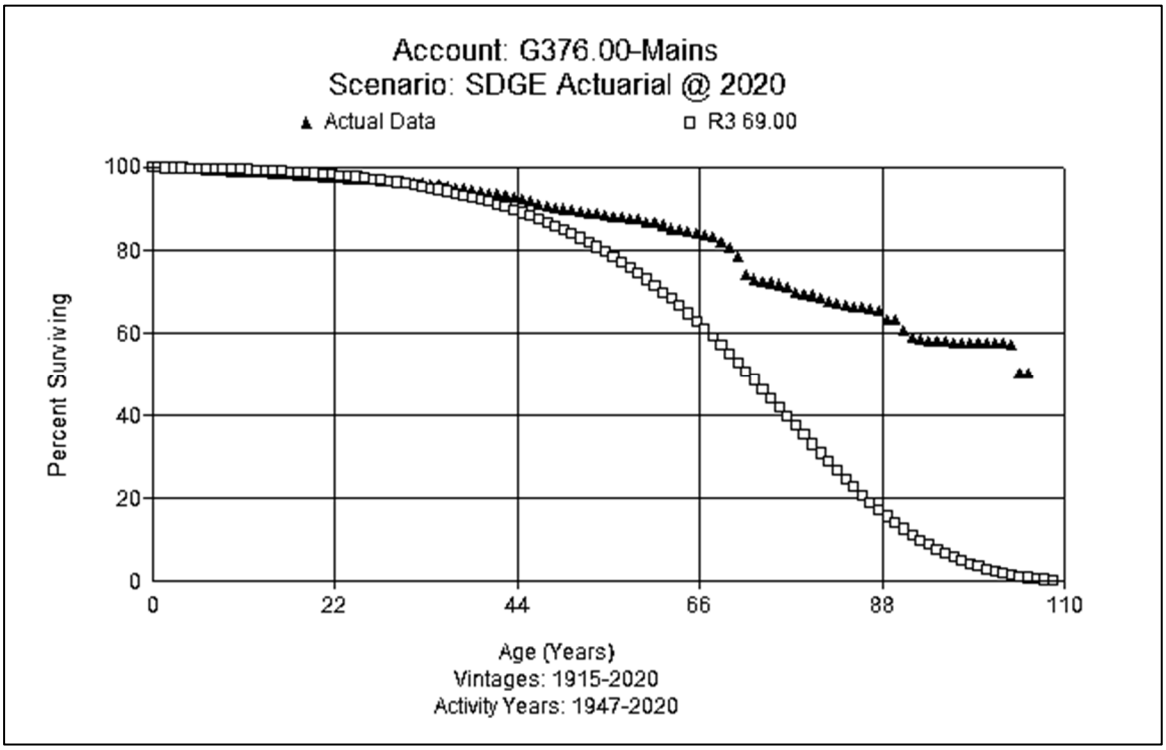
The average age of survivors in this account is 13.58 years. Company operations personnel report that SDG&E's Integrity Program is targeting replacing plastic prior to 1986 for both mains and services. SDG&E is replacing over 50 miles per year, and there are over 15,000 miles of total distribution miles for mains/services for SDG&E (steel and plastic). There is around 1,600 miles of Aldyl-A that remain in the system.

There are 3 separate steel programs (pre-34, 34-65 and 65 and over) that are not part of the Distribution Integrity Management Program (DIMP). There are only 150 miles left in the system of pre-34 pipe. Most of the SDG&E system is from later than the 1950s, with most pipe having been added in the "boom" in the 1970s and 1980s. The steel programs did not kick off until late 2019 and ramped up in 2020. Some of the older steel pipe that is cathodically protected is being focused on but is not part of DIMP. This is in addition to normal replacements.

The planned replacement programs that are ranked by risk would signal that the pipe will be replaced sooner than it was in the past. Company experts feel from an operations perspective that life should decrease (at least in the short-term) with the level of retirements that are occurring. The average life of 88 years indicated in the some of the limited actuarial analyses is significantly longer than the expectations from Company personnel, since most replacements are closer to a 70-year life. Given the uncertain future with California's continued use of natural gas and input from operations personnel, my study recommends retaining the 69-year life and the R3 dispersion. An observed life table is graphed with the proposed life and dispersion curve in Figure DW-30.

The Commission has authorized a negative 55 percent net salvage rate for this account. The three-year, five year, and 10 year moving averages show negative 345, negative 324, and negative 242 percent, respectively. To move in the direction of this trend, a higher (more negative) net salvage is recommended. Based on judgment and Company experience, my study recommends moving to negative 80 percent net salvage, which would remain consistent with the Commission's gradualism precedent.

Figure DW-30
Account 376- Gas Distribution Mains



4. Account G378 Measuring and Regulating (M&R) Equipment

This account consists of measuring and regulating equipment used in distribution operations. There is approximately $20.8 million of investment in this account. The current approved life for this account is 47 years with an R2 dispersion.

The average age of survivors in this account is 17.74 years. In the last rate case, Company experts reported that a study was done to assess the condition of M&R stations. Five years ago, 70% of regulator stations were 24 years or older. Those stations are about 30 years old now.

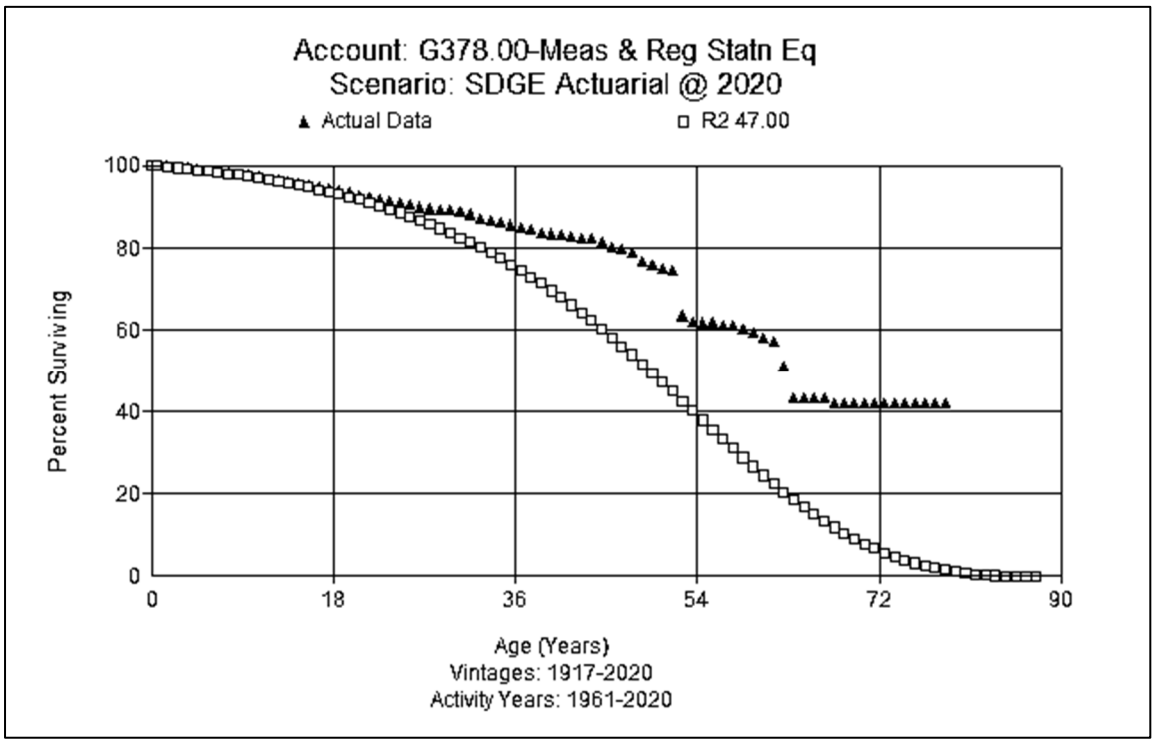
There are around 500 stations. Stations would retire based on capacity, the type of equipment (if outdated), in an unsafe area, etc. There is a parts and inspection program that can extend the life in some cases. Some older stations will have components that are not easy to replace, as the older components are at least 50-70 years old. SDG&E would thus replace the entire station instead of replacing the regulator.

Higher risk regulating stations are being targeted for replacement. The rules for regulating stations have changed more than the regulations for mains and services. And the Company has been upgrading stations.

Operationally, there is no reason that the life should increase. There are drivers that would decrease the life, such as Control Center Modernization programs. My study recommends retaining the 47-year life with an R2 dispersion for this account. An observed life table is graphed with the proposed life and dispersion curve in Figure DW-31.

The current authorized net salvage is negative 25 percent. The 10 year moving averages shows negative 116, which may not be representative the future. Since 2012, there have been no retirements in this account with small amounts of removal cost in 2016-2020. Based on judgment, my study recommends retention of negative 25 percent net salvage for this account.

Figure DW-31
Account 378- Measuring and Regulating Equipment



5. Account G380 Services

This account consists of services used in gas distribution operations. There is approximately $420 million of investment in this account. The current approved life for this account is 65 years with an R2.5 dispersion.

The average age of survivors in this account is 19.04 years. The service rises above the ground for a portion of its length. According to Company experts, the above ground portion is vulnerable to weed eaters, fertilizer, dig-ins by customers, abandoning houses, etc.

It is more likely that the Company would replace services than mains. If the main is Aldyl-A, the Company would normally replace the service as well. If there is a cut, Company personnel report that they generally repair the service. If a service has had a leak in the past, they would likely replace. If a steel main is replaced with plastic, the service would be replaced with steel. Company operations personnel feel that the life of services should have a slightly shorter life than mains, since there are many factors that would retire a service earlier. The higher focus on not stranding steel services would also be a factor in shortening the life of services.

In some of the actuarial analysis, the average life is in the 90 plus year range. Company experts state that services have a life closer to 50-60 years from an operations perspective. Operationally, a life of 90 years does not seem consistent with expectations, nor industry expectations. Given the uncertain future with regulation and input from operations personnel, my study recommends retaining the existing 65-year life with an R2.5 dispersion for this account. The visual match is not as representative and input from Company personnel and industry norms support this proposal.

The current authorized net salvage is negative 70 percent. The three-year, five year, and 10 year moving averages shows negative 324, negative 293, and negative 260 percent, respectively. Based on judgment and Company experience, my study recommends moving to negative 95 percent net salvage for this account, which remains consistent with the Commission's gradualism precedent.

6. Account G381 Meters and Regulators

This account includes the cost of meters and regulators used in measuring gas to residential customers. There is approximately $87.9 million in plant in this account. The current approved life of the meter account is 41 years with an L1.5 dispersion. The average age of survivors in this account is 18.55 years.

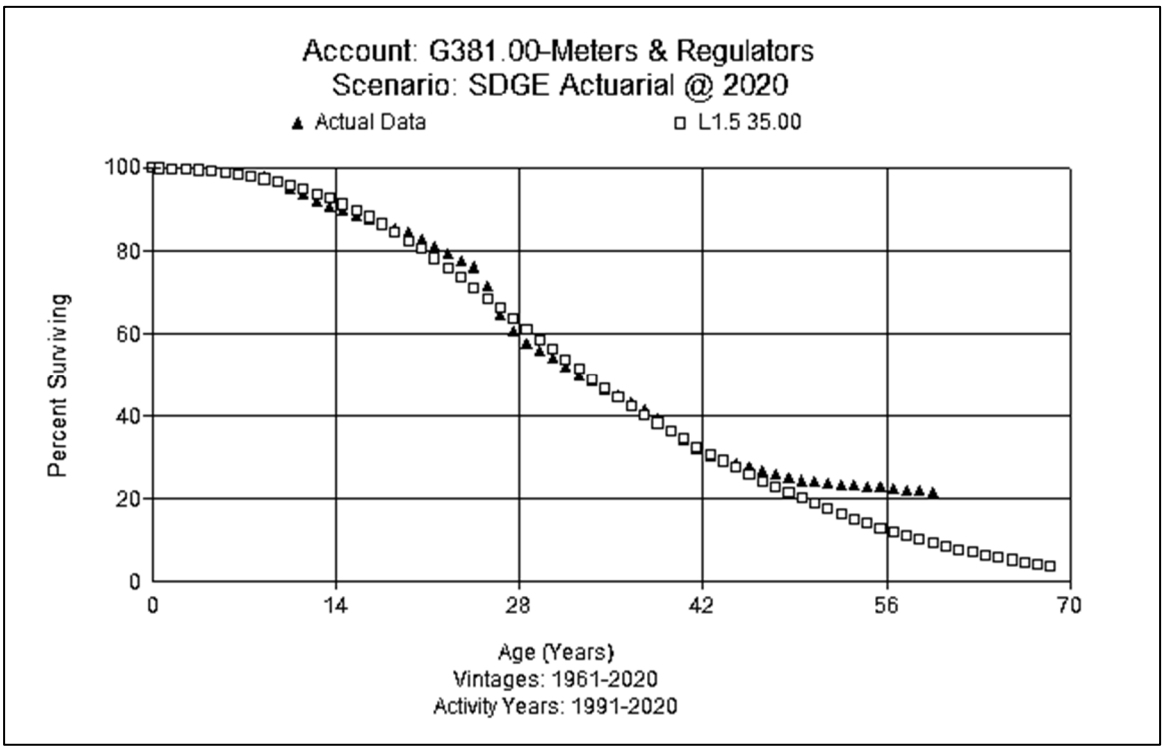
Meters have traditionally lasted longer than they do now according to Company operations personnel. SDG&E used three different manufacturers. Meter costs have escalated,

and there are only two-meter manufacturers in US now. Company operations personnel report that they still repair meters, but now expense the repair.

From an operations perspective, a small decrease in life may be expected. Based on the visual matching and input from operations personnel, my study recommends moving to 35 years while retaining the L1.5 dispersion curve for this account. An observed life table is graphed with the proposed life and dispersion curve in Figure DW-32 below. This account includes gross salvage and cost of removal associated with the cost of meters and regulators used in measuring gas to residential customers.

The current authorized net salvage is 0 percent. The three-year, five year, and 10 year moving averages shows 0 or all periods. Based on judgment and Company experience, my study recommends retention of 0 percent net salvage for this account.

Figure DW-32
Account 381- Meters



7. Account G381.01 Meters/Regulators- Modules

This account includes the cost of modules used on gas smart meters. The current approved life for this account is 15 years with an SQ dispersion. There is approximately $92.0 million in plant in this account. The average age of survivors in this account is 7.78 years.

These assets have only been in service since 2012. There is insufficient history to analyze the data. Operations personnel believe the life of this account will be the same as the current estimate. Based on input from Company personnel, my study recommends retention of the 15-year life with an SQ dispersion. The current authorized net salvage is 0 percent. The three-year and five-year moving averages shows 0 percent for both periods. Based on judgment and Company experience, my study recommends retention of 0 percent net salvage for this account.

8. Account G382.00 Meter and Regulator Installations

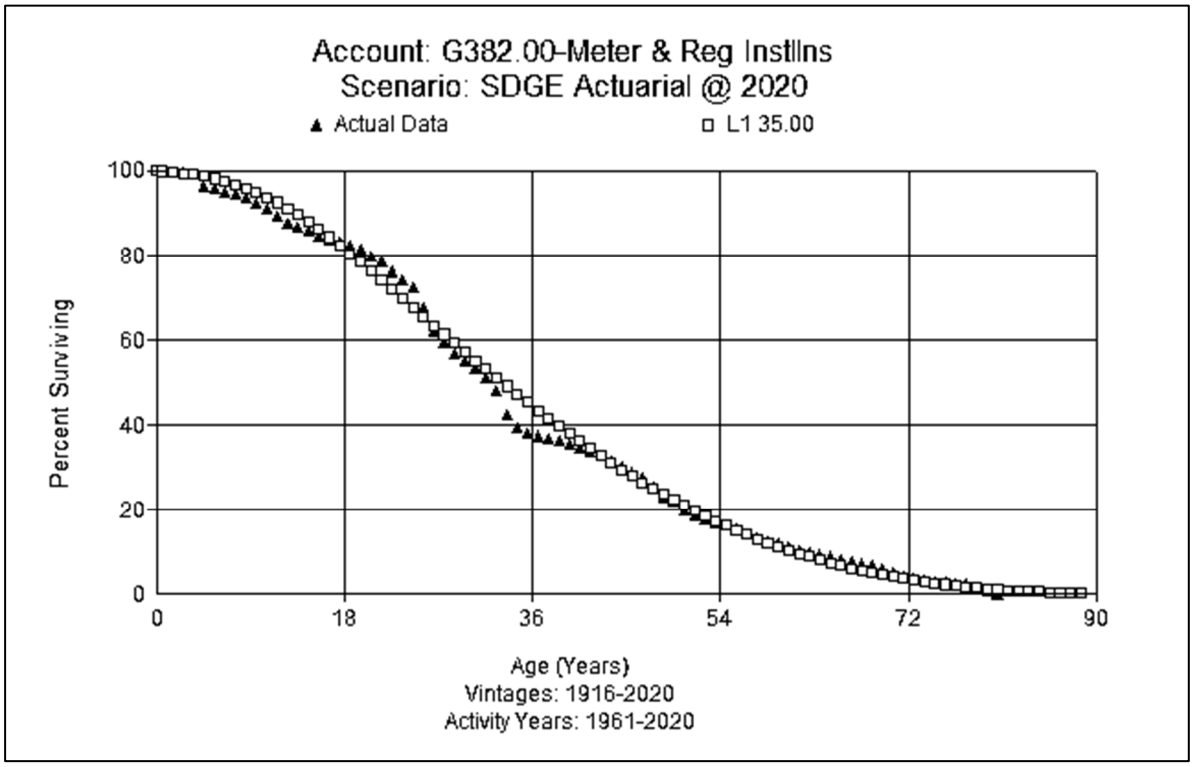
This account includes the cost of domestic meter installations (excluding meters) and regulator installations. The current approved life for this account is 35 years with an L2 dispersion. There is approximately $84.2 million in plant in this account.

The average age of survivors in this account is 14.45 years. SDG&E does not use pre-manufactured loops for residential service. If there is no overpressure protection on the regulator, Company experts report that they will replace the asset. For every two meters they replace, they will replace one regulator. Typically, the Meter Set Assembly (MSA) would not be replaced before the meter (unless the customer needed more gas, in which case both would be replaced at the same time), but the MSA is typically not replaced at the same time as a meter but would be replaced, as necessary.

Actuarial analysis shows a similar life to that currently approved with a slightly flatter dispersion. Based on actuarial analysis and judgment, my study recommends retaining the 35-year life while moving to an L1 dispersion for this account. An observed life table is graphed with the proposed life and dispersion curve in Figure DW-33.

The current authorized net salvage is negative 30 percent. The three-year, five year, and 10 year moving averages shows negative 1, negative 2, and negative 9 percent, respectively. Based on judgment and Company experience, my study recommends moving to negative 5 percent net salvage for this account.

Figure DW-33
Account 382- Meter Installations



9. Account G382.01 Meter Installations Modules

This account includes the cost of module installations for smart meters. The current approved life for this account is 15 years with an SQ dispersion. There is approximately $25.9 million in plant in this account. The average age of survivors in this account is 10.27 years. These assets have only been in service since 2012, so there is insufficient history to analyze the data.

Operations personnel believe that the life of this account will be the same as the current estimate and match the life of the modules. Based on input from Company personnel, my study recommends retention of the 15-year life with an SQ dispersion.

The current authorized net salvage is 0 percent. Since these assets have not been in service long, there is little historical data to project from. Based on judgment and Company experience, my study recommends retaining 0 percent net salvage for this account.

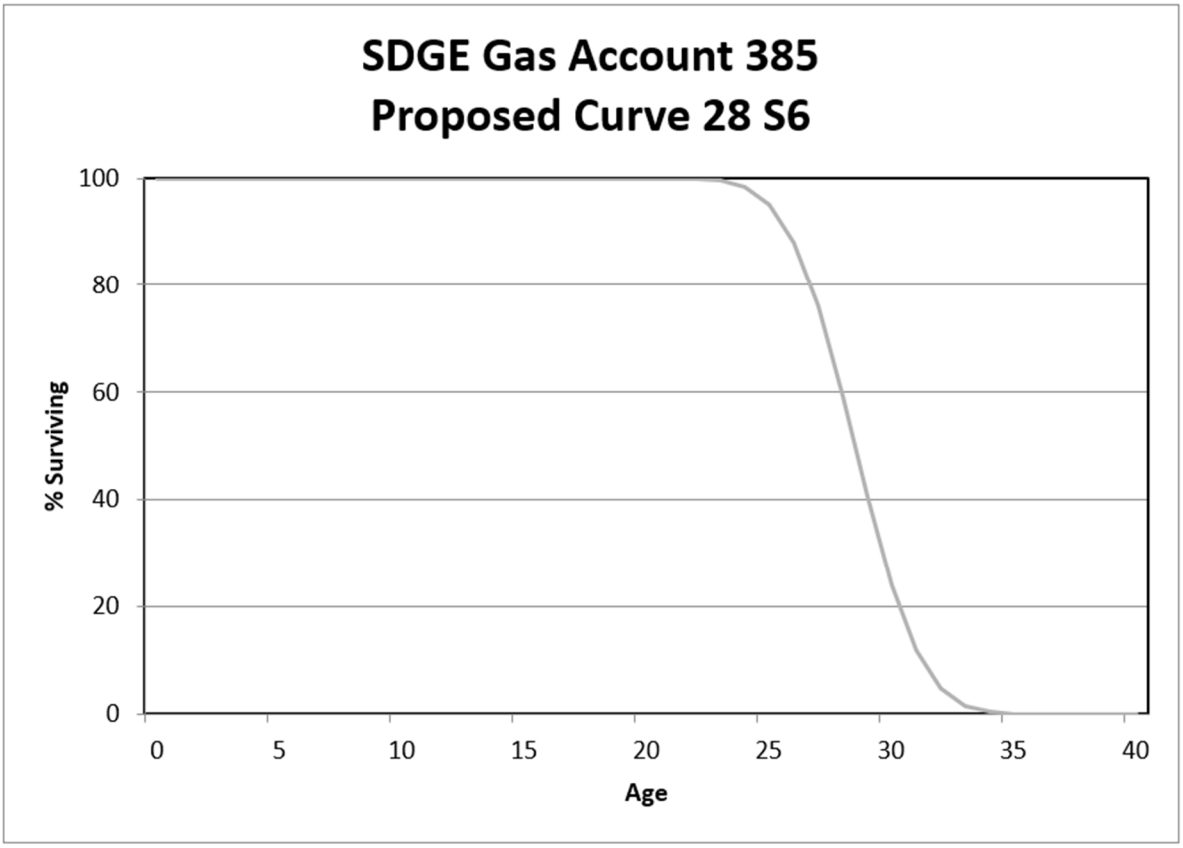
10. Account G385 Measuring and Regulating Equipment

This account includes the measuring and regulating station equipment such as regulators, electrical equipment, and other devices. There is approximately $1.5 million of plant in this

account. The current approved life for this account is 28 years with an S6 dispersion. The average age of survivors in this account is 22.31 years. There is no retirement history available. Using judgment, my study recommends retaining the 28-year life with an S6 dispersion.

A generic curve shape is shown in Figure DW-34 below. The current authorized net salvage is 0 percent. Over the available history there has been no net salvage experience. Based on judgment, my study recommends retention of 0 percent net salvage for this account.

Figure DW-34
Account 385- Measuring and Regulating Equipment



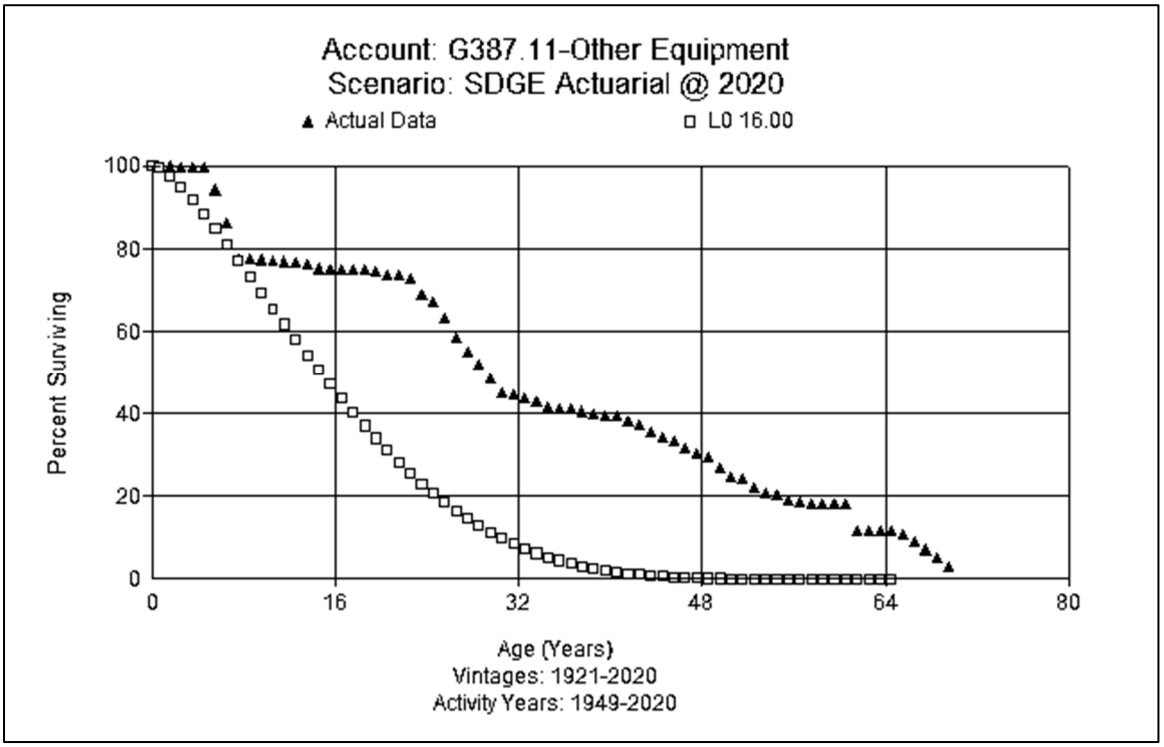
11. Account 387.11 Other Equipment

This account includes the cost of other miscellaneous equipment such as measurement systems, recording gauges, rectifiers, and other equipment. There is approximately $994 thousand of plant in this account. The current approved life for this account is 16 years with an L0 dispersion.

The average age of survivors in this account is 14.98 years. My study recommends retaining the current 16-year life with an L0 dispersion. An observed life table is graphed with

the proposed life and dispersion shown in Figure DW-35. The current authorized net salvage is 0 percent. The 10-year moving average shows 0 percent. Based on judgment and Company experience, my study recommends retaining 0 percent net salvage for this account.

Figure DW-35
Account 387- Other Equipment



12. Account G387.12 CNG Equipment

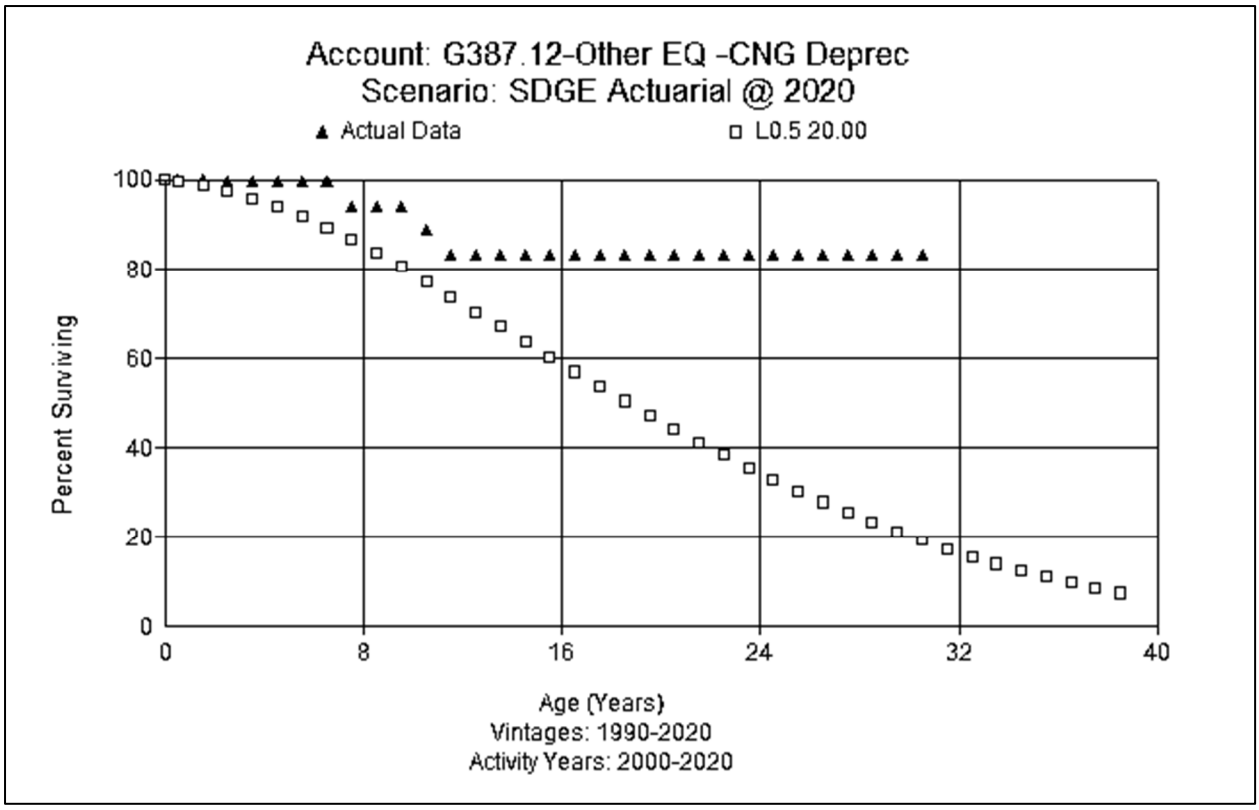
This account includes the cost of natural gas vehicle charging station and related equipment. There is approximately $9.8 million of plant in this account. The current approved life for this account is 16 years with an L0 dispersion. The average age of survivors in this account is 11.30 years. Company Experts report that they have five CNG stations, and three have been refurbished in the last couple years. Of the five CNG stations, the latest two were installed in 2014 and 2017.

Company Experts suggest their expectations for the life of this account to be closer to 20 years. Based on input from Company operations personnel, my study recommends moving from the 16-year life to a 20-year life with an L0.5 dispersion. While many of the proposed life selections are not a good visual match for SDG&E, my study is recommending consistency for

these assets between SDG&E and SoCalGas. An observed life table is graphed with the proposed life and dispersion shown in Figure DW-36.

The current authorized net salvage is 0 percent. There has been no retirement or net salvage received over the available history. It is estimated there will be a small amount of removal cost associated with these facilities as they are used. To incorporate a small amount of removal cost for these assets, my study recommends moving to negative 5 percent net salvage for this account.

Figure DW-36
Account 387.12 CNG Equipment



H. Natural Gas General Plant

SDG&E'S general natural gas plant balance as of December 31, 2020 was $23.9 million. The accumulated reserve was $5.8 million.

1. Account G394.1 Portable Tools

This account consists of various items or portable tools used in shop and garages such as air compressors, grinders, and mixers. There is approximately $21.1 million in this account. This account currently has a life of 24 years with an L5 dispersion.

Since the Company plans to continue using vintage group accounting for its common and electric general accounts, the same is proposed for the Company's natural gas general plant. My study recommends moving to a 10-year life with an SQ dispersion for this account, consistent with Common and Electric function assets.

The current authorized net salvage rate for this account is 0 percent. The three-year, five year, and 10 year moving averages are 0 for all periods. Based on recent experience and judgment, my study recommends retention of 0 percent net salvage for this account.

2. Account G394.20 Shop Equipment

This account consists of large items or tools used in shop and garages such as hoists and cranes. There is approximately $70,000 in this account. This account currently has a life of 24 years with an R1.5 dispersion. Since the assets are similar to Account 394.1, my study proposes the same average life.

Since the Company plans to continue using vintage group accounting for its common and electric general accounts, the same is proposed for the Company's natural gas general plant. My study recommends a 10-year life with an SQ dispersion for this account. The current authorized net salvage rate for this account is 0 percent. The three-year, five year, and 10 year moving averages are 0 percent for all periods. Based on recent experience and judgment, my study recommends retention of 0 percent net salvage for this account

3. Account G397.0 Communication Equipment

This account consists of miscellaneous communication equipment such as fiber optics, SCADA equipment, and various upgrades used in general utility service. There is approximately $2.3 million in this account. This account currently has a fixed life for amortization of 15 years with an S6 dispersion. Based on the practices and expectations of the Company operations, this life is still reasonable.

Since the Company plans to continue using vintage group accounting for its common and electric general accounts, the same is proposed for the Company's natural gas general plant. My study recommends retaining the 15-year life with change to an SQ dispersion for this account. The current authorized net salvage rate for this account is 0 percent. The three-year, five year, and 10 year moving averages are 0 percent for each period. Based on recent experience and judgment, my study recommends retention of 0 percent net salvage for this account.

4. Account G398.0 Miscellaneous Equipment

This account consists of miscellaneous equipment used in general utility service. There is approximately $466,000 in this account. This account currently has a life of 19 years with an R2.5 dispersion.

Based on the practices and expectations of the Company operations, this life is still reasonable. Since the Company plans to continue using vintage group accounting for its common and electric general accounts, the same is proposed for the Company's natural gas general plant. My study recommends retaining the 19-year life with change to an SQ dispersion for this account.

The current authorized net salvage rate for this account is 0 percent. No gross salvage or cost of removal has been received in this account over the available history. Based on historic activity and judgment, my study recommends retention of 0 percent net salvage for this account.

VI. CONCLUSION

SDG&E's proposed service lives and net salvage rates for natural gas plant, which were developed in accordance with CPUC Standard Practice U-4, are reasonable and should be adopted. The resulting depreciation expense set forth in Table SDG&E-DW-1 above, should be approved by the CPUC for use in TY 2024 for determination of SDG&E 's revenue requirement.

I conducted a complete depreciation study using standard depreciation processes and methodologies that resulted in the recommended parameters and depreciation rates. My recommended life and net salvage parameters are reasonable and specific to SDG&E's unique circumstances. My depreciation rates, when applied to SDG&E's plant in service balances, would provide fair and reasonable recovery to both the Company and its customers.

Account-level detail workpapers (historical data, statistical tables, and charts) are submitted separately with this testimony in support of the proposed underlying depreciation rates. This concludes my prepared direct testimony.

VII. WITNESS QUALIFICATIONS

My name is Dane A. Watson. My business address is 101 E. Park Blvd, Suite 220, Plano, TX 75074. I am Manager Partner of Alliance Consulting Group. Alliance Consulting Group provides consulting and expert services to the utility industry. In this proceeding I am testifying on behalf of San Diego Gas and Electric (SDG&E).

I hold a Bachelor of Science degree in Electrical Engineering from the University of Arkansas at Fayetteville and a master's degree in Business Administration from Amberton University.

Since graduation from college in 1985, I have worked in the area of depreciation and valuation. I founded Alliance Consulting Group in 2004 and am responsible for conducting depreciation, valuation, and certain accounting-related studies for clients in various industries. My duties related to depreciation studies include the assembly and analysis of historical and simulated data, conducting field reviews, determining service life and net salvage estimates, calculating annual depreciation, presenting recommended depreciation rates to utility management for its consideration, and supporting such rates before regulatory bodies.

I have twice been Chair of the Edison Electric Institute (EEI) Property Accounting and Valuation Committee and have been Chairman of EEI's Depreciation and Economic Issues Subcommittee. I am a Registered Professional Engineer in the State of Texas and a Certified Depreciation Professional. I am a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and served for several years as an officer of the Executive Board of the Dallas Section of IEEE as well as national and and worldwide offices. I have served as President of the Society of Depreciation Professionals twice.

I am qualified as Certified Depreciation Professional as recognized by the Society of Depreciation Professionals. The Society administers an examination and has certain required qualifications to become and remain certified in this field. I meet and maintain all those requirements.

I have presented testimony and or depreciation studies in nearly 300 depreciation studies over the course of my career. I have testified before the California Public Utilities Commission in nine cases: on behalf of Southwest Gas – Northern California and Southwest Gas- Southern California both in proceeding Application (A.)19-08-015; San Diego Gas and Electric Company in proceeding A.17-10-007; on behalf of Golden State Water Company in proceeding A.14-07-

006; California American Water Company in proceedings A.16-07-002 and A.10-07-007, and Southern California Edison Company in proceedings A.10-11-015 and A.13-11-003. I have appeared before the Federal Energy Regulatory Commission, more than 35 United States state commissions, and in three international proceedings.

I train people who want to learn more about utility depreciation by serving on the training faculty of the Society of Depreciation Professionals, teaching classes in utility seminars at Michigan State University and for the EEI and AGA.

ATTACHMENT A

GLOSSARY OF TERMS

A.:	Application
AGA:	American Gas Association
AMI:	Advanced Metering Infrastructure
Amort:	Amortization
ASL:	Average Service Life
CFR:	Code of Federal Regulations
CPUC:	California Public Utilities Commission
CSF:	Customer Services Field
D.:	Decision
EEI:	Edison Electric Institute
FERC:	Federal Energy Regulatory Commission
GCT:	Gas Company Tower
GEMS:	Gas Energy Measurement Systems
GRC:	General Rate Case
MDTs:	Mobile Data Terminal
NARUC:	National Association of Regulatory Utility Commissioners
PACER:	Portable Automated Centralized Electronic Retrieval system
SCADA:	Supervisory Control and Data Acquisition
SDG&E:	San Diego Gas & Electric Company
SPR:	Simulated Plant Record
SQ:	Square
TY:	Test Year
USofA:	Uniform System of Accounts

ATTACHMENT B

PROPOSED DEPRECIATION PARAMETERS

This attachment provides a summary comparison of current depreciation parameters to those proposed within this testimony. Additional detail regarding this comparison is located in Exhibit SDG&E-36-WP, Comparison of Current and Proposed Depreciation Parameters.

	Current			Proposed			Change	
Depreciation Account	**Life**	**Curve**	**Future Net Salv %**	**Life**	**Curve**	**Future Net Salv %**	**Life**	**Future Net Salv %**
Common Plant								
C303.10- Cloud Costs	5		0	5		0	0	0
C303.C- Intangible Plant	5, 15		0	3,5,10,15		0		0
C389.2 Land Rights	40	SQ	0	45	SQ	0	5	0
C390.10-Structures & Imprv.	30	S1	-15	43	L0	-10	13	5
C391.10-Furniture & Equip.	18	S6	0	18	SQ	0	0	0
C391.20-Computers & Equip.	5	S6	0	5	SQ	0	0	0
C392.10-Automotive Equip.	10	SQ	0	10	SQ	0	0	0
C392.20-Trailers	20	L0	0	20	SQ	0	0	0
C392.30-Aviation	10	SQ	0	25	SQ	50	15	50
C393.10-Stores Equip.	19	L0	0	25	SQ	0	6	0
C394.11-Portable Tools	23	R2.5	0	10	SQ	0	-13	0
C394.21-Shop Equip.	35	L1.5	0	26	SQ	0	-9	0
C394.31-Garage Equip.	19	R3	0	19	SQ	0	0	0
C395.10-Laboratory Equip.	25	R5	0	15	SQ	0	-10	0
C397.10-Commun Equip.	13	S6	0	13	SQ	0	0	0
C398.10-Miscellaneous Equip.	13	R0.5	10	13	SQ	0	0	0
Electric Production Plant								
Cuyamaca Peak Energy Plant	mid-2027		(3.30)	mid-2027		(3.58)		(0.28)
Desert Star Energy Center	mid-2026		(2.57)	mid-2026		(3.37)		(0.80)
Miramar Energy Facility	mid-2032		(1.09)	mid-2032		(3.22)		(2.13)
Palomar Energy Center	mid-2036		(1.24)	mid-2036		(2.08)		((0.84)

Solar Energy Projects	25	SQ	0..00	25	SQ	(18.98)		(18.98)
E344.2 Generators Other	NA	NA	NA	20	R1	0		
Land Rights – Steam	45	SQ	0	45	SQ	0		0
Land Rights – Other	25	SQ	0	25	SQ	0		0
Electric Distribution Plant								
E360.20-Land Rights	45	SQ	0	65	SQ	0	20	0
E361.00-Structures & Imprv.	63	R2.5	-125	61	R2	-150	-2	-25
E362.10-Sta. Equip.	51	R1.5	-125	55	R2	-150	4	-25

	Current			Proposed			Change	
Depreciation Account	**Life**	**Curve**	**Future Net Salv %**	**Life**	**Curve**	**Future Net Salv %**	**Life**	**Future Net Salv %**
E363.00 Energy Storage Equip.	10	SQ	0	15	SQ	-3.60	5	-3.60
E364.00-Poles, Towers, & Fxtr.	47	R0.5	-100	47	R0.5	-95	0	5
E365.00-OH Conductor & Dev.	55	R0.5	-70	55	R0.5	-95	0	-25
E366.00-UG Conduit	57	R3	-50	61	R3	-75	4	-25
E367.00-UG Conductor & Dev.	45	R3	-65	52	R2	-90	7	-25
E368.10-Line Transformers	34	L0.5	-70	36	L1	-95	2	-25
E368.20-Capacitors	12	L0	-70	12	L0	-60	0	10
E369.10-OH Services	55	R0.5	-110	55	R0.5	-135	0	-25
E369.20-UG Services	53	L4	-75	57	R5	-100	4	-25
E370.10-Legacy Meters	48	R0.5	0	19	L0	0	-29	0
E370.11- “Smart” Meters	15	SQ	0	15	SQ	0	0	0
E370.20-Legacy Meter Install.	48	R0.5	0	19	L0	0	-29	0
E370.21- “Smart” Meter Install.	15	SQ	0	15	SQ	0	0	0
E371.00-Install. on Cust. Prem.	34	R0.5	-90	34	R0.5	-115	0	-25
E371.10 EV Charging Units Total	10	SQ	0	10	SQ	-18.97	0	-18.97
E373.20-Street Light. & Signals	36	L0	-85	36	L0	-130	0	-45
Electric General Plant								
E303.00-Software & Franchise	5		0	3,5		0		

E390.00- Structures & Imprv.	34	S4	-10	43	L0	-10	9	0
E392.20-Trailers	27	S5	0	27	SQ	0	0	0
E393.10-Stores Equip.	25	S5	0	25	SQ	0	0	0
E394.11-Portable Tools	27	S6	0	10	SQ	0	-17	0
E394.20-Shop Equip.	26	L4	0	26	SQ	0	0	0
E395.10-Laboratory Equip.	22	L3	0	15	SQ	0	-7	0
E397.10-Com. Equip. - Other	30	R2	-50	20	SQ	-35	-10	15
E397.20-Com. Equip. - SWPL	30	R2	-50	20	SQ	-35	-10	15
E397.60-Com. Equip. - SRPL	30	R2	0	20	SQ	-25	-10	-25
E397.70-Com. Dev. - Telecom	30	R2	-50	20	SQ	-35	-10	15
E398.10-Miscellaneous Equip.	16	L4	0	16	SQ	0	0	0
Gas Storage and Transmission Plant								
G363.60-LNG DI Strg. Equip.	20	S4	0	20	S4	-5	0	-5
G365.20-Land Rights	40	SQ	0	70	SQ	0	30	0
G366.00-Struct and Land Imp.	34	S3	0	47	R2	-5	13	-5
G367.00-Mains	45	S4	-25	69	R3	-25	24	0
G367.60 Hydro Test	NA	NA	NA	17	SQ	0		
G368.00-Compressor Sta. Equip.	35	S3	-10	40	S3	-14	5	-4
G369.00-Meas. & Reg. Sta. Equip.	31	S3	-5	48	R0.5	-5	17	0
G371.00-Other Equipment	27	SQ	0	27	SQ	0	0	0
Gas Distribution Plant								
G374.20-Land Rights	31	SQ	0	70	SQ	0	39	0
G375.00-Struct & Imp	44	S3	0	44	S3	-5	0	-5
G376.00-Mains	69	R3	-55	69	R3	-80	0	-25
G378.00-Meas. & Reg. Sta. Equip.	47	R2	-25	47	R2	-25	0	0
	Current			Proposed			Change	
Depreciation Account	**Life**	**Curve**	**Future Net Salv %**	**Life**	**Curve**	**Future Net Salv %**	**Life**	**Future Net Salv %**
G380.00-Services	65	R2.5	-70	65	R2.5	-95	0	-25
G381.00-Meters & Reg.	41	L1.5	0	35	L1.5	0	-6	0
G381.01-Meter Modules	15	SQ	0	15	SQ	0	0	0

G382.00-Meter & Reg. Install.	35	L2	-30	35	L1	-5	0	25
G382.01-Meter Module Install.	15	SQ	0	15	SQ	0	0	0
G385.00-Ind. Meas. & Reg. Equip.	28	S6	0	28	S6	0	0	0
G387.11-Other Equipment	16	L0	0	16	L0	0	0	0
G387.12- CNG	16	L0	0	20	L0.5	-5	4	-5
Gas General Plant								
G394.10-Portable Tools	24	L5	0	10	SQ	0	-14	0
G394.20-Shop Equip.	24	R1.5	0	10	SQ	0	-14	0
G397.00-Com. Equip.	15	S6	0	15	SQ	0	0	0
G398.00-Miscellaneous Equip.	19	R2.5	0	19	SQ	0	0	0

ATTACHMENT C

DEPRECIATION RATE STUDY

SDG&E 2024 GRC Testimony Revision Log –August 2022

Exhibit	Witness	Page	Line or Table	Revision Detail
SDG&E-36	Dane A. Watson	DAW-2	Table SDG&E-DW-1	Revised table