Company: Southern California Gas Company (U 904 G)
Proceeding: 2024 General Rate Case
Application: A.22-05-015/-016 (cons.)
Exhibit: SCG-232

REBUTTAL TESTIMONY

OF DANE A. WATSON

(DEPRECIATION)

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

May 2023

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REBUTTAL TESTIMONY OF DANE A. WATSON (DEPRECIATION)

I. SUMMARY OF DIFFERENCES

Table DAW-1
Summary of Differences

TOTAL DEPRECIATION EXPENSE - Constant 2021 ($000)			
	Base Year 2021	**Intervenor Comparison $ Test Year 2024**	**Difference**
SOCALGAS	**796,028**[1]	**970,383**[2]	**174,333**
CAL ADVOCATES	**796,028**[3]	**865,177**[4]	**69,149**
TURN	**707,743**[5]	**Not provided**	
INDICATED SHIPPERS	**759,368**[6]	**927,436**[7]	**168,068**
ENVIRONMENTAL DEFENSE FUND[8]	**NA**	**NA**	**NA**

II. INTRODUCTION

This rebuttal testimony regarding Southern California Gas Company's (SoCalGas or Company) request for Depreciation addresses the following testimony:

- The Public Advocates Office of the California Public Utilities Commission (Cal Advocates) as submitted by Witness Bernard Ayanruoh (Ex. CA-17 (Ayanruoh), dated March 27, 2023.
- The Utility Reform Network (TURN), as submitted by Witness David J. Garrett (Ex. TURN-12 (Garrett)), dated March 27, 2023.

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1 Ex. SCG-32-2R (Watson), Attachment C at Appendix A.

2 Ex. SCG-32-2R (Watson) at DAW-1.

3 Not explicitly stated. Since they propose retaining current rates, amount derived from Ex. SCG-32-2R (Watson) DAW-1, Attachment C at Appendix B, Expense at current rates.

4 Ex. CA-17 (Ayanruoh) at 2, Table 17-2.

5 Ex. TURN-12 (Garrett), Exhibit DJG-5 and 6.

6 Ex. IS-1 (Andrews), Exhibit BCA-2.

7 *Id.* at Exhibit BCA-9.

8 The Environmental Defense Fund did not provide depreciation rates or calculation depreciation expense.

- Indicated Shippers, (IS), as submitted by witness Brian C. Andrews, (Ex. IS-01 (Andrews)), dated March 27, 2023.
- Environmental Defense Fund, as submitted by Witness Michael Colvin, Richard McCann, Ph.D., Joon Hun Seong (Ex. EDF-01 (Colvin/McCann/Seong)), dated March 27, 2023.

The forecasts contained in SoCalGas's direct testimony, performed at the project level, are based on sound estimates of its revenue requirements.[9] Depreciation and amortization expense resembles a thermostat in a building. It resets capital recovery as facts and circumstances change.

California utilities can only reset deprecation rates every four years when they file their General Rate Case (GRC). In its 2019 GRC, SoCalGas was ordered to retain the depreciation rates approved in its 2016 GRC. The current depreciation rates have been in place for eight years and are overdue for a reset. SoCalGas's depreciation rate freeze has exacerbated the gap between the Company's actual life and net salvage experience and the amount authorized by the California Public Utilities Commission (Commission or CPUC). Because of this, the Company is behind in the recovery of the removal cost for its investment in property, plant, and equipment.

Many factors have changed since SoCalGas's depreciation rates were last adjusted. New programs have been implemented, new regulations have been put in place that have impacted removal cost and required removal activities, and labor costs have changed. In particular, SoCalGas has been focused on a series of Integrity Management Programs (IMP) in recent years that impact various functional groups—Storage, Facilities, Transmission, and Distribution. These IMP programs are ongoing and will impact the life of the various asset groups now and going forward, as briefly described below. The IMP programs are addressed in detail in Exhibit SCG-209.

Storage Integrity Management Program (SIMP): Driven by the California Geologic Energy Management Division (Cal GEM) and Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations, SIMP's focus on wells, well head reservoirs, and tubing have impacted the underground storage function for accounts 350-357.

Beginning in 2016-2017, SoCalGas has replaced some well heads and tubing, remediated some casings (*e.g.*, installation of new inner strings), and abandoned some assets. Although many wells were abandoned at the beginning of the program, abandonment declined as the program

[9] The absence of a response to any particular issue in this rebuttal testimony does not imply or constitute agreement by SoCalGas with the proposal or contention made by these or other parties.

progressed and are expected to decline in the future. With the level of inspection and analysis that is now required, the overall life for various storage assets will likely decrease.

Facilities Integrity Management Program (FIMP): The Company is using a phased approach to develop a facility management program. Certain equipment has been selected in the first phase, such as pressure vessels, tanks, and curtained piping.

In the early stages, the focus of FIMP is on assets such as fixed equipment, rotating equipment, and electrical equipment. While some replacement of pressure vessels has already taken place, more is planned. Although fewer are expected than occurred for SIMP, there will be retirements from this program as well.

In Account 356, some pressure vessels may be slated for retirement. Visual inspections are done every five years and internal inspections will be completed at intervals not exceeding 10 years, depending on the condition of the vessel. A substantial number are expected to be replaced in the next few years as part of a modernization program at the compressor stations. Although still in in the planning stage, each equipment type will have its own plans.

A similar approach will be taken with tanks and pressure vessels. Certain pipes at the storage facilities are inspected every two years, and the Company will typically replace short segments. Other facilities that are included in SIMP are NGV (Natural Gas Vehicle) and RNG (Renewable Natural Gas).

Transmission Integrity Management Program (TIMP): The transmission function assets in accounts 365 through 371 have been impacted by TIMP. TIMP is driven by PHMSA regulations and uses the same process as other IMP programs. TIMP began around 2004 and includes pigging, pressure testing, and physical inspections. Although some may be on a 5-year cycle, there is generally a 7-year cycle for inspection and evaluation for most assets. There was a comprehensive retrofitting of the system to be able to pig lines and a larger number of replacements in the program's early years. The assets are either reconditioned (e.g., repaired and recoated) or replaced, with replacements varying from a few feet to miles.

Distribution Integrity Management Program (DIMP): Distribution assets in accounts 374-387 have been impacted by DIMP. DIMP is also driven by PHMSA regulations, began in 2011-2012, and is similar in process and scope as the other IMP programs. The DIMP program targets plastic pipe prior to 1986 and steel prior to 1971. The mains and services have roughly 42,000 miles of "modern" plastic and 24 thousand miles of vintage plastic combined. There is an

active pipeline replacement program for medium pressure (< 60 psig), which is replacing around 120 miles (30% steel and 70% plastic).

In my depreciation study, I have incorporated factors such as those described above, my credentials as a professional engineer and a certified depreciation professional, and 38 years of experience. Depreciation requires an ability to examine the facts behind the numbers and apply professional judgment. It is more than a mathematical exercise to run life and net salvage analyses. The intervening parties in this case have all unreasonably focused on a ***reduction*** of depreciation expense—regardless if that reduction is supported by sound depreciation analyses or other evidence.

- Cal Advocates rejects the possibility of an increase in depreciation expense out-of-hand, with a proposal to adopt longer lives and freeze net salvage at levels approved in SoCalGas's 2016 GRC. Cal Advocates proposal is not based upon any depreciation analysis but instead upon Cal Advocates' stated policy goal of lowering rates;
- TURN relies on mathematical fitting to lengthen lives of the Company's largest accounts and misconstrues the Commission's longstanding precedent on net salvage gradualism;
- IS relies on a mathematical fitting without incorporating multiple bands and interviews with Company experts; and
- EDF proposes a policy change and shift in depreciation that is not compatible with current Commission precedent and is better addressed in a separate Commission proceeding, as described in the Climate and Sustainability Policy rebuttal testimony (Exhibit SCG-202).

My depreciation study is a balanced review of the Company's life and net salvage characteristics and is the only source in the record that accurately reflects the Company's current facts and circumstances. In the next parts of my testimony, I discuss the recommendations of each party and analyze the flaws in the intervenors' recommendations for both life and net salvage.

As an example of how far an account can become out of synch with its needed capital recovery if depreciation rates are not set properly and periodically updated, consider the circumstances for Account 352, Wells.

Current Life	Proposed life	Current Net Salvage %	Proposed Net Salvage %
49 R2.5	49 R2.5	-70%	-90%

The Company has retained the same life parameter over two GRC cycles. Yet the cost to abandon wells has increased significantly due to new regulations. Some abandonment work done for retired assets many years ago must be redone to meet current regulation compliance, which has caused increases in removal cost.

To illustrate how far this account is from having funds to recover its cost of removal obligations, the plant balance as of December 31, 2021, is $599 million and accumulated depreciation is **negative** $**107 million**. The Company has not recovered the retirement plant or the cost of removal that accompanies well abandonment. One benchmark that depreciation analysts use to measure how close an account's accumulated depreciation is to where it should be is to compare it to the theoretical depreciation reserve. For this account, the reserve ratio (Accumulated depreciation reserve/ Plant balance) is **-19.71%.** The ratio using the theoretical reserve and proposed depreciation parameters is **34.90%.** This account shows how far out of alignment capital recovery can become in a short period of time when depreciation rates are not set properly and periodically updated. This situation applies for most of SoCalGas's large asset classes—the depreciation parameters are out of alignment and require adjustment. On an account-by-account basis, the Company requests that the Commission reset the depreciation thermostat to incorporate that reality.

A. CAL ADVOCATES

Cal Advocates recommends that

- Longer service life parameters be adopted;
- Any proposal to shorten a service life be denied, and the current service life be retained;
- Any increase in negative net salvage parameters should be rejected and recommends the retention of the existing net salvage parameters; and that
- If the Commission increases any depreciation parameters that the costs be prorated over various cycles.[10]

I disagree with Cal Advocates' positions and recommendations. Cal Advocates fails to provide any actuarial analysis that shows how actuarial company data compares to their competing proposals. Instead, Cal Advocates position relies solely on its policy argument that "rates are

[10] Ex. CA-17 (Ayanruoh) at 1.

currently high and increasing,"[11] and that the "country is again facing economic uncertainty, inflation, and high energy costs."[12] By ignoring all depreciation analysis, Cal Advocates does not follow the basic depreciation principle of allowing the recovery of the cost of the assets (and their removal cost) over the life of the assets. In fact, in some accounts where life has declined, Cal Advocates simply ignores that fact.

Worse, Cal Advocates does not simply maintain the current depreciation parameters that were approved in the 2016 GRC. Instead, Cal Advocates cherry picks, wanting to hold rates constant where I recommend an increase, but adopting my recommended reductions.

In so doing, Mr. Ayanruoh has abandoned the Commission's stated goal of gradualism. Specifically, in recent proceedings, the Commission has applied a gradualism principle to depreciation rates in response to concerns about growing cost burdens associated with increasing cost trends for negative net salvage.[13] 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.[14]

Yet instead of gradualism being applied, in its 2019 GRC, SoCalGas was ordered to retain all depreciation rates and parameters from the 2016 GRC.[15] Because of this, the Company is behind in the recovery of the removal cost for its investment in property, plant, and equipment. The gradualism principle only exacerbates this issue.

Cal Advocates' proposed rates would take a one-sided approach to move life out—extending the life for numerous larger accounts—(which has the effect of decreasing depreciation expense) but freeze cost of removal at levels that were have been in pace for eight years. The lack of any movement applied to net salvage is creating a shortfall in capital recovery for some accounts.

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[11] *Id.* at 9.

[12] *Id.* at 29.

[13] Decision (D.) 14-08-032 at 598.

[14] *Id.*

[15] D.19-09-051 at 623.

The reality is that the Company is incurring much more negative net salvage than currently authorized. And, in some cases, the lives experienced by the Company are decreasing.

Moreover, in Cal Advocates' Results of Operations (RO) model accrual rate computations, multiple errors have been identified. For account 355, they modified the future net salvage in testimony but left it as a negative amount in the model. Recommended life increases for accounts 353, 368, 371, and 375 were discussed in testimony but were not incorporated in the model depreciation calculations. The decrease in depreciation expense shown in Cal Advocates testimony is understated compared to their proposals.

B. TURN

TURN recommends:

- A longer life than the Company proposes for Accounts 367, 368, 376, and 380.[16]
- A reduction in net salvage for accounts 352, 353, 354, 355, 366, 367, 368, 369, 375, 376, 378, 380, 381, 383, 387, 397.55 based on two different flawed methods of computing net salvage. [17]

There are multiple flaws in Mr. Garrett's recommendations. On the life analysis side, he ignored a basic principle of actuarial analysis by only using one placement and experience band (the full band), thereby failing to analyze any changes that would naturally occur over time. He discarded relevant data in analyzing his single band by using a novel (non-industry standard or adopted) approach that he has created, without any peer review, that cut off and ignored Company-specific experience. He ignored both Company-specific operational information and reasonable engineering expectations for the life of assets. And he relied heavily on mathematical fitting seeking to minimize the sum of squares difference between the Company's data the proposed curve and life.

Visual matching is my preference in fitting historical data, because it allows the analyst to see the underlying data that is used to create the single numerical statistic and better describes how the "fit" is at various points in the life of the curve. I have used this methodology consistently in performing depreciation studies throughout my career. Over my decades of performing depreciation studies, I believe that visual fitting is a superior approach.

[16] Ex. TURN-12 (Garrett) at 14-32.

[17] *Id.* at 49-56.

Mr. Garrett's recommendations are overly reliant on mathematical curve-fitting, which results in unreasonable recommendations for certain accounts, especially when considering the variety of assets in an account and how they are operated by the Company. In real-world applications, theoretical statistical models are not always accurate due to the interrelationship of the data in various *years (e.g.,* storms would trigger common causes of retirement between vintages, inflation would change the unit price from year to year, etc.). Visual matching does not have this issue.

One of the most quoted treatises, *Depreciation Systems*, cautions that "blind acceptance of mechanical fitting processes will occasionally but consistently result in poor choices"[18] and that "… the results of mathematical fitting should be checked visually and the final determination of best fit made by the analyst."[19] Sound depreciation practice and authoritative guidance advise that a recommended life curve needs to drop to take into account at least 50% of the life cycle *(i.e.,* 50% of the historical experience) of the assets in the account to offer a fully predictive analysis.[20]

Sound depreciation practice and authoritative publications also advise that the analyst focus on retirement experience within the middle section of the life curve *(i.e.,* 80% to 20% surviving) because this portion of the experience is more reflective of the retirement characteristics of the assets in the account:[21]

> The weight placed on those points will depend on the size of the exposures. Often the middle section of the curve (that section ranging from approximately 80% to 20% surviving) is given more weight than the first and last sections. This middle section is relatively straight and is the portion of the curve that often best characterizes the survivor curve.

Mr. Garrett seems to rely solely on overall placement and experience bands, rather than looking at the best fit from multiple bands.[22] This is important because by looking at the combination of retirement history over different periods of time, the analyst can discern patterns

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[18] *Depreciation Systems*, Drs. F.K. Wolf and W.C. Fitch, Iowa State Press, 1994, p. 47.

[19] *Id*. at 48.

[20] *Public Utility Depreciation Practices*, p 120 ("It is generally desirable to have the stub curve drop below 50%.").

[21] F.K. Wolf and W. C. Fitch, *Depreciation Systems*, 46-47 (1994) (Emphasis added).

[22] Ex. TURN-12 (Garrett), Exhibit DJG-6, Exhibit DJG-7, Exhibit DJG-8, and Exhibit DJG-9.

that may influence his recommendation. The authoritative publications provide guidance as follows:[23]

> The ultimate combination of bands is the overall band, which combines all individual placement and experience bands into a single, overall band. The major attribute of the survivor curve obtained from this band is that it uses every available exposure and retirement. On the other hand, this grand average obscures the dynamic characteristics of the life characteristics of the property. … ***It is difficult to figure out the exact meaning of the overall band, and, in spite of the fact it does contain all the data points, it should be given limited significance.***

I will elaborate further when I discuss individual accounts. Mr. Garrett also fails to incorporate any information from Company experts related to the actual operations of the assets in his life recommendations. Information provided by Company subject matter experts (SMEs) on the specific plant and equipment being studied is of critical importance in the depreciation study process. Understanding activity in the field is important for an analyst to obtain a better understanding of the assets that are being studied and an understanding of the work effort "behind" the accounting information being analyzed. In *Public Utility Depreciation Practices*, NARUC advises against strict reliance on historical data and fitting, stating:

> 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.[24]

Mr. Garrett suggests that I was "privy to pertinent information shared by Company personnel that was not made available to TURN, it would suggest the Company withheld such information in discovery."[25] This is not true. I mentioned several critical factors for each account in Ex. SCG-32-2R, my second revised direct testimony, and provided my interview notes in workpapers. Understanding activity in the field is important for an analyst to obtain a better understanding of the assets that are being studied and an understanding of the work effort "behind" the accounting information being analyzed.

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[23] F.K. Wolf and W. C. Fitch, *Depreciation Systems* at 46-47 (1994) (emphasis added).

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

[25] Ex. TURN-12 (Garrett) at 21.

Regarding net salvage, Mr. Garrett stated that he "generally agree[s] with Mr. Watson that the negative net salvage rates for the accounts at issue should increase (i.e. become more negative); the technical analysis and data generally support such an increase.[26] Yet Mr. Garrett's net salvage proposals misapplies the gradualism concept as prescribed by the Commission by claiming that that concept "limits the adjustments 25% of the utility requested increase."[27] But the Commission's direction on gradualism (and the application by other California utilities of the gradualism concept) was to move net salvage factors by no more than **25 basis points from the Company's current net salvage level**—not to limit the net salvage change **25% of the change** recommended by the Company.

Specifically, the Commission in D.14-08-032, instructed to "adopt no more than 25% of the estimated net increase from *current* [net salvage] rates."[28] Appendix C, Table 12 of D.14-08-032 further underscores that the Commission's gradualism doctrine means a change of 25 basis points in net salvage. For example, for Account 364, Poles Towers and Fixtures in D.14-08-032, after Pacific Gas & Electric Company (PG&E) proposed a -150% net salvage rate, the Commission approved net salvage of -105% from a previously set -80%, or a change of 25 basis points change (-25% is the difference between -105% and -80%).

In other words, if the negative net salvage rate was negative 75 percent, the Commission would, under its gradualism concept, only allow a movement to a negative 100 percent net salvage, or 25 basis points. Yet Mr. Garrett argues that gradualism should limit a change in net salvage to 25% of the change requested by the applicant. Nowhere does the Commission in D.14-08-032 state that its gradualism principle means limiting a change in net salvage to 25% of the applicant's recommendation.

The reality is that the Company's recommendations are <u>already</u> applying the concept of gradualism, and for Mr. Garrett to apply his novel approach would double count the concept. For example, the Company's actual incurred net salvage over a 10-year average for Account 376 – Services is a negative 243 percent net salvage.[29] If the Company recommended the actual incurred net salvage, the 25% cap on the change may be a reasonable approach. In that case, Mr. Garrett's 25 percent change gradualism approach would recommend the Company move to a negative 120.75

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[26] *Id.* at 52.

[27] *Id.*

[28] D.14-08-032 at 600 (emphasis added).

[29] Ex. SCG-32-2R, Attachment C at Appendix D, Account 376.

percent net salvage[30] instead of the negative 105 percent that was the Company's actual recommendation.

But the Company already applied gradualism to this and every other account, and so recommended less than 25 percent of the movement to the incurred net salvage. Yet Mr. Garrett is only recommending 25 percent of Company's recommendation that already included the concept of gradualism. In other words, Mr. Garrett's proposal would mean that there could only be, at most, a six percent change in net salvage at any one time—25% of 25% if the Company is seeking to abide by the Commission's gradualism precedent in its recommendations—undermining the Commission's gradualism precedent. TURN obscures this Commission directive in order to reduce net salvage proposals.

C. INDICATED SHIPPERS

For depreciation, Indicated Shippers:

- Recommends different lives for accounts 354, 367, 368, 369, 376, and 380;
- Uses Company proposed net salvage parameters for all accounts; and
- Computes alternative depreciation rates to the Company's proposal.

I disagree with IS's life recommendations. Mr. Andrews relies on mathematical fitting more than is justified. Further, he only used one placement and experience band in his analysis. Finally, some of his life recommendations relies too much on the older portion of the curve, which does not contain sufficient activity to be meaningful.

D. ENVIRONMENTAL DEFENSE FUND

EDF does not quantify or explain implementation of its depreciation proposals but makes the following recommendations:[31]

- recommends use of sum of the year digits (SOYD) depreciation to compute depreciation rates, or alternatively,
- recommends the use of units of production methods that were proposed by PG&E in its 2023 GRC application.

I disagree with EDF's recommendations for depreciation. EDF recommends alternative rate making approaches that do not follow the Commission's precedents for the use of straight-line depreciation, average life group, remaining life depreciation system. This novel proposal does not

[30] 243-80 x .25% = 40.75 (10 year average – current net salvage parameter) x 25%.

[31] Ex. EDF-01 (Colvin/McCann/Seong) at 54-60.

identify any specific depreciation rates, lives, and parameters to support EDF's recommendations. Hence, adoption of their recommendations is not possible based on the limited information provided in EDF's testimony.

Further, the Commission has identified accelerated and alternative depreciation methods within the scope of Rulemaking (R.) 20-01-007, Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Safe and Reliable Gas Systems in California and perform Long-Term Gas System Planning.[32] Please refer to the Climate and Sustainability Policy rebuttal testimony (Exhibit SCG-202).

III. REBUTTAL TO PARTIES' PROPOSALS REGARDING LIFE FOR VARIOUS ACCOUNTS

In this section I reiterate the factors supporting my recommendation for each account disputed by TURN, IS, and/or Cal Advocates and rebut the proposals put forth by the intervening parties. My recommendation for all accounts can be found in my second revised direct testimony, Ex. SCG-32-2R.

A. Life Account 351.2 Underground Storage Solar and Fuel Cells

This account, consisting of solar and fuel cells used in underground storage facilities, is a new account, with no plant as of year-end 2021. Although SoCalGas does not possess similar assets, San Diego Gas & Electric Company (SDG&E) does and is using a 10-year life for those assets. Based on SDG&E's experience, I recommend a 10-year life with a Square (SQ) dispersion.

Both TURN and IS use that life parameter in their proposed depreciation rates. EDF does not specify a life parameter for this account. By contrast, Cal Advocates recommends the longer life than currently in place for structures and improvements.

Table DAW-2
Account 351.2 Underground Storage Solar and Fuel Cells Life Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	48 R1.5	10 SQ	10 SQ	10 SQ	48 R1.5	NA

The assets in Account 351.2 are completely different than items in Account 351, Structures and Improvements, which currently have a life of 48 years and a proposed life of 51 years. Account 351 includes buildings, roofs, electric systems, security and fencing. There is no similarity between those assets and solar and fuel cells. Using a life parameter that is not representative of the intrinsic

[32] *See* R.20-01-007, Assigned Commissioner's Amended Scoping Memo and Ruling (January 5, 2022).

characteristics of the assets will create intergeneration inequities. It is more reasonable to rely upon SDG&E's experience as a proxy than to use the life for Account 351.

B. Life Account 353 Lines

This account consists of well lines used in underground storage operations, with an average survivors' age of 13.10 years. Actuarial analysis shows a decline in life to 50 years. Company personnel believe that the decrease in life seen in the analysis could be related to well abandonments, since surface facilities are removed. Lines are carbon steel and, depending on the field, the pipe is wrapped, buried, and catholically protected. If the lines are above ground, they do not need cathodic protection.

Company experts expect a shorter life for buried pipe than above ground pipe. At one site (Honor Rancho), the coating is failing on underground pipe. Company subject matter experts believe a 50-year operational life for this account is reasonable. Based on input from Company personnel and judgment, this study recommends moving to a 50-year life and the R4 dispersion.

The various recommended positions are shown below in Table DAW-3.

Table DAW-3
Account 353 Lines

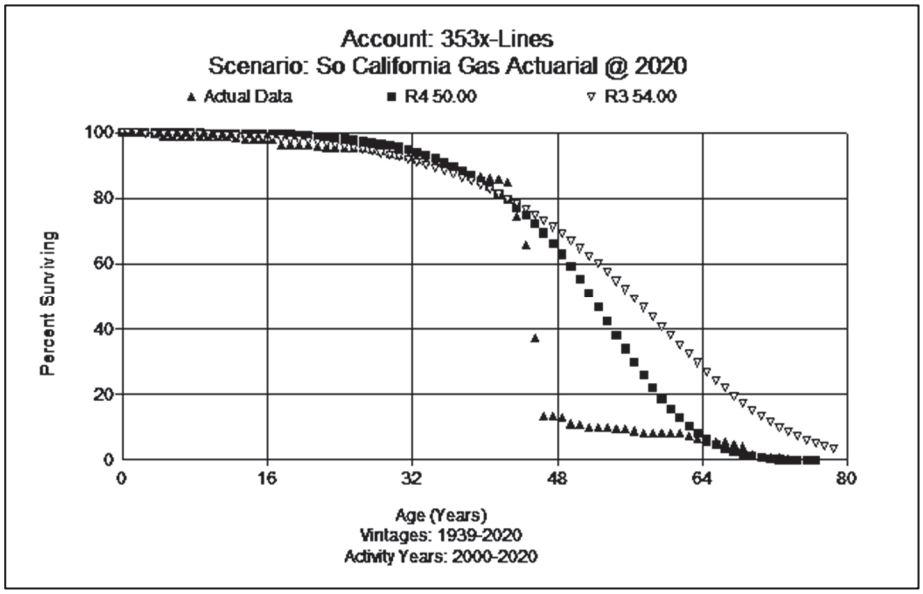
Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	54 R3	50 R4	50 R4	50 R4	54 R3	NA

TURN and IS use the Company's proposed life in computing their recommended depreciation accrual rates for this account. Cal Advocates takes issue with my life selection for Account 353, not based on my study, but solely on the argument that "rates are current high and increasing, and any changes to depreciation parameters that result in increasing TY depreciation expense should be denied.[33]

SoCalGas disagrees with Cal Advocates because the Company's depreciation rates have been frozen for the past two GRC cycles. If I compare my proposed curve to the current curve for this account, the two curves show that the life of this curve has changed from the position in the 2016 GRC.

[33] *Id.* at 9.

Figure DAW-1
Account 353 Lines



It is apparent the current 54 R3 curve is no longer a good model for the experience in this account. Cal Advocates does not offer any depreciation analysis for maintaining the current life beyond its position regarding rates.

C. Life Account 354 Compressor Station Equipment

This account consists of approximately $457.2 million of investment compressor station equipment used in the underground storage operations. Ongoing factors that will impact the life of this account are a program of compressor modernization, with $600 million at Honor Rancho, the second largest of the Company's four underground sites, and a smaller program at Playa Del Ray. Company personnel report that this modernization effort is driven by aging equipment and air quality regulations by the Air Quality Management District (AQMD).

The Company is also adding emissions controls at some sites. Turbine driver compressors require more capital replacements than reciprocating compressors. The actuarial analysis and information from Company SMEs support the current proposal.

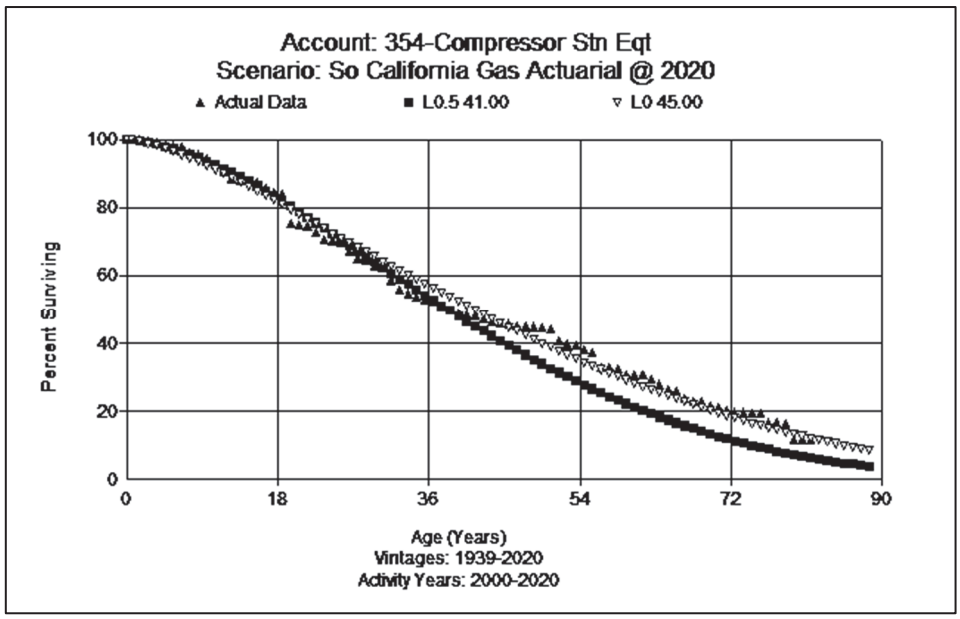
The positions recommended by each intervenor are shown below in Table DAW-4.

Table DAW-4
Account 354 Compressor Station Equipment Life Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	41 L0.5	41 L0.5	41 L0.5	45 L0	45 L0	NA

Cal Advocates and TURN use the Company's proposed life in computing their recommended accrual rates for this account. IS takes issue with the life for this account, stating that the observed life data deviates from my proposed curve after age 40.

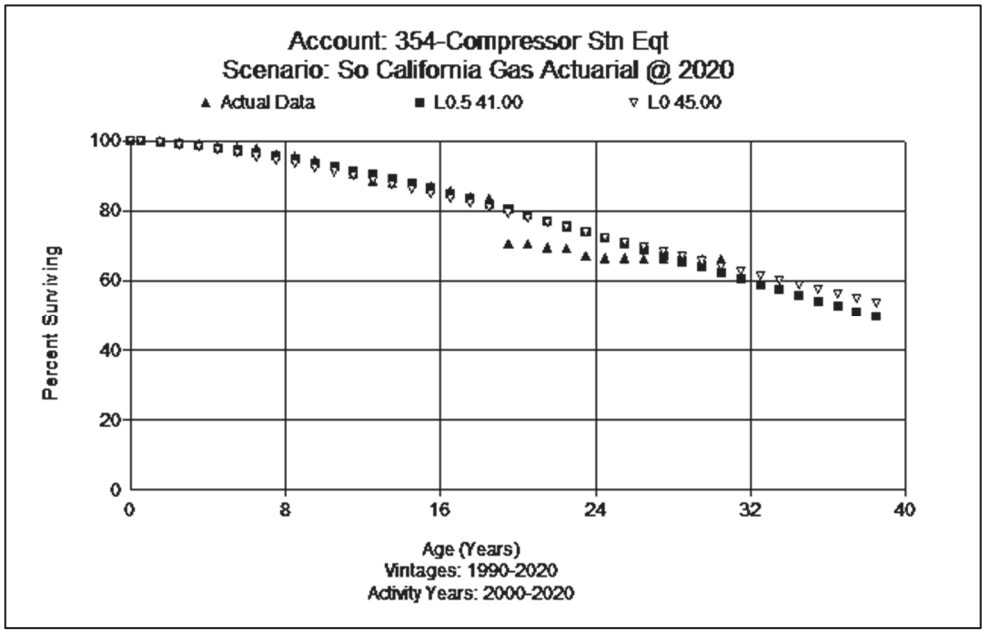
Figure DAW-2
Account 354 Compressor Station Equipment



A shown in Figure DAW-2 matching experience after age 40 used transactional data from vintages 1939-1979. Currently those vintages make up 5.23% of the plant is this account. Given that the average age of survivors is 8.21 years, basing the recommendation for life in this account on a small proportion of the plant is not a reasonable position.

If we examine a more recent band for this account without activity from vintages 1939-1979 shown in Figure DAW-3, the match at the tail of the curve is not pronounced. The Company's proposed curve is a better model for current assets and future additions to this account.

Figure DAW-3
Account 354 Compressor Station Equipment



D. Life Account 366.2 Transmission Solar and Fuel Cells

This is a new account consisting of solar and fuel cells used in transmission operations. Although SoCalGas does not have any such assets, they are similar to SDG&E's solar and fuel cells, which have a 10-year life. Based on SDG&E's experience, I recommend a 10-year life with a SQ dispersion. The positions recommended by each party are shown in Table DAW-5 below.

Table DAW-5
Account 366.2 Transmission and Fuel Cells Life Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	47 R2	10 SQ	10 SQ	10 SQ	47 R2	NA

Both TURN and IS use my recommended life parameter in their proposed depreciation rates. Cal Advocates recommends applying the life of 41 years in place for Account 366, Structures and Improvements, to this account. But Account 366 includes buildings, roofs, electric systems, security and fencing—assets that are completely different than solar and fuel cells. It should thus not be applied here; particularly when SDG&E already has a ten-year life assigned to the same assets. Using a life parameter that is different than the intrinsic characteristics of the assets will create intergeneration inequities.

E. Life Account 367 Transmission Mains

This account includes the cost of transmission mains, primarily coated and wrapped steel. The average age of survivors in this account is 13.64 years. The Company is seeing some class changes as population density increases. IMP forced the retirement of some valves.

The Company has been adding more instrumentation and automation (remote control) in recent years. Automation could be added to existing assets (such as valves) in most instances. But in about 40% of cases, the Company would have to replace the full valve assembly. Typically, the cathodic protection for these mains (which are in this account) are much more rectifier based, which would have a life from between 20 and 25 with anodes around 15 years or less. Given the young age of the investment and the effects of the TIMP program, this study recommends moving to a 70-year life and an R2 dispersion.

The various proposals for this account are shown below in Table DAW-6.

Table DAW-6
Account 367 Transmission Mains Life Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	64 R3	70 R2	75 R2	74 R3	70 R2	NA

Cal Advocates adopts the same curve and life recommended by the Company for Account 367 Transmission Mains.[34] TURN and IS takes issue with the life for this account, stating that "this account has adequate retirement history and is well suited for conventional Iowa curve analysis."[35] Mr. Garrett presents a visual representation of the two curves in his Figure 1 which is shown below.

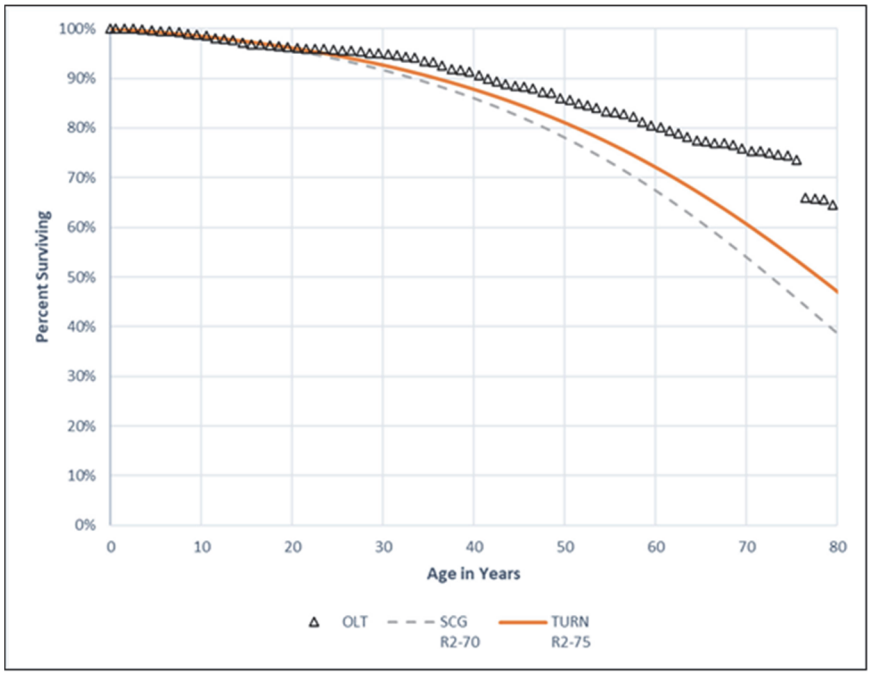
In Figure 1, Mr. Garrett only illustrates one placement and experience band, the full placement band and experience band of 1991-2020.[36]

[34] *Id.*

[35] Ex. TURN-12 (Garrett) at 22.

[36] *Id.* at 23.

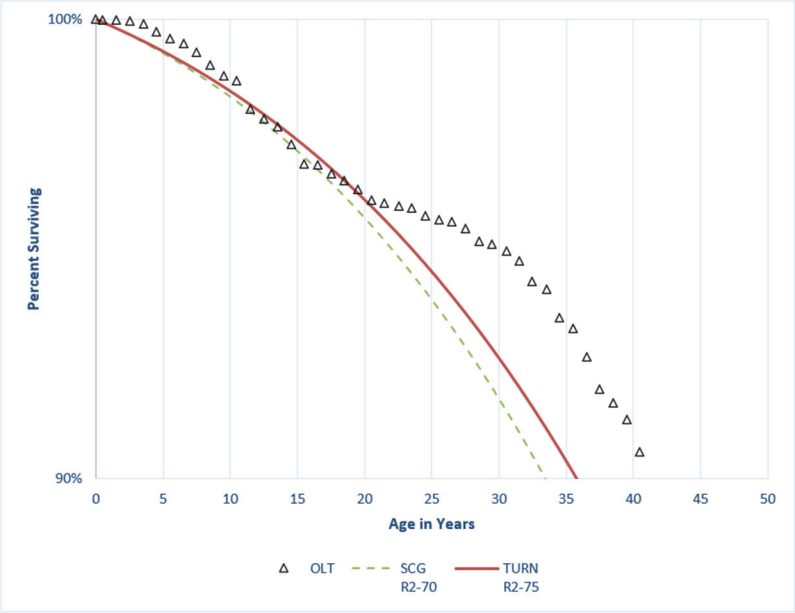
Figure DAW-4
Account 367 – TURN Figure 1



The observed data shown with black triangles begins to deviate from the proposed curves by age 25. Whether one uses mathematical fitting or visual matching neither curve of a good fit for the entirety of the band.

In the Figure DAW-5 below, I have adjusted the y axis between 90 and 100 per cent surviving and the x axis ends at 50 years of age.

Figure DAW-5
Account 367 – TURN Figure 1 with Modified Axes

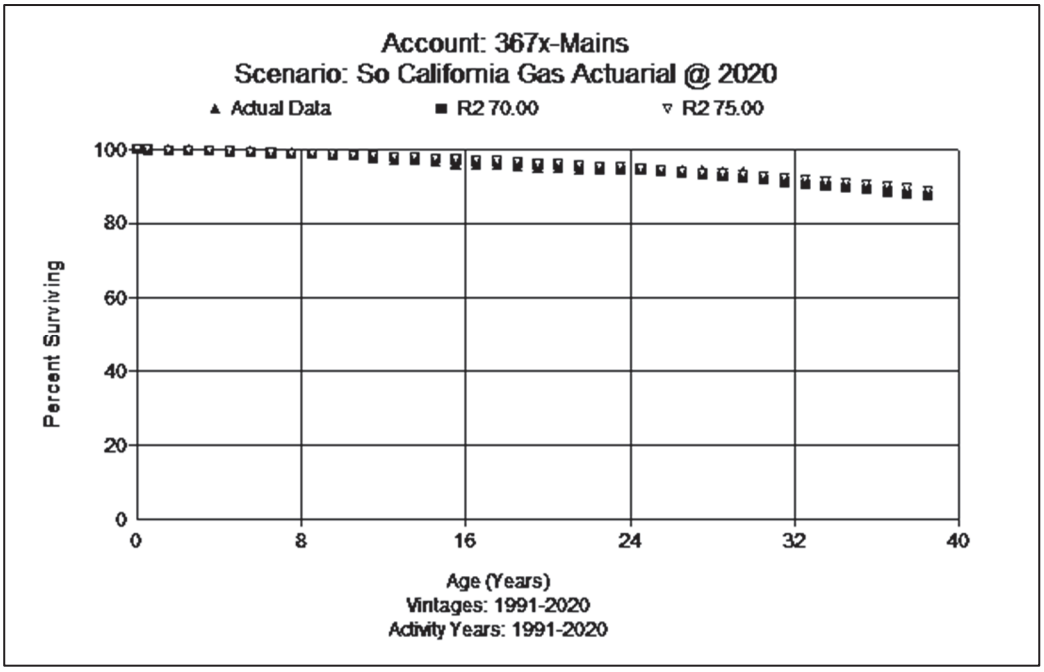


Neither curve has enough data to robust statistically. The plant balance after age 25 uses data from vintage years from 1918 to year 1995, which makes up only 18 percent of the current plant. Given that the average age of survivors is 13.64 years, basing the recommendation for life in this account on a band where the relevant percent surviving deviates from both proposed curves at 95 percent surviving is unreasonable.

Mr. Garrett's proposal would increase the current life 17.2 percent relying on a single placement and experience band and mathematical fitting. He ignores important information from Company personnel that the Company is adding more instrumentation and automation (remote control) in recent years. Increasing automation and improvements in technology will impact the life of this account.

The graph below in Figure DAW-6 shows a more recent period. The observed table shows a slightly shorter life than either proposal through age 20. The Company's proposal is shown with squares, and TURN's proposal is shown with triangles.

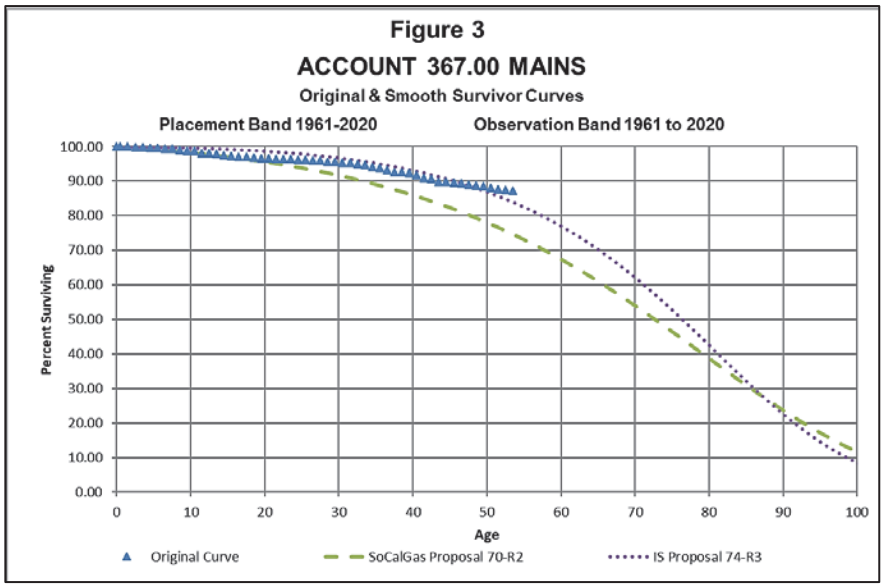
Figure DAW-6
Account 367 – Mains



My proposed 70 years moves in the direct of change with a 9.4 percent increase in life, better conforming the facts and circumstances in this account.

IS recommends a life of 74 R3 compared to the Company's recommended 70 R2.[37] A graphical comparison is shown in Figure 3 of IS-01. Mr. Andrews' proposal has the same flaws as Mr. Garrett's; namely that there is insufficient data in the observed life table to support a large move in life. Mr. Andrews proposes to move the life of this account by 15.6 percent from the current life. Mr. Andrews' Figure 3 is shown below in Figure DAW-7.

Figure DAW-7
Account 367 – IS Figure 3

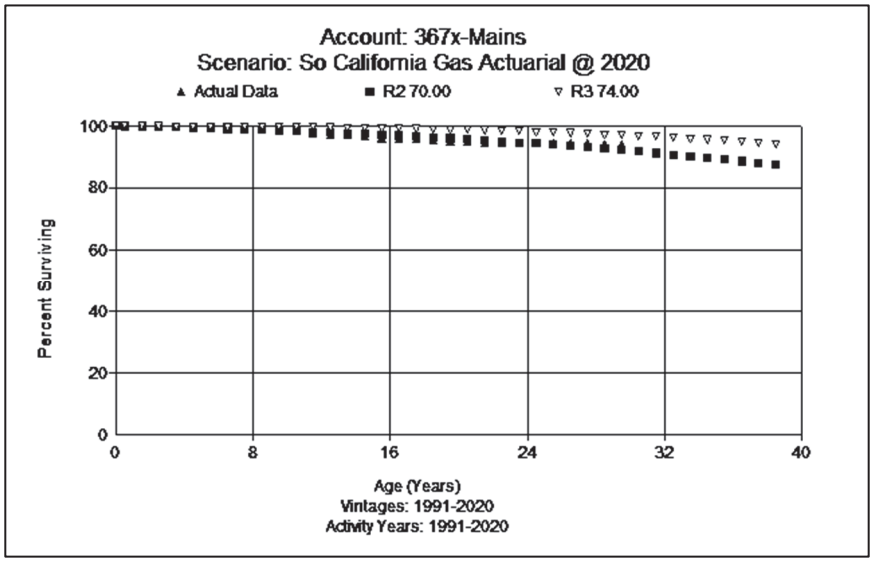


Again, the observed data from Company history ends above 85 percent surviving. Simply put, the data in the band Mr. Andrews relies upon has insufficient retirement experience to base a life prediction for an account that contains 15.3 percent of SoCalGas's depreciable plant.

Given that the average age of survivors is 13.64 years, looking at additional placement and/or experience bands is in order. If we examine a more recent band for this account for placement and experience bands 1991-2020, the comparison of the competing proposals should be noted. The Company's proposal is shown with squares, and IS proposal is shown with triangles.

[37] Ex. IS-01 (Andrews) at 18 and 24.

Figure DAW-8
Account 367 – Mains



The Company's proposed curve is a better model for current assets and future additions to this account and should be adopted.

F. Life Account 368 Compressor Station Equipment

This account includes the cost of compressor station equipment used in connection with transmission operations, with an average survivor age of 16.27 years. Company personnel report that the Company has a modernization program driven by emissions compliance and decarbonization initiatives, where SoCalGas is replacing old technology with new turbines and adding hydrogen production to use on site. SoCalGas is moving to turbine compressors, which have a shorter life than the reciprocating compressors it previously used.

From a technical standpoint, operations personnel report that reciprocating compressors operated at high speed have issues. Storage operations are requiring the cycling of compressors more than in the past, which shortens the life of the compressors. After examining the technical issues with this account, this study recommends a slight reduction in life to 48 years and retaining the R1 dispersion.

The various proposals for this account are shown below in Table DAW-7.

Table DAW-7
Account 368 Compressor Station Equipment Life Proposals

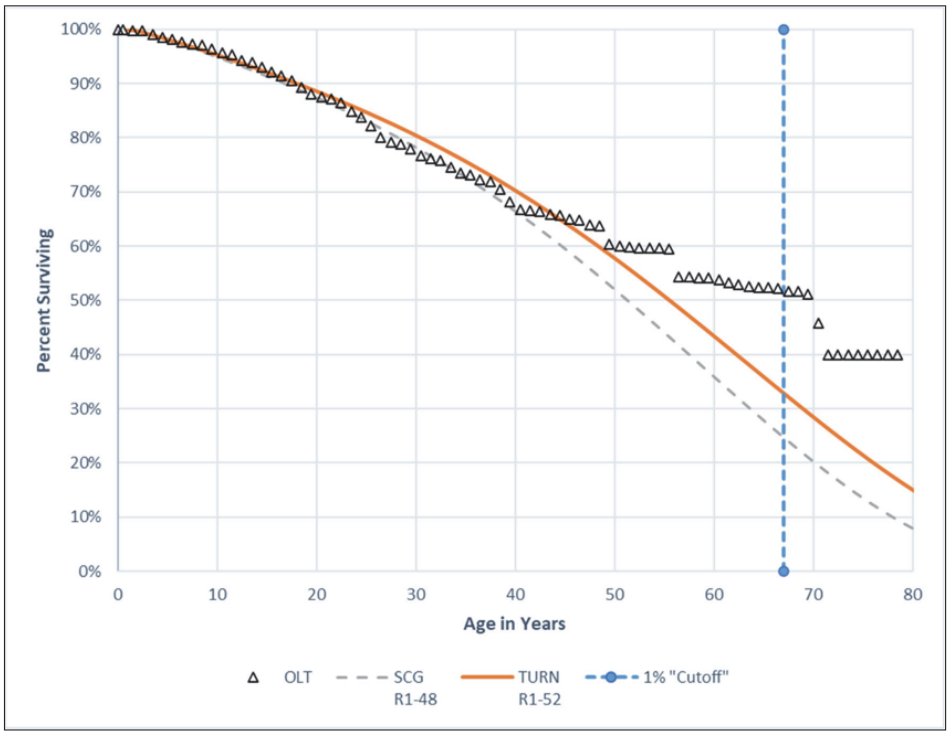
Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/Life	50 R1	48 R1	52 R1	54 R1	50 R1	NA

Cal Advocates disagrees with the Company's proposed life for this account, since the proposal reduces life from its current level by two years. Cal Advocates has no analytical basis for their recommendation. As noted, it is based solely on their policy position to hold life parameters at their current level whenever the Company recommends a shorter life.

TURN also recommends a different life, based on mathematical fitting citing a single placement and experience band. Mr. Garrett ignores factors that are influencing the life of each account and fails to factor in key information from SMEs on recent and future changes in operations.

Mr. Garrett presents a visual representation of the two curves in his Figure 2. In his Figure 2, Mr. Garrett only illustrates one placement and experience band, the full placement band and experience band of 1991-2020.[38] Mr. Garrett's graph shows that my proposed curve is a better match until age 40. The retirements after age 40 come from vintages 1937-1979, when data is sparser. When only 10% of the retirement data for Mr. Garrett's single band come from ages after 40, it makes little sense to base a life recommendation on a single band.

Figure DAW-9
Account 368 – TURN Figure 2

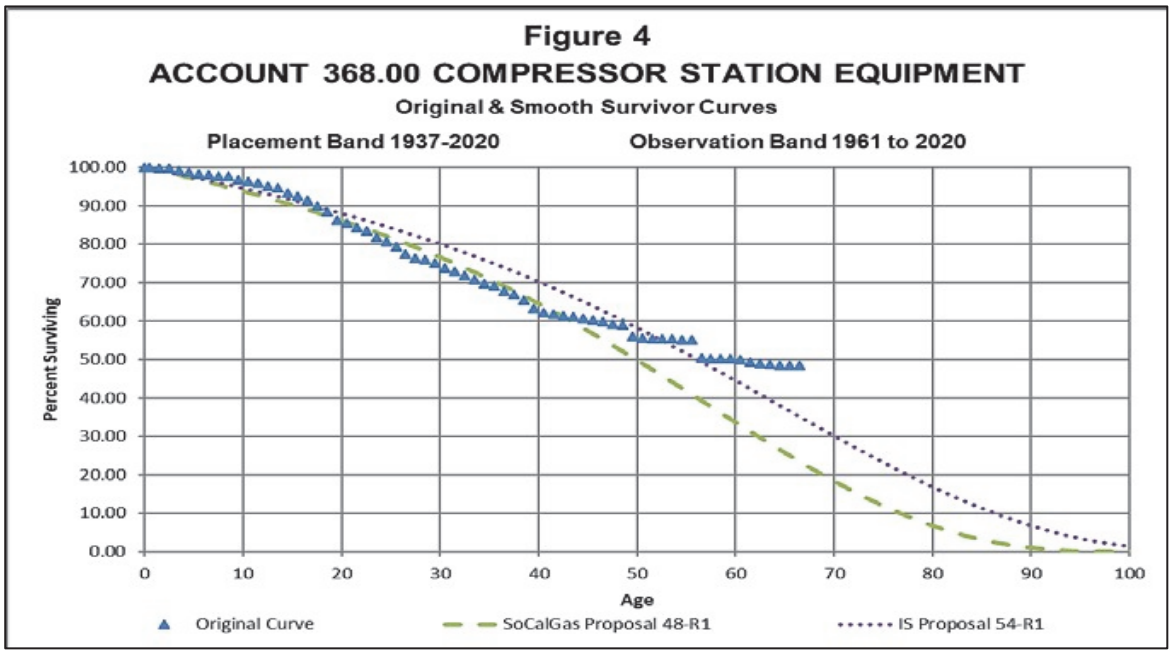


[38] Ex. TURN-12 (Garrett) at 26.

My proposed 48-year life is a better match through age 40 and does not incorporate sparse data that Mr. Garrett emphasizes in his curve matches. My proposal also accounts for the changing nature of the assets within the account that would shorten the life going forward. TURN's proposal life is an increase of four years from my recommendations, and utilizes older vintage data before 1979, which may not be relevant for an account with an average age of survivors of 16.27 years.

IS also recommends a different life, stating "[the observed life data] deviates from the actual retirement data around the early 40's age intervals."[39] IS's analysis has the same flaws as TURN's. Mr. Andrews presents a visual representation of the two curves in his Figure 4, as shown below in Figure DAW-10. After age 40, the data becomes sparser without as many retirement transactions.

Figure DAW-10
Account 368 – IS Figure 4



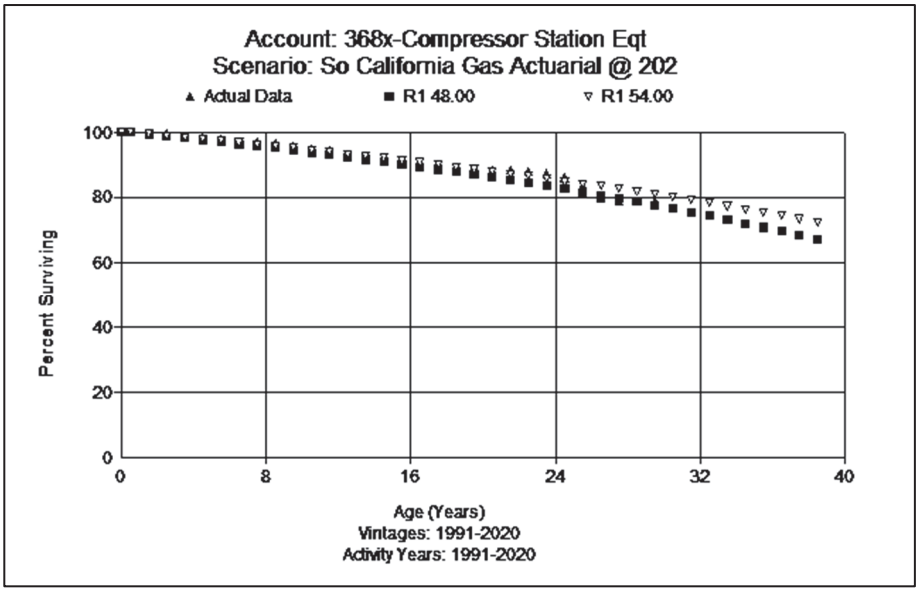
SoCalGas disagrees with Mr. Andrews' emphasis on matching experience after age 40 since it only uses transactional data from vintages 1937-1979. Currently those vintages make up 4.28% of the plant is this account. Additionally, the data after that point does not match either recommendation.

Given that the average age of survivors is 16.27 years, basing the recommendation for life in this account on a small proportion of the plant is not a reasonable position. If we examine a more

[39] Ex. IS-01 (Andrews) at 19.

recent band for this account without activity from vintages 1937-1979, as show in Figure DAW-11, the match at the tail of the curve is in favor of SoCalGas's recommendation and SoCalGas's recommendation should be adopted.

Figure DAW-11
Account 368 – Compressor Station Equipment



G. Life Account 369 Measuring and Regulating Equipment

This account includes the cost of measuring and regulating station equipment used in connection with transmission operations, with an average survivor age of 7.84 years. Company subject matter experts report that there has been a lot of investment related to IMP to retrofit for pigging, including adding more instrumentation and automation (remote control). Although automation can generally be added to existing assets (such as valves), about 40% of the time, the Company must replace the full valve assembly.

Increasing population density can trigger class location changes and the need for more accurate regulating equipment. A slight change in life is reasonable. But there are no forces of retirement that would cause a significant change.

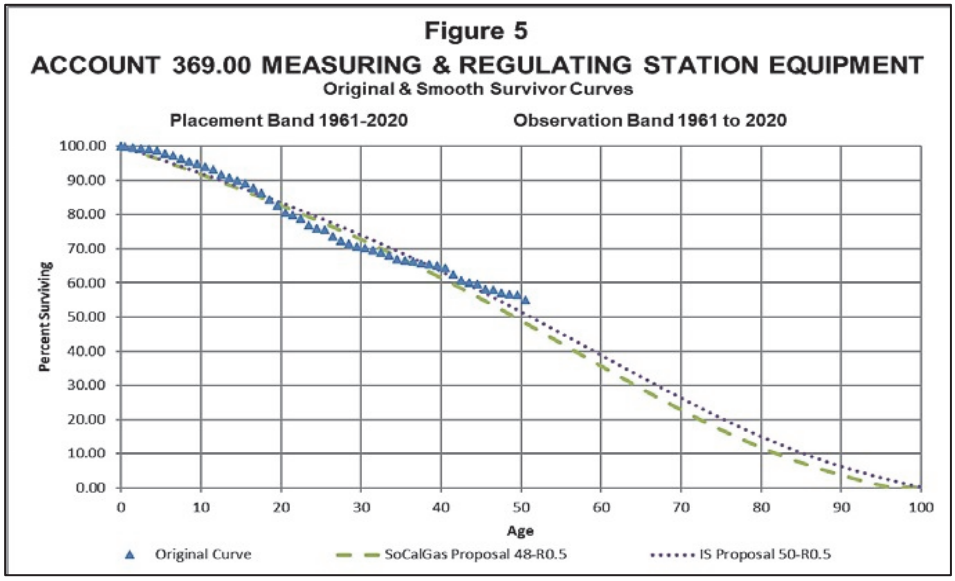
The various recommendations for this account are shown below in Table DAW-8.

Table DAW-8
Account 369 Measuring and Regulating Equipment Life Parameters

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/Life	46 S0	48 R0.5	48 R0.5	50 R0.5	48 R0.5	NA

Cal Advocates and TURN use the same life that the Company proposes for this account. IS takes issue with my life recommendation, stating that "the observed life data deviates . . . around the late 30s age intervals."[40] Mr. Andrews presents a visual representation of the two curves in his Figure 5. As can be seen below, my proposed curve matches better through age 40. However, the data becomes sparser after that age. Mr. Andrews' proposal relies on older data that may not be representative of future expectations.

Figure DAW-12
Account 369 – IS Figure 5

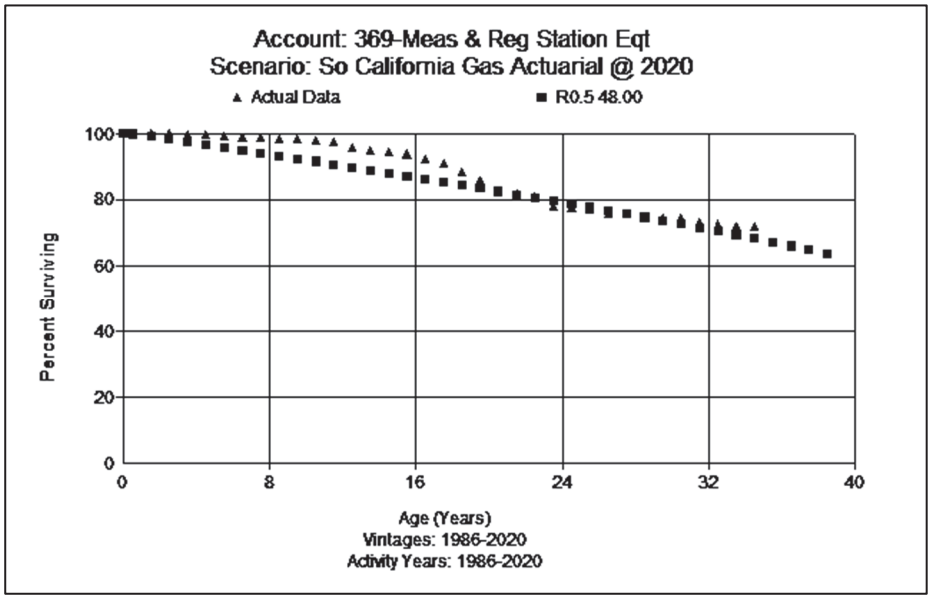


Mr. Andrews' Figure 5 is shown above in Figure DAW-12. Currently, vintages 1938-1979 make up 0.01% of the plant in this account. Given that the average age of survivors is 7.84 years, basing the recommendation for life in this account on a small proportion of the plant is not a reasonable position.

Although neither selection matches well, Figure DAW-13 shows a placement and experience band of 1986-2020, which eliminates some the retirements at the tail of the curve, matching my proposal. My proposal is thus a better match and should be adopted.

[40] Ex. IS-01 (Andrews) at 20-21.

Figure DAW-13
Account 369 – Measuring and Regulating Equipment



H. Life Account 371 Other Equipment

This account includes installed equipment used in transmission system operations, when not assignable to any of the foregoing accounts. The current life/curve is 21 L0.5. The average age of the surviving plant balance is 12 years.

This equipment has had little change over the years. Nor do subject matter experts expect a large change. Analytics from actuarial analysis show an excellent visual match through age 20 for a 20-year life and L2 dispersion. Based on actuarial analysis and judgment, this study recommends moving to a 20-year life with a L2 dispersion. Both TURN and IS use that life parameter in their proposed depreciation rates.

Table DAW-9
Account 371 Other Equipment

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	21 L0.5	20 L2	20 L2	20 L2	21 L0.5	NA

Cal Advocates takes issue with the life proposal this account, recommending retention of the current life without any actuarial analysis or similar work product. SoCalGas disagrees with Cal Advocates as they have not offered any analysis to demonstrate the life parameter should remain at the current level beyond general policy statements.

I. Life Account 371.10 Temporary Assemblies and Test Head

This account includes the cost of temporary assemblies and test heads used in connection with transmission operations. This is a new account that will be separated from Account 371. There is no plant investment at present. These assets are used to conduct post construction strength test on pipelines and there are only so many tests that can be performed with a test head before it could no longer be utilized. Since this is a new account with no history, actuarial analysis was not utilized.

Company subject matter experts state that the assets in this account will differ from Account 371. They believe that these assets will be used for at least 10 years. Based on the recommendation of Company operations personnel regarding the nature of how these assets are used and their service life, a 10-year life with an SQ dispersion is proposed for this account.

Table DAW-10
Account 371.1 Temporary Assemblies and Test Heads

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	NA	10 SQ	10 SQ	10 SQ	NA	NA

TURN and IS use the Company's proposed life for this account. Cal Advocates take issue with the life proposal. In Table 17-8,[41] Cal Advocates shows a life of NA for this account. In the life discussion in the transmission function,[42] there is no mention of the life for this account, other than the reference in Table 17-8.

SoCalGas disagrees with Cal Advocates because the assets in this account are unique, and the Company should be able to recover its prudently invested capital in these new facilities when those assets are placed in service. Omitting a life and net salvage parameter for this account denies the Company any capital recovery for this account.

J. Life Account 375 Structures and Improvements

This account includes the cost of structures and improvements used in connection with distribution operations. The average age of survivors is 13.92 years, with an average retirement age of 22.97 years.

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. The analysis shows lives holding in the

[41] Ex. CA-17 (Ayanruoh) at 10.

[42] *Id.* at 10-11.

40-year range. Lives of the assets in this account are expected to be shorter than assets in Account 390, which have more robust systems like general office facilities. Based on actuarial analysis and input from Company experts, this study recommends a slight change to a 39-year life while retaining the S0.5 dispersion.

The various recommendations for this account are shown below in Table DAW-11.

Table DAW-11
Account 375 Structures and Improvements Life Proposals

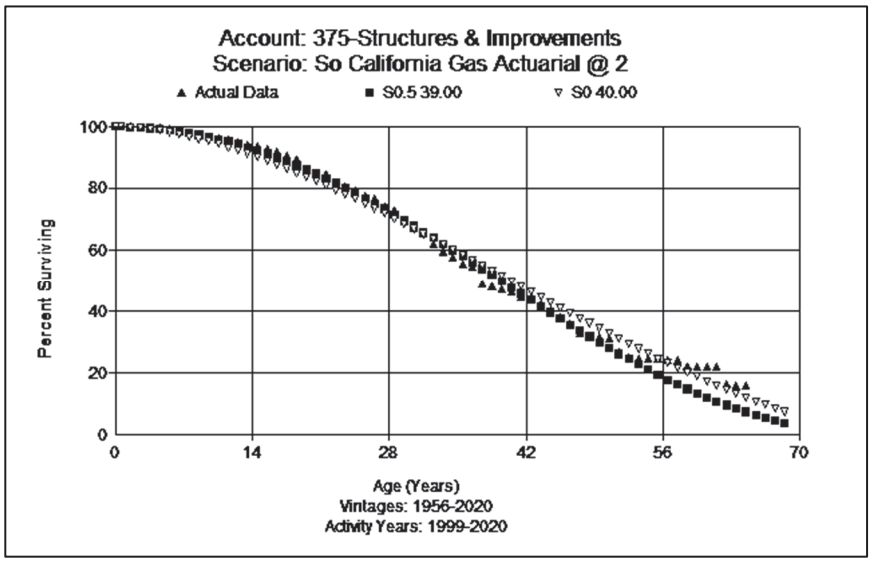
Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	40 S0	39 S0.5	39 S0.5	39 S0.5	40 S0	NA

TURN and IS use the same life as SoCalGas. Cal Advocates takes issue with the life selection for Account 375, because the study recommends a decrease in life from 40 years to 39 years. Cal Advocates' objection is based solely on the fact that "rates are currently high and increasing, and any changes to depreciation parameters that result in increasing TY depreciation expense should be denied."[43]

Yet the Company's depreciation rates have been frozen for the past two GRC cycles. Cal Advocates has performed no actuarial analysis or curve comparison to support their contention to retain the existing life. If I compare my proposed curve to the current curve for this account, the two curves show that the life of this curve has changed from the position in the 2016 GRC. My proposed curve shown in squares is a better match than Cal Advocates proposal shown in triangles—which is again not based on any depreciation analysis—and should be adopted.

[43] *Id.* at 9.

Figure DAW-14
Account 375 – Structures and Improvements



K. Life Account 375.2 Distribution Solar and Fuel Cells

This is new account consisting of solar and fuel cells used in distribution operation, with no plant as of year-end 2021.

There are no other asset classes SoCalGas has that are similar to the solar and fuel cells. However, SDG&E has similar property and is using a 10-year life for those assets. Based on SDG&E's experience, I recommend a 10-year life with a SQ dispersion.

Both TURN and IS use that life parameter in their proposed depreciation rates as noted below in Table DAW-12.

Table DAW-12
Account 375.2 Distribution Solar and Fuel Cells Life Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	40 S0	10 SQ	10 SQ	10 SQ	40 S0	NA

Cal Advocates recommends the longer life currently in place for structures and improvements. But the assets at issue here are completely different than Account 375, Structures and Improvements, which currently has a life of 40 years and is proposed to have a life of 39 years. Account 375 includes buildings, roofs, electric systems, security and fencing—which bear no similarity to solar and fuel cells.

L. Life Account 376 Distribution Mains

This account includes the cost of mains used in connection with distribution operations. The average age of survivors in this account is 17.35 years, with an average retirement age of 28.63 years. The integrity management program is replacing ($280 million per year) bare steel and early vintage plastic (pre-1973 and 1973 -1985) for both mains and services. Over the last four years, these replacements have tripled—in addition to normal replacements.

Operations personnel recommend retaining the 68-year life and the R2.5 dispersion. They would have expected the life to decrease with the level of retirements that are occurring. Given the acceleration of retirements, this study retains the existing service life.

The various proposals for this account are shown below in Table DAW-13. Cal Advocates uses the Company's proposed life in computing their recommended accrual rates for this account.

Table DAW-13
Account 376 Distribution Mains Life Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	68 R2.5	68 R2.5	75 R2.5	74 R3	68 R2.5	NA

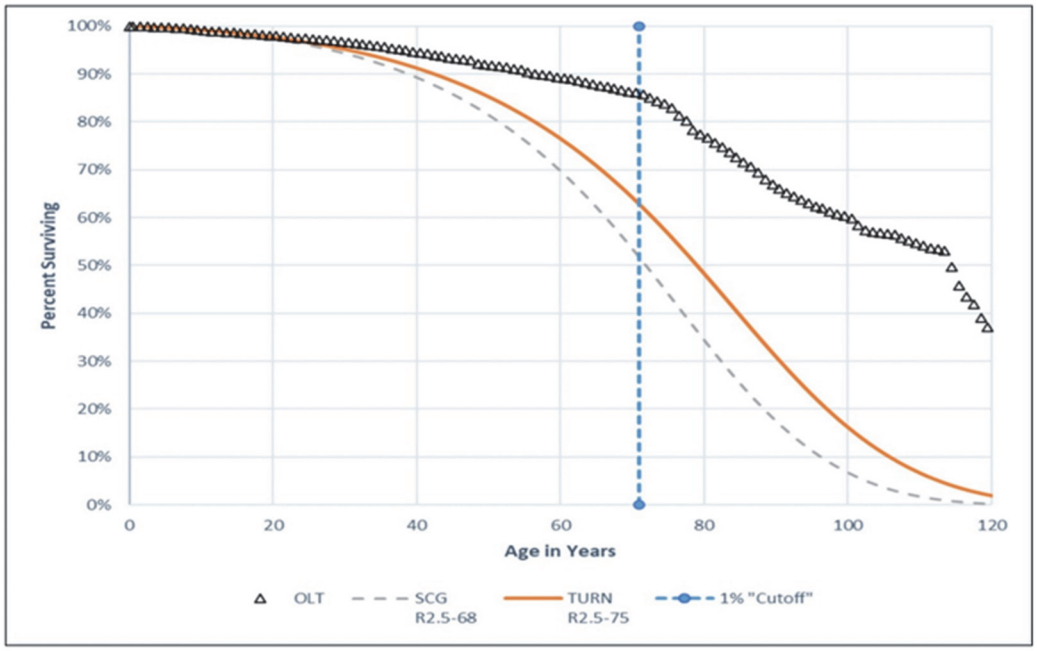
TURN disagrees with the Company's proposed life in computing their recommended accrual rates for this account. TURN contends that the Company ignores relevant statistical data. But Mr. Garrett ignores important input from Company personnel, relies on one band, and is overly dependent on mathematical fitting.

Mr. Garrett presents a visual representation of the two curves in his Figure 3.

In Figure 3, Mr. Garrett only illustrates one placement and experience band. TURN examines only one band; the full placement band and experience band of 1991-2020.[44] This is an account where neither proposal produces a good visual match, with or without Mr. Garrett's proposed truncation.

[44] Ex. TURN (Garrett) at 19-20.

Figure DAW-15
Account 376 – TURN Figure 3[45]



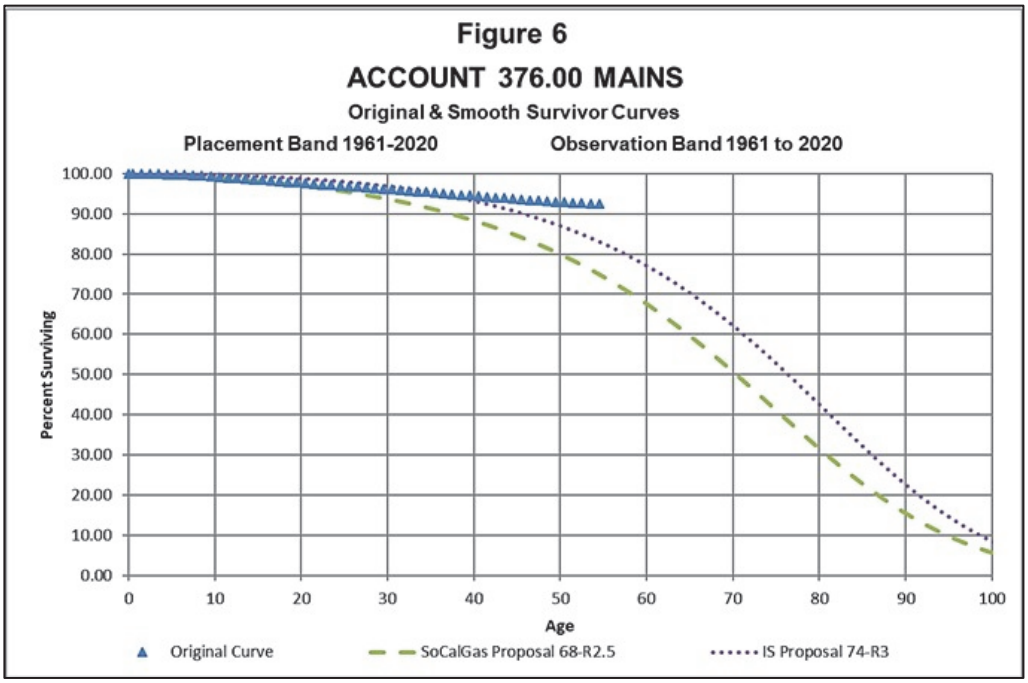
Yet his reliance on SSQ for this account does not add any clarity to his argument given the poor visual fit. Given the flaws in Mr. Garrett's analysis, my proposed curve provides a better choice given the Company's facts and circumstances.

IS disagrees with the Company's proposed life in computing IS's recommended accrual rates for this account. A graphical comparison is shown in Figure DAW-16. SoCalGas disagrees with Mr. Andrews' recommendation, captured below in Mr. Andrews' Figure 6 as shown below in Figure DAW-16.[46] His recommendation was based on a mathematical fit in the placement and experience band 1961-2020, with an observed life table that ends at 91.91% surviving.

[45] *Id.* at 28.

[46] Ex. IS-01 (Andrews) at 22.

Figure DAW-16
Account 376 – IS Figure 6

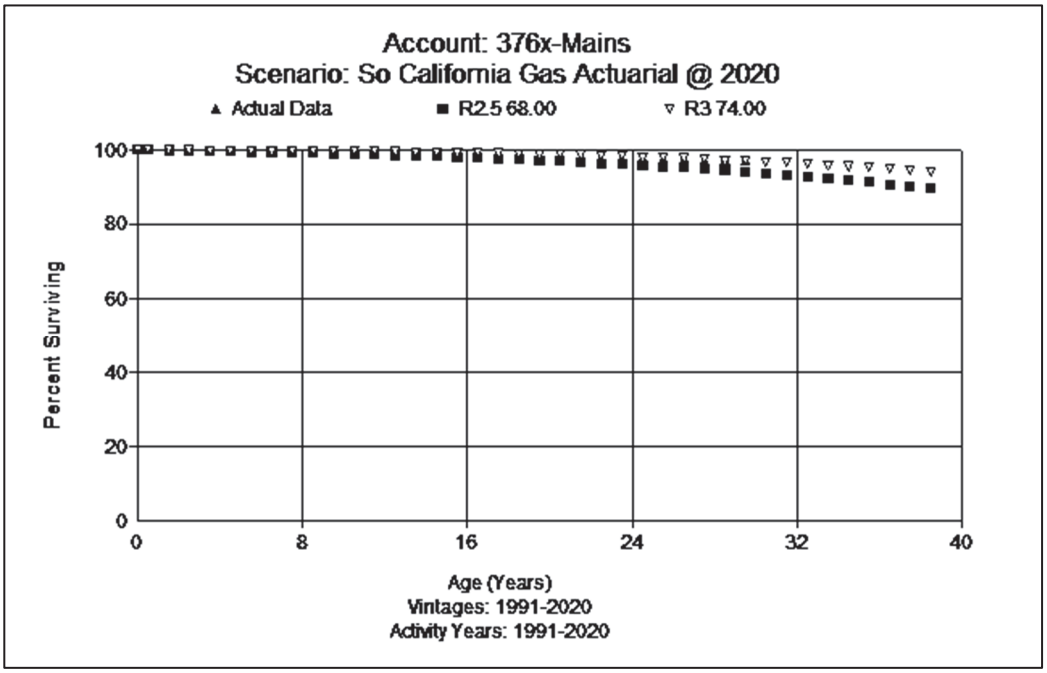


Sound depreciation practice and authoritative guidance advise that a recommended life curve needs to drop to take into account at least 50% of the life cycle *(i.e.,* 50% of the historical experience) of the assets in the account to offer a fully predictive analysis.[47] Simply put, the data in the band Mr. Andrews relies upon has insufficient retirement experience to base a life prediction for an account that contains 31.2 percent of SoCalGas' depreciable plant.

Given that the average age of survivors is 17.35 years, looking at additional placement and or experience bands is in order. If we examine a more recent band for this account for placement and experience bands from1991-2020, the comparison of the competing proposals should be noted. The Company's proposal is shown with squares, and IS's proposal is shown with triangles.

[47] *Public Utility Depreciation Practices*, p 120 ("It is generally desirable to have the stub curve drop below 50%.").

Figure DAW-17
Account 376 – Mains



From the limited indication and an understanding of the factors contributing to the life of the account, the Company's proposed curve is a better model for current assets and future additions.

M. Life Account 380 Services

This account consists of services used in distribution operations. The various proposals for this account are shown below in Table DAW-14. Cal Advocates uses the Company's proposed life in computing their recommended accrual rates for this account.

Table DAW-14
Account 380 Services Life Proposals

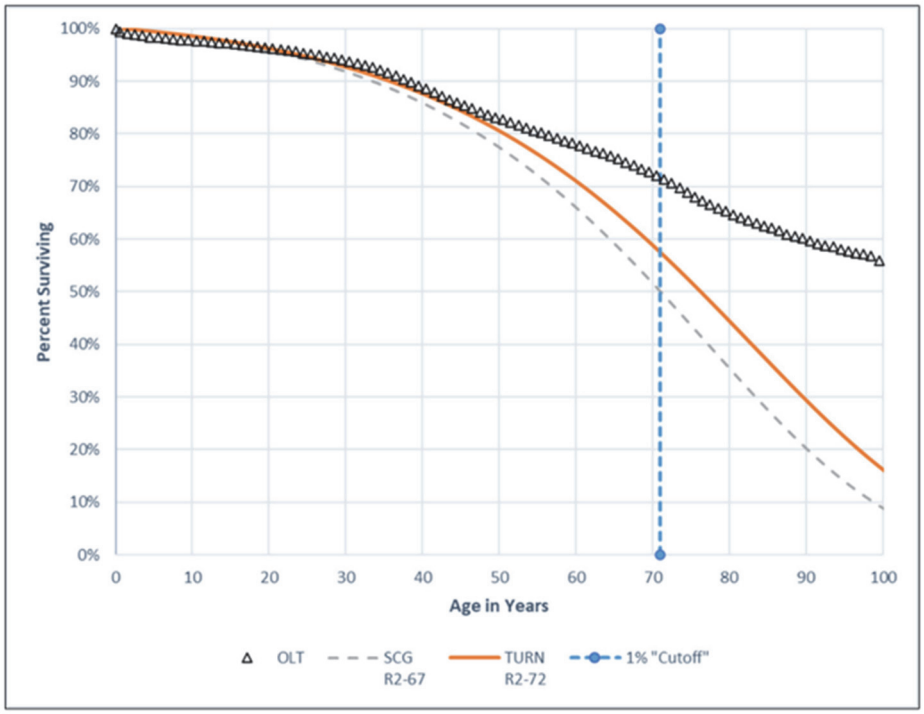
Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Curve/ Life	67 R2	67 R2	72 R2	74 R2.5	67 R2	NA

The average age of survivors in this account is 19.47 years, with an average retirement age of 22.25 years. Company personnel report that if a service is cut or has a leak, the Company will generally repair the service or replace it. When a steel main is replaced with plastic, the service would typically be replaced if it was also steel. Company personnel expect the life of services to be slightly shorter than the life of mains. This study recommends retaining the 67-year life with an R2 dispersion for this account.

TURN recommends rejecting the Company's proposed life in computing their recommended accrual rates for this account. The flaws that exist in Mr. Garrett's analysis are the same as noted in several accounts—Mr. Garrett ignores important input from Company personnel, relies on one band, and is overly dependent on mathematical fitting.

In his Figure 4, as shown below in Figure DAW-18, Mr. Garrett only illustrates one placement and experience band.[48]

Figure DAW-18
Account 380 – TURN Figure 4[49]



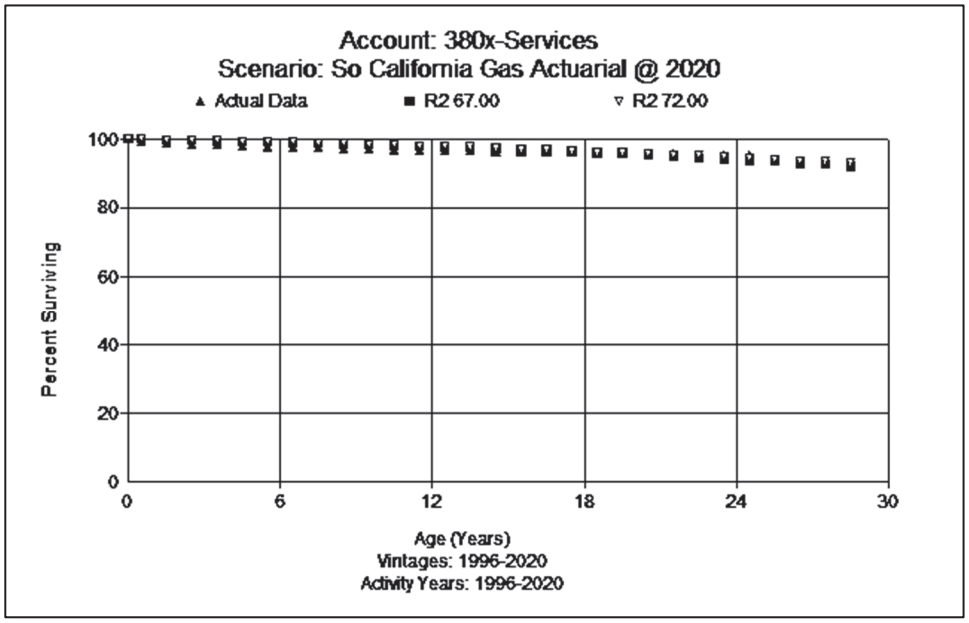
This account is similar to Account 376, so the scrutiny of a more recent band is in order. The average age of survivors is 13.64 years, and I have used a more recent band to review the two proposals.

In Figure DAW-19 the Company's proposal is shown with squares, and TURN's proposal is shown with triangles.

[48] Ex. TURN-12 (Garrett) at 31.

[49] *Id.*

Figure DAW-19
Account 380 – Services

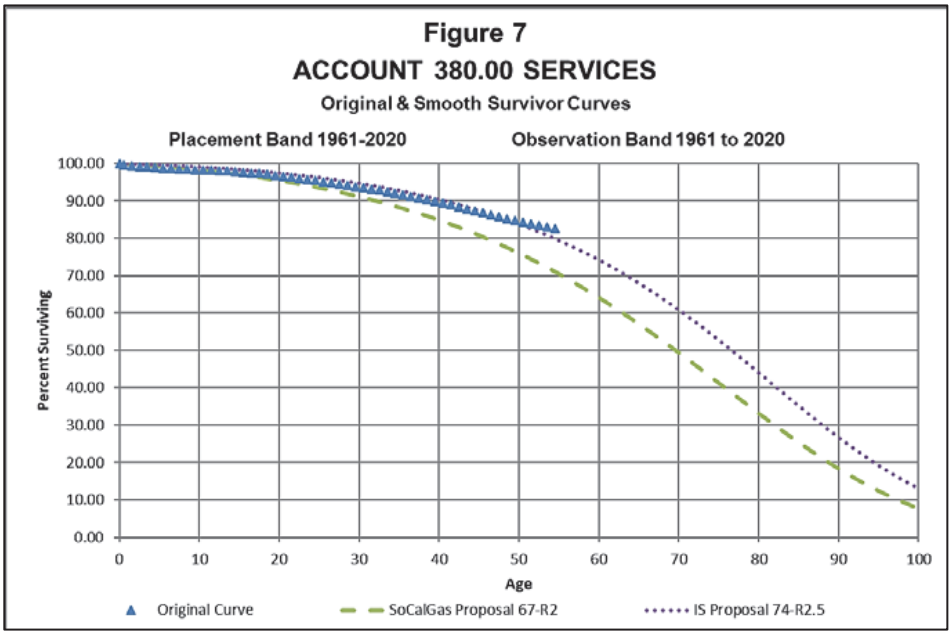


Although using a band with this little drop in the curve is not appropriate for a primary determination, from the limited indication and an understanding of the factors contributing to the life of the account, the Company's proposed curve is a better model for current assets and future additions.

An additional recommendation is made by IS: 74 R2.5 compared to 67 R2.[50] Mr. Andrews shows a comparative graph is his Figure 7 of Ex. IS-01 (Andrews). Mr. Andrews' Figure 7 is based on a mathematical fit in the placement and experience band 1961-2020, with the oldest point on the observed life table is 80.60 percent surviving.

[50] Ex. IS-01 (Andrews) at 23-24.

Figure DAW-20
Account 380 – IS Figure 7

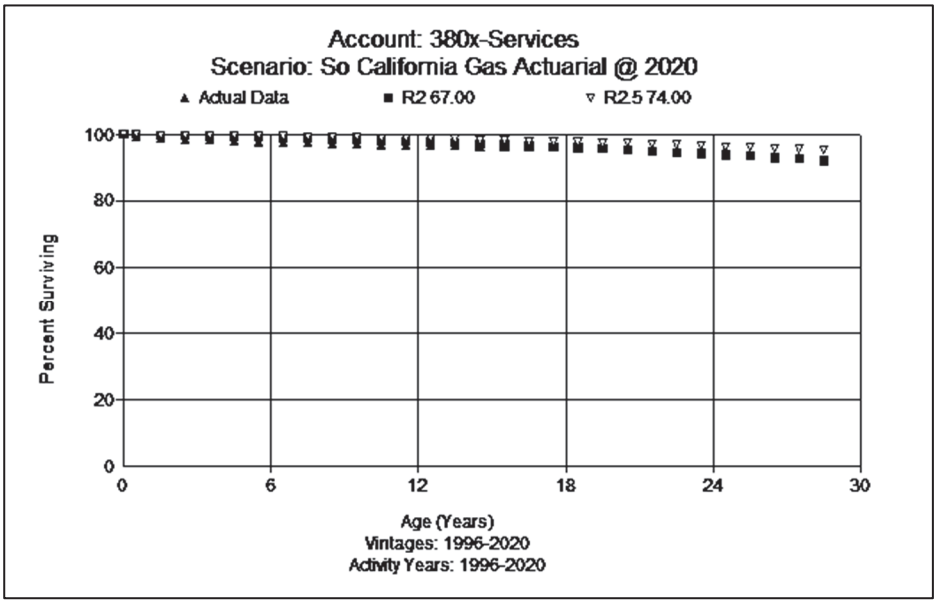


Sound depreciation practice and authoritative guidance advise that a recommended life curve needs to drop to consider at least 50% of the life cycle.[51] Simply put, the data in the band Mr. Andrews relies upon has insufficient retirement experience to base a life prediction for an account that contains 18 percent of SoCalGas' depreciable plant.

Given that the average age of survivors is 19.47 years, looking at additional placement and or experience bands is in order. If we examine a more recent band for this account for placement and experience bands 1996-2020, the Company's proposal is shown below in Figure DAW-21 with squares, and IS proposal is shown with triangles.

[51] *Public Utility Depreciation Practices*, p 120 ("It is generally desirable to have the stub curve drop below 50%.").

Figure DAW-21
Account 380 – Services



From the limited indication and an understanding of the factors contributing to the life of the account, the Company's proposed curve is a better model for current assets and future additions.

IV. REBUTTAL TO PARTIES' NET SALVAGE PROPOSALS FOR VARIOUS ACCOUNTS

As noted, since PG&E's 2014 GRC proceeding, the Commission has applied a principle of gradualism to depreciation rates— only allowing a maximum change of 25 basis points from the existing net salvage parameter for an account—in response to concerns about growing cost burdens associated with increasing cost trends for negative net salvage.[52] In other words, if the negative net salvage rate was negative 75 percent, the Commission would, under its gradualism concept, only allow a movement to a negative 100 percent net salvage. For example, for Account 364, Poles Towers and Fixtures in D.14-08-032, the Commission approved net salvage of -105% from a previously set -80%—a 25 basis point change is the difference between the adopted and approved net salvage for this account, (25%) = (105%) – (80%).

For the past two GRC cycles, the SoCalGas has been ordered to retain its existing net salvage rates. I have followed Commission policy in recommending a change of negative 25 percent at most for any account in this depreciation study. The reality is that the Company's recommendations incorporate the Commission's recommended policy on the concept of gradualism.

[52] D-14-08-032 at 600, 602 (instructing to "adopt no more than 25% of the estimated net increase from *current* [net salvage] rates." (emphasis added)).

IS has adopted my proposed net salvage parameters to develop their proposed depreciation accrual rates.

TURN and Cal Advocates recommend positions, however, that would leave the Company in an untenable position in terms of capital recovery. Mr. Garrett's net salvage proposals significantly misconstrues the Commission's gradualism precedent. As noted, that precedent provides that net salvage should be changed by, at most, 25 basis points from the Company's current net salvage level. But Mr. Garrett wrongly states that it limits adjustments to 25% of the utility-requested increase.[53]

The Company here already only proposes, at most, however, a 25% change in net salvage for any account to comply with the Commission's gradualism policy. For example, the Company's actual incurred net salvage over a 10-year average for Account 376 – Services is a negative 243 percent net salvage.[54] But the Company recommends a change within the Commission's 25% limit.

Yet Mr. Garrett argues that the Commission's gradualism policy should also be applied to an applicant's recommendations that are already abiding by that gradualism policy. That is, he asserts that the Commission should limit a net salvage change to 25% of an applicant's 25% (or less) proposal that is already following the Commission's gradualism concept—meaning that, under Mr. Garrett's application, the maximum change for any account is **six percent** of the Company's current net salvage.[55]

For example, Account 352 Wells current has negative 70 percent net salvage with a proposed negative net salvage of negative 95 percent, a 25 basis point change.[56] Yet Mr. Garrett's 25 percent of 25 percent gradualism approach would recommend the Company move to a negative 120.75 percent net salvage[57] instead of the negative 105 percent that was the Company's actual recommendation. Mr. Garrett's proposal would thus significantly alter the Commission's gradualism requirement—essentially **limiting a change in net salvage to six percent** in any proceeding if an applicant is complying with the gradualism precedent in its recommendations—

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[53] TURN-12 (Garrett) at 52.

[54] Ex. SCG-32-2R (Watson), Attachment C at Appendix D, Account 376

[55] 25% x .25%= 6.25%.

[56] Other accounts with a 25 percent increase in negative net salvage are: Account 353 Lines, Account 353 Lines, Account 366 Structures and Improvements, Account 367 Mains , Account 368 Compressor Station Equipment, Account 369 Measuring and Regulating Equipment, Account 376 Mains, Account 378 Measuring and Regulating Equipment, Account 380 Services, and Account 397.55 Poles- AMI.

[57] 243-80 x .25% = 40.75 (10 year average – current net salvage parameter) x 25%.

and would have the perverse effect of incentivizing applicants to recommend a full change in net salvage even if it is not consistent with the Commission's gradualism precedent.

Cal Advocates' proposal has flaws as well. They recommend a one-sided approach to move life out (which has the effect of decreasing depreciation expense) but freeze cost of removal at levels that were approved two GRCs ago based solely on Cal Advocates' policy argument that rates are too high. Yet even Cal Advocates in other recent GRCs such as Southern California Edison Company's (SCE) recommended changes in negative net salvage, but for SoCalGas they recommend no movement.[58]

And in that SCE 2021 GRC, the Commission applied its gradualism policy to increase net salvage up to 25 percent to balance equities between current and future ratepayers.

> To balance the customers' respective cost burned between current and subsequent GRC cycle, the Commission found it reasonable in PGE's 2014 to 'adopt no more than 25 percent of the estimated increase for current [net salvage] rates.' . . . . We continue to endorse the concepts of gradualism with respect to net salvage rates for this rate case cycle. [59]

Freezing cost of removal for multiple GRC cycles is thus counter to the Commission's precedent and recognition of the need to balance current and future ratepayer interests. Cal Advocates is also incorrect in arguing that the Company is underfunded in its cost of removal—as Cal Advocates implicitly recognizes. For Accounts 376 and 380, Cal Advocates compares actual removal cost spending through removal cost collected in the depreciation accrual from over a four-year period.[60]

Cal Advocates argues that the amount collected in rates is higher than the Company's actual expenditures, and hence no change in net salvage rates is justified. This conclusion is incorrect because the life of those accounts is up to 120 years. The average age of survivors in those accounts is 17.35 years and 19.47 years, respectively. The Company has to fund removal cost for all assets over the current average age, going out some 120 years. The reality is that cost recovery between these components is not a one-for one relationship.

IS has adopted my proposed net salvage parameters to develop their proposed depreciation accrual rates. SoCalGas faces the same situation that SCE faced in its GRC. The reality is that the

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[58] D.21-08-036 at 510, Accounts 354, 356, and 373 (Cal Advocates recommended increases in negative net salvage for various accounts by as much as 20 percent).

[59] D.21-08-036 at 511-512 (citations omitted).

[60] Ex. CA-17 (Ayanruoh) at 11-13.

Company is incurring much more negative net salvage than currently authorized, and in some cases, the lives experienced by the Company are decreasing. For example, the Company already has one account where the reserve position compared to plant balance produces a negative amount—Account 352 Wells, where the plant balance as of December 31, 2021, is $599 million and accumulated depreciation is negative $107 million. The Company has not recovered the retired plant or the cost of removal that accompanies well abandonment. Such situations could occur in other accounts if the current depreciation rates and parameters remain at the same level as the 2016 GRC.

In sum, I have followed the Commission's gradualism precedent by not proposing a change of net salvage beyond a 25 percent change for any account. The Commission should apply that policy, balancing between current and future ratepayers, while rejecting Cal Advocates position of retaining current net salvage rates, and TURN's flawed interpretation that would restrict the Company to a maximum increase in negative net salvage of six percent. Below, I reiterate the factors supporting my recommendation for each account disputed by TURN and/or Cal Advocates. As noted, Cal Advocates position of retaining current net salvage rates, and TURN flawed interpretation of the CPUC's guidance on net salvage to restrict the Company to a maximum increase in negative net salvage of six percent, should both be rejected for all accounts below. My recommendation for all accounts can be found in my second revised direct testimony, Ex. SCG-32-2R.

A. Account 352 Wells

This account includes any gross salvage and removal cost related to wells used in connection with underground storage operations.

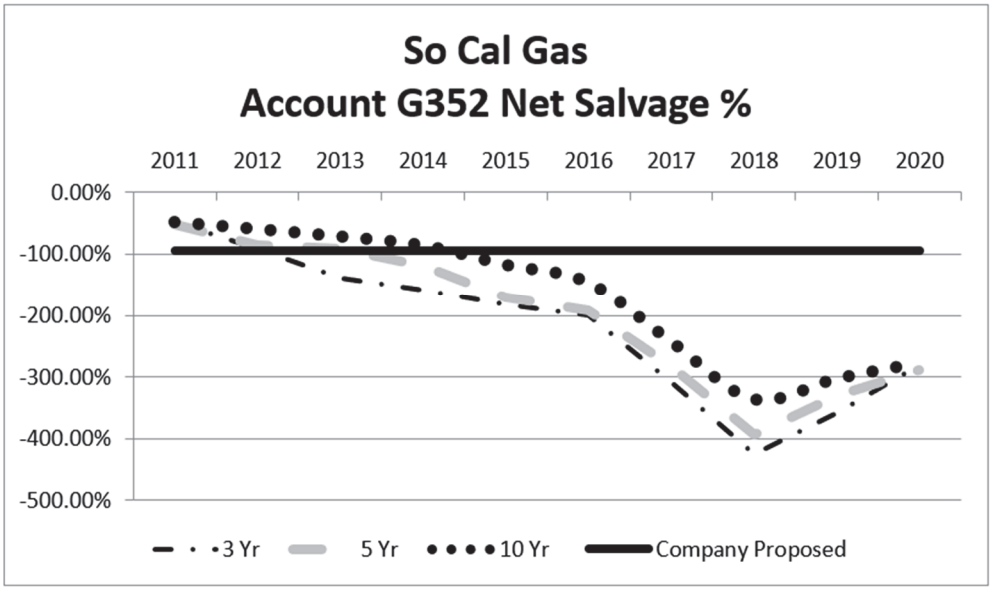
Table DAW-15
Account 352 Wells Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-70%	-95%	-76%	-95%	-70%	NA

Experience during 2012-2020 shows negative net salvage well in excess of 100 percent annually driven by the well abandonment projects. The cost to abandon wells has increased significantly due to new regulations. Some abandonment work done for retired assets many years ago must be redone to current regulation compliance, which will increase removal cost. In my

depreciation study testimony, I show estimates that the Company provided for well abandonment.[61] The composite from those estimates is negative 120 percent. The chart below in Figure DAW-22 shows how net salvage averages have changed from 2011-2020.

Figure DAW-22
Account 352 – Wells



As discussed earlier in this testimony this account is so underfunded for capital recovery one needs only to look at the balance sheet. The plant balance as of December 31, 2021, is $599 million and accumulated depreciation is negative $107 million. The Company has not recovered the retired plant or the cost of removal that accompanies well abandonment.

B. Account 353 Lines

This account includes any salvage and removal cost related to lines used in connection with underground storage operations. The current authorized net salvage is negative 40 percent. A summary of the positions recommended for each party is shown below in Table DAW-16.

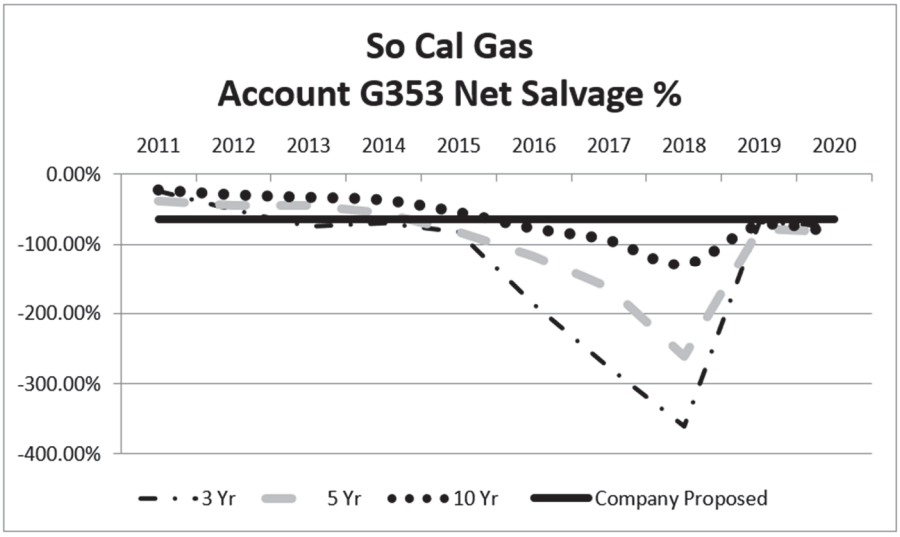
Table DAW-16
Account 353 Lines Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-40%	-65%	-46%	-65%	-40%	NA

A display of recent moving averages from 2011-2020 is shown below in Figure DAW-23.

[61] Ex.SCG-32-2R at DAW-19 – DAW-21.

Figure DAW-23
Account 353 – Lines



C. Account 354 Compressor Station Equipment

This account includes any salvage and removal cost related to compressor station equipment used in connection with underground storage operations. The current authorized net salvage rate for this account is negative 15 percent. A summary of the positions recommended for each party is shown below in Table DAW-17.

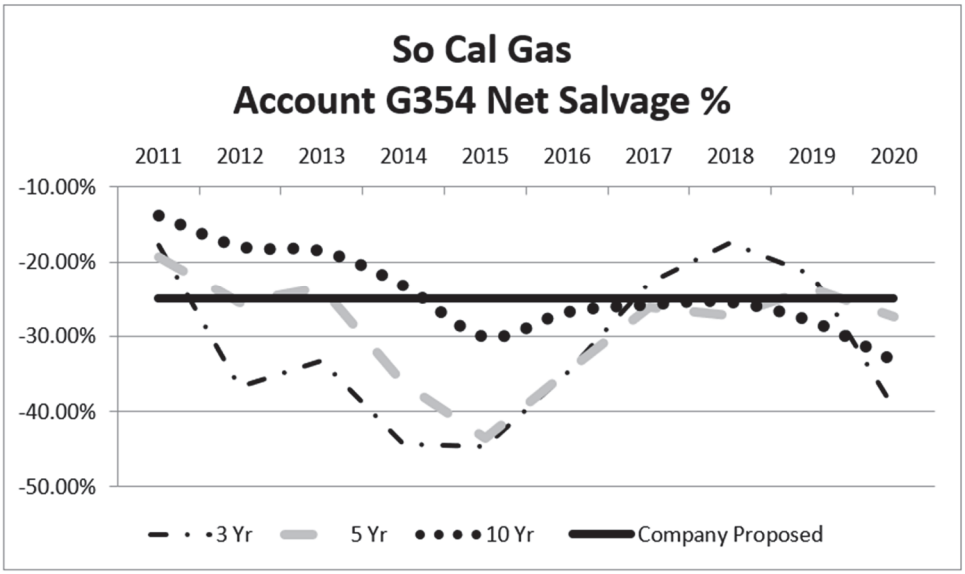
Table DAW-17
Account 354 Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-15%	-25%	-18%	-25%	-15%	NA

Moving averages in this account in the most recent year are negative 27 percent and negative 33 percent for the 5- and 10-year periods.

A display of recent moving averages from 2011-2020 is shown below in Figure DAW-24.

Figure DAW-24
Account 354 – Compressor Station Equipment



D. Account 355 Measuring and Regulating Equipment

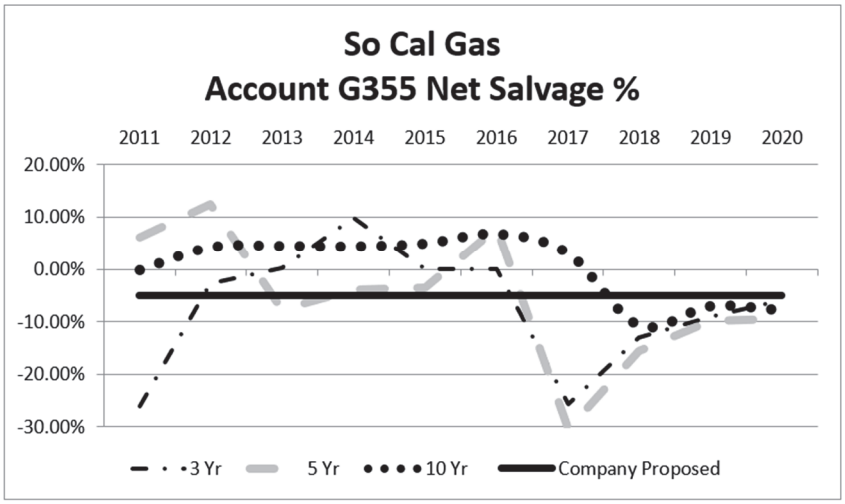
This account includes any salvage and removal cost related to measuring and regulating equipment used in connection with underground storage operations. The current authorized net salvage rate for this account is a positive 5 percent. A summary of the positions recommended for each party is shown below in Table DAW-18.

Table DAW-18
Account 355 Measuring and Regulating Equipment Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	5%	-5%	3%	-5%	5%	NA

The most recent five-year and 10-year moving averages in this account are negative 9 and negative 8 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-25.

Figure DAW-25
Account 355 – Measuring and Regulating Equipment



E. Account 366 Structures and Improvements

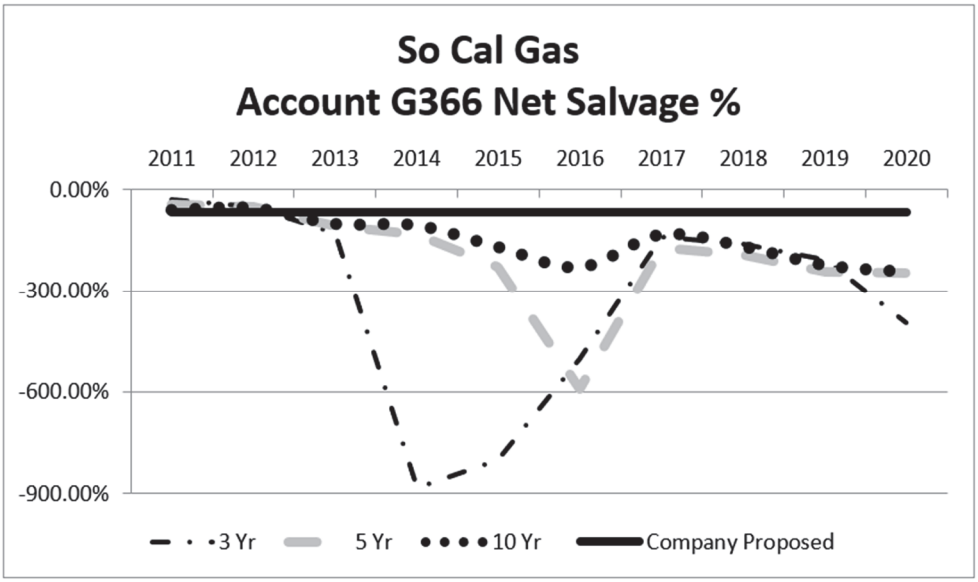
This account includes any salvage and removal cost related to structures and improvements used in connection with transmission operations. The authorized net salvage rate for this account is negative 40 percent. A summary of the positions recommended for each party is shown below in Table DAW-19.

Table DAW-19
Account 366 Structures and Improvements Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-40%	-65%	-46%	-65%	-40%	NA

Negative net salvage has increased for this account, with the five-year moving averages showing negative 245 percent and the 10 year average showing negative 242 percent. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-26.

Figure DAW-26
Account 366 – Structures and Improvements



F. Account 367 Transmission Mains

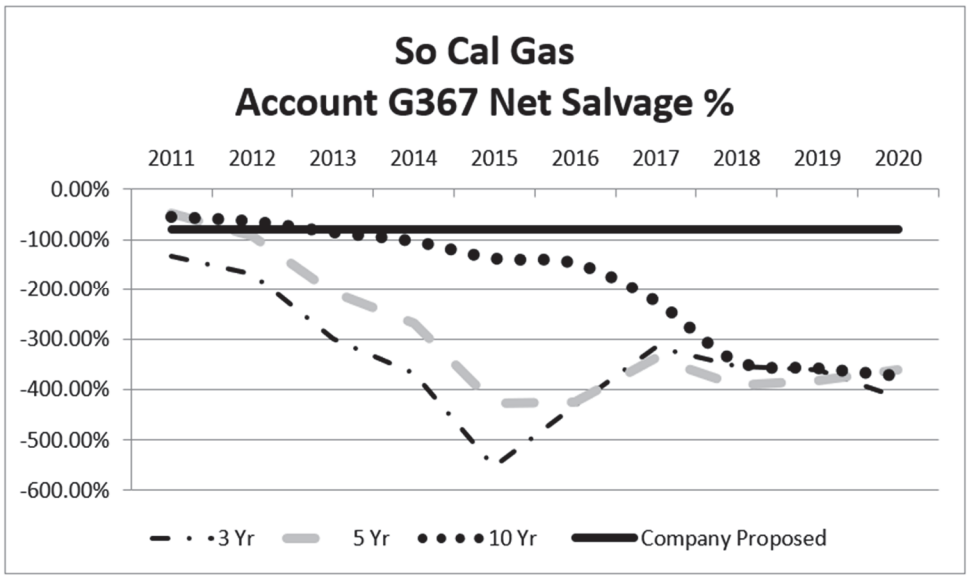
This account includes any salvage and removal cost related to mains used in connection with transmission operations. The authorized net salvage rate for this account is negative 60 percent. A summary of the positions recommended for each party is shown below in Table DAW-20.

Table DAW-20
Account 367 Transmission Mains Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-60%	-85%	-69%	-85%	-60%	NA

The five- and 10-year moving averages show negative 360 and negative 373 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-27.

Figure DAW-27
Account 367 – Transmission Mains



G. Account 368 Compressor Station Equipment

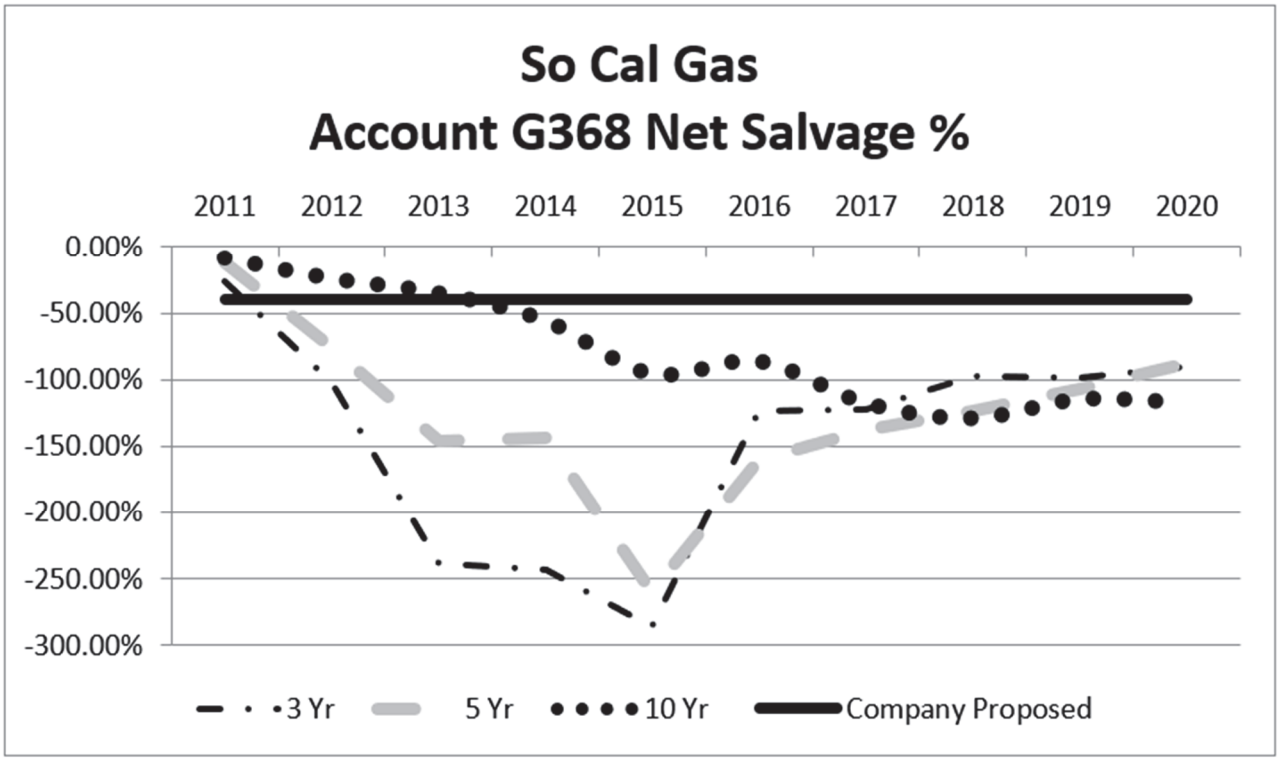
This account includes any salvage and removal cost related to compressor station equipment used in connection with transmission operations. The authorized net salvage rate for this account is negative 15 percent. A summary of the positions recommended for each party is shown below in Table DAW-21.

Table DAW-21
Account 368 Compressor Station Equipment Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-15%	-40%	-21%	-40%	-15%	NA

The five- and 10-year moving averages show negative 88 and negative 117 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-28.

Figure DAW-28
Account 368 – Compressor Station Equipment



H. Account 369 Measuring and Regulating Equipment

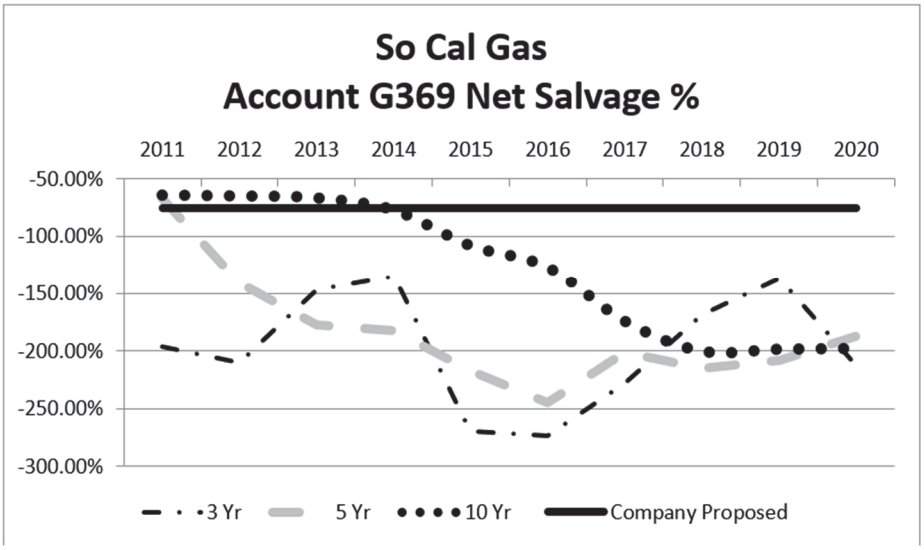
This account includes any salvage and removal cost related to measuring and regulating station equipment used in connection with transmission operations. The authorized net salvage rate for this account is negative 50 percent. A summary of the positions recommended for each party is shown below in Table DAW-22.

Table DAW-22
Account 369 Measuring and Regulating Equipment Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-50%	-75%	-56%	-75%	-50%	NA

The five- and 10-year moving averages show negative 187 and negative 198 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-29.

Figure DAW-29
Account 369 – Measuring and Regulating Equipment



I. Account 375 Structures and Improvements

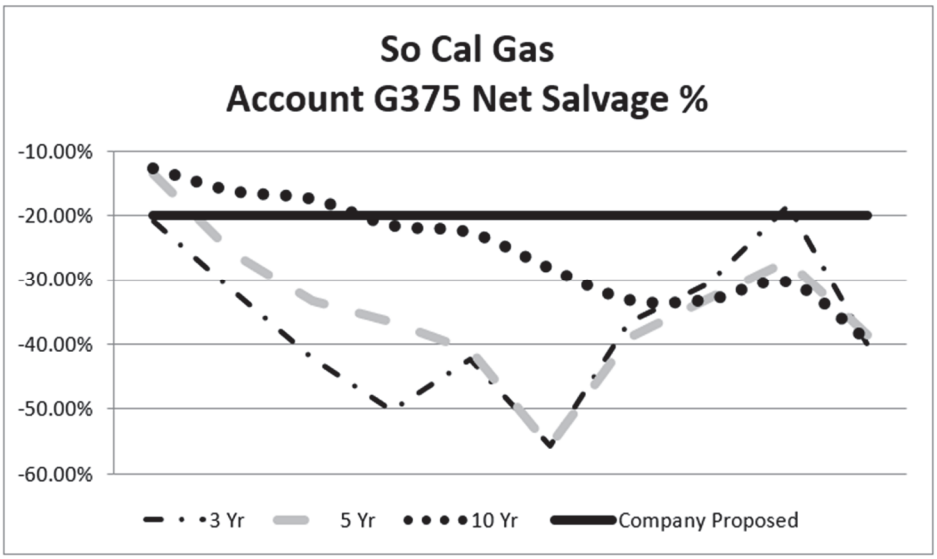
This account consists of any salvage and removal cost related to small structures and associated assets on the distribution system. The Commission has authorized a negative 10 percent net salvage rate for this account. A summary of the positions recommended for each party is shown below in Table DAW-23.

Table DAW-23
Account 375 Structures and Improvements Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-10%	-20%	-13%	-20%	-10%	NA

The three-year, five-year, and 10-year moving averages are negative 40, negative 39, and negative 39 percent, respectively. A chart of the moving averages from 2011-2020 is shown below in Figure DAW-30.

Figure DAW-30
Account 375 – Structures and Improvements



J. Account 375.2 Distribution Solar and Fuel Cells

This account includes salvage and/or removal cost related to cost of solar fuel cell assets used for utility service.

Table DAW-24
Account 375.2 Distribution Solar and Fuel Cells Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-10%	-5%	-5%	-5%	-10%	NA

SoCalGas expects to have these types of assets for this function in the future, and it is assumed that they will be incorporated into existing structures. However, since these assets are very different from buildings, the existing net salvage parameter for Account 375 is not representative of the future. There are costs of disposal, and SDG&E is estimating negative 5 percent net salvage based on a disposal study performed by a consultant.

K. Account 376 Distribution Mains

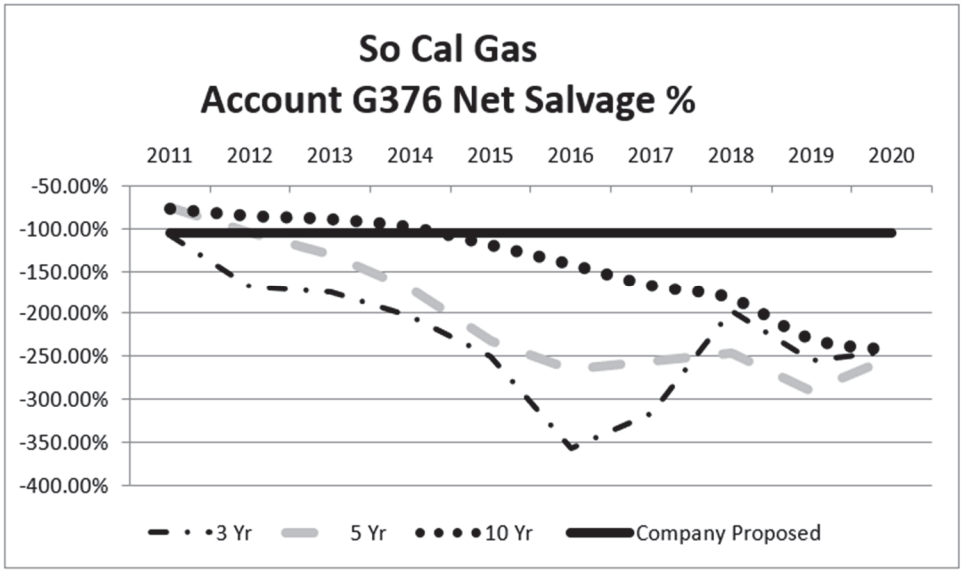
This account consists of any salvage and removal cost related to distribution mains. The Commission has authorized a negative 80 percent net salvage rate for this account. A summary of the positions recommended for each party is shown below in Table DAW-25.

Table DAW-25
Account 376 Distribution Mains Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-80%	-105%	-86%	-105%	-80%	NA

The three-year, five-year, and 10-year moving averages show negative 243, negative 251, and negative 243 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-31.

Figure DAW-31
Account 376 – Distribution Mains

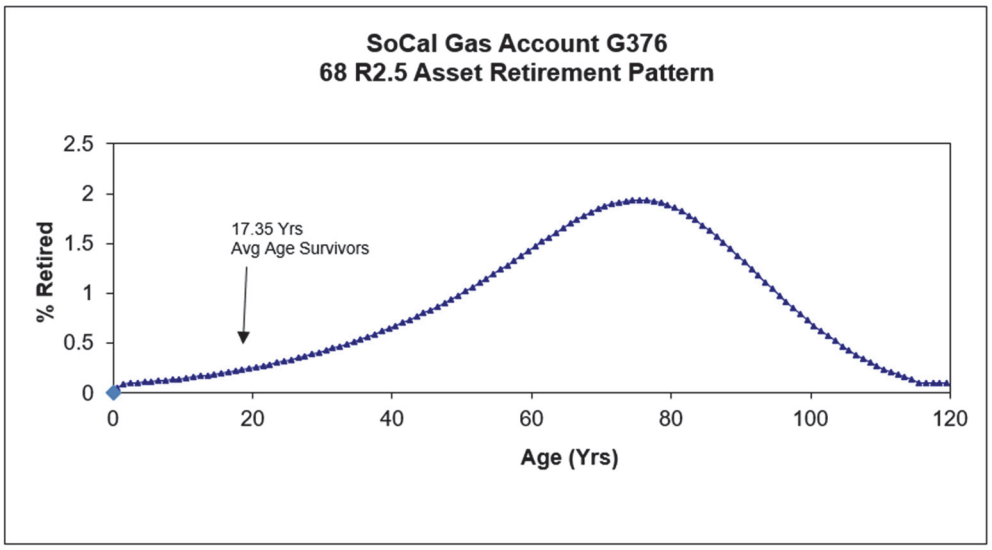


Cal Advocates statement regarding this account dispels the idea that the Company is underfunded in its cost of removal. Cal Advocates states that "During the four-year period, SCG underspent, spending less [to pay for the cost of removal incurred] by approximately $206.479 million."[62]

The fact of the matter is that the life cycle of this account is up to 120 years, and the average age of the plant is 17.35 years. There is a much higher level of retirements that will happen in the future (and a corresponding higher level of removal cost needed) as compared to today. The Company must fund removal cost for all assets over the current average age, going out some 120 years. The asset retirement pattern for this account is shown in the graph below in Figure DAW-32.

[62] Ex. CA-17 (Ayanruoh) at 12.

Figure DAW-32
Account 376 – Distribution Mains



L. Account 378 Measuring and Regulating Equipment

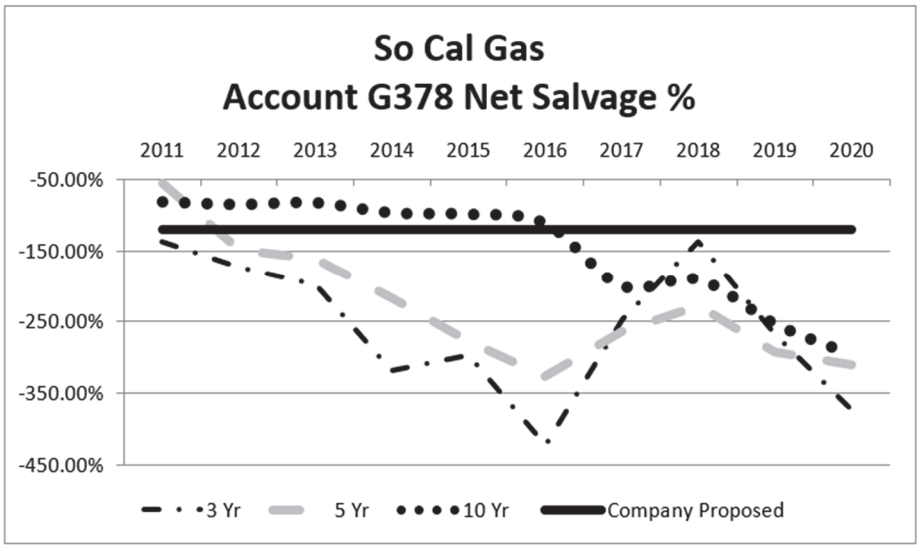
This account includes any salvage and removal cost related to installed equipment used in regulating gas at entry points to the distribution system. The current authorized net salvage is negative 95 percent. A summary of the positions recommended for each party is shown below in Table DAW-26.

Table DAW-26
Account 378 Measuring and Regulating Equipment Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-95%	-120%	-101%	-120%	-95%	NA

The three-year, five-year, and 10-year moving averages show negative 375, negative 311, and negative 295 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-33.

Figure DAW-33
Account 376 – Measuring and Regulating Equipment



M. Account 380 Services

This account includes any salvage and removal cost related to services related to distribution operations. Service lines are the pipes and accessories leading from the main to the customers' premises. The material types in these accounts range from steel and plastic. The current authorized net salvage is negative 115 percent.

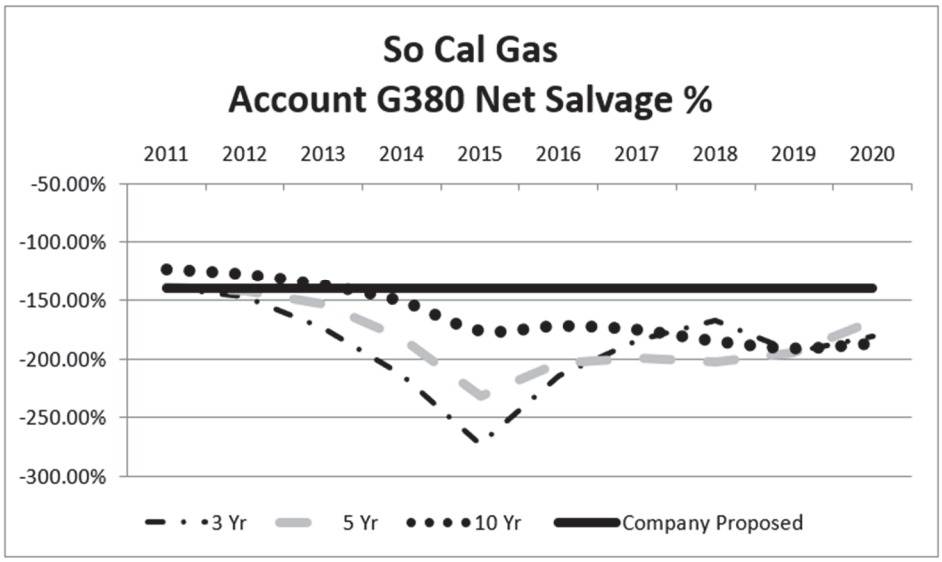
A summary of the positions recommended for each party is shown below in Table DAW-27.

Table DAW-27
Account 380 Services Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	-115%	-140%	-121%	-140%	-115%	NA

The three-year, five-year, and 10-year moving averages show negative 181, negative 168, and negative 187 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-34.

Figure DAW-34
Account 380 – Services

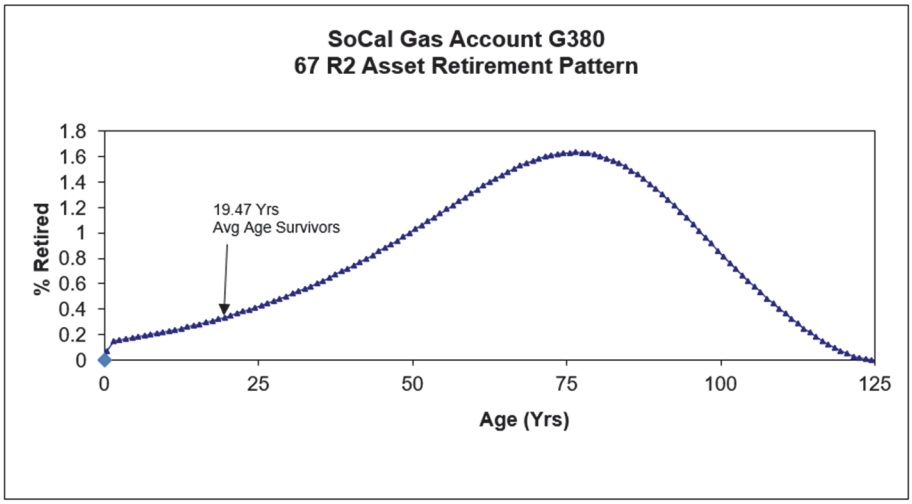


Cal Advocates adds a red herring for this account to support their general, faulty recommendation for no change in net salvage. Cal Advocates states that "During the four-year period, SCG underspent, spending less to pay for the cost of removal incurred by approximately $115.92 million."[63]

The fact of the matter is that the life cycle of this account is up to 125 years, and the average age of the plant is 19.47 years. There is a much higher level of retirements that will happen in the future (and a corresponding higher level of removal cost needed) as compared to today. The Company must fund removal cost for all assets over the current average age, going out some 125 years. The asset retirement pattern for this account is shown in the graph below in Figure DAW-35.

[63] Ex. CA-17 (Ayanruoh) at 13.

Figure DAW-35
Account 380 – Services



Accrual for cost of removal is not a one-for-one with cost of removal expenditure that is booked through the accumulated depreciation reserve. Holding cost of removal for this account as the same level as the past two GRC will not allow the Company to recover its prudently expended capital.

N. Account 381 Meters

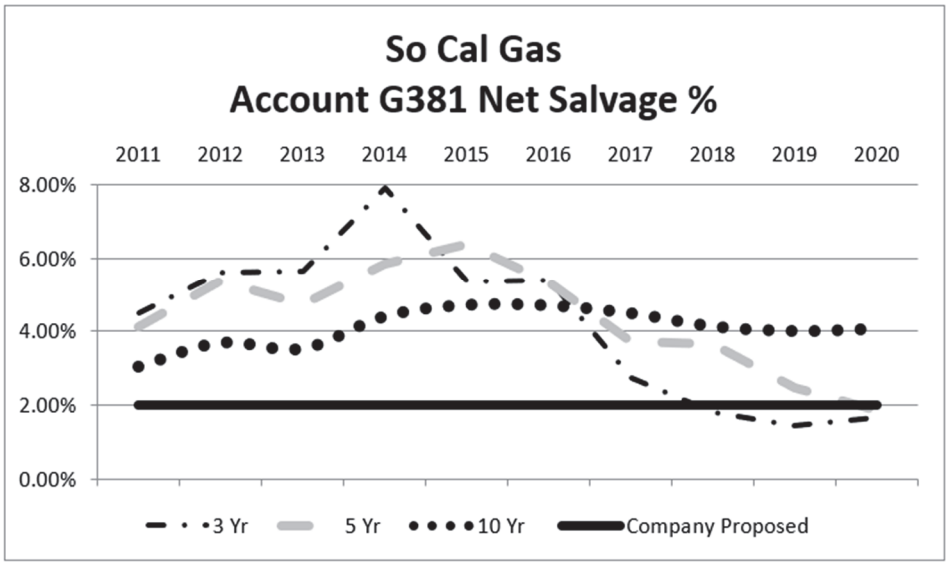
This account includes any salvage and removal cost related to meters used in measuring gas to residential customers. The various positions by party are shown below in Table DAW-28.

Table DAW-28
Account 381 Meters Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	5%	2%	4%	2%	NA	NA

Gross salvage proceeds as a percentage of retirements have declined in recent years. The current moving averages for 3 and 5 years are positive 2 for both periods. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-36.

Figure DAW-36
Account 381 – Meters



O. Account 383 House Regulators

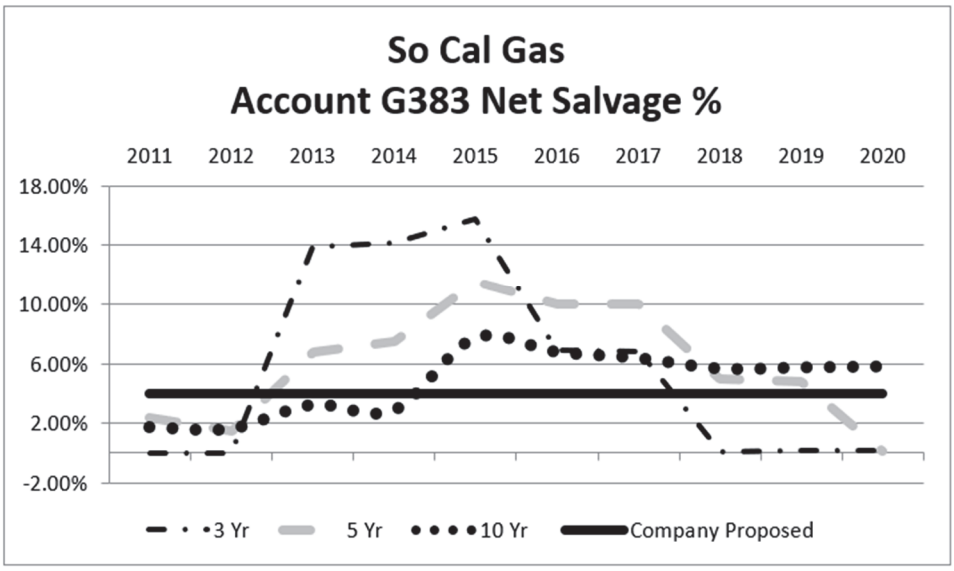
This account includes any salvage and removal cost related to house regulators. The various positions by party are shown below in Table DAW-29.

Table DAW-29
Account 383 House Regulators Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	5%	4%	5%	4%	NA	NA

The three-year, five-year, and 10-year moving averages are 0.13, 0.11, and positive 5.80 percent, respectively. The six- and seven-year moving averages moderate the experience with a value of positive 4 percent for each time frame. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-37.

Figure DAW-37
Account 383 – House Regulators



P. Account 387 Other Equipment

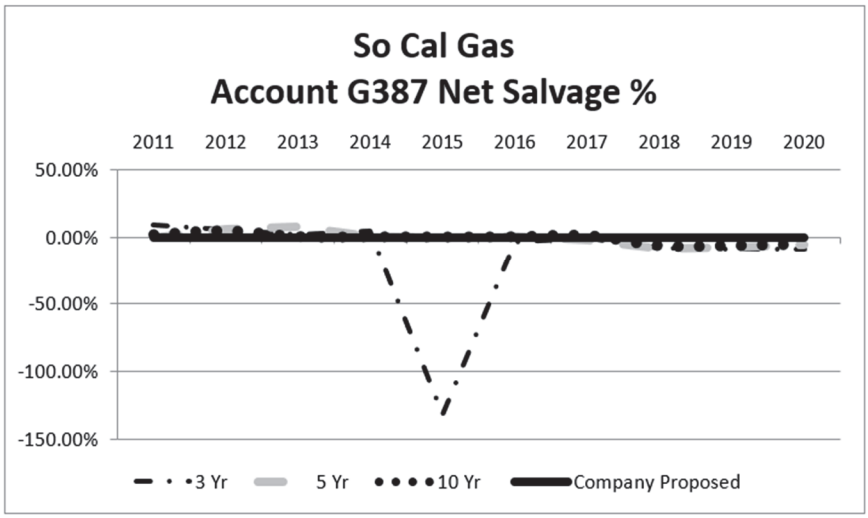
This account includes any salvage and removal cost related to other equipment such as CNG charging stations. The various positions by party are shown below in Table DAW-30.

Table DAW-30
Account 387 Other Equipment Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	5%	0%	4%	0%	NA	NA

The three-year, five-year, and 10- year moving averages are negative 9, negative 6, and negative 5 percent, respectively. A display of recent moving averages from 2011-2020 is shown below in Figure DAW-38.

Figure DAW-38
Account 387 – Other Equipment



Q. Account 397.55 Poles -AMI

SoCalGas has no similar investment to these poles. This account is more like SDGE's Account 364 Poles, Towers and Fixtures. SDG&E's net salvage parameter for this account is negative 100 percent currently. With the Commission's current rulings on a 25 percent basis change, this study recommends negative 25 percent net salvage for this account. The various positions by party are shown below in Table DAW-31.

Table DAW-31
Account 397.55 Poles- AMI Net Salvage Parameter Proposals

Party	Company Current	Company Proposed	TURN	IS	Cal Advocates	EDF
Net Salvage %	0%	-25%	-6%	-25%	NA	NA

V. CONCLUSION

The determination of the life and net salvage parameters of assets is not simply done by evaluating history. Recent history may not be fully reflected in the statistics and the past may not always be the same as the future. The goal of determining the life and net salvage for an account is to project as accurately as possible the future life and net salvage *(i.e.*, the life and net salvage characteristics the assets will exhibit over their remaining lives), not simply the historical activity.

With that said, care must be given to ensure that the projection of recent and future changes do not cross the line into speculation. In my depreciation study, I only used known activities and facts to guide my recommendations, and I did not speculate on improbable future outcomes to set

depreciation rates. Given that two GRC cycles have held the Company's rates constant a change, or reset, is in order in this GRC, as the Commission has repeatedly recognized in other recent GRC proceedings.

This concludes my prepared rebuttal testimony.

APPENDIX A

GLOSSARY OF TERMS

ACRONYM	DEFINITION
AQMD	Air Quality Management District
Cal Advocates	Public Advocates Office of the California Public Utilities Commission
Cal GEM	California Geologic Energy Management Division
Commission	California Public Utilities Commission
Company	Southern California Gas Company
CPUC	California Public Utilities Commission
D.	Decision
DIMP	Distribution Integrity Management Program
EDF	Environmental Defense Fund
FIMP	Facilities Integrity Management Program
IMP	Integrity Management Programs
IS	Indicated Shippers
NGV	Natural Gas Vehicle
PG&E	Pacific Gas & Electric Company
PHMSA	Pipeline and Hazardous Materials Safety Administration
RNG	Renewable Natural Gas
SCE	Southern California Edison
SDG&E	San Diego Gas & Electric Company
SIMP	Storage Integrity Management Program
SMEs	Subject Matter Experts
SoCalGas	Southern California Gas Company
SOYD	Sum of the Years Digits
TIMP	Transmission Integrity Management Program
TURN	The Utility Reform Network