

Application No.: A.23-05-010
Exhibit No.: SCE-02 Vol. 09
Witnesses: T. Anderson
K. Davis



(U 338-E)

2025 General Rate Case

Poles

Before the
Public Utilities Commission of the State of California

Rosemead, California
May 12, 2023

SCE-02 Vol. 09: Poles

Table Of Contents

Section	Page	Witness
I. INTRODUCTION	1	K. Davis
A. Content and Organization of Volume	1	
B. Summary of O&M and Capital Request.....	2	
C. Comparison of Authorized 2021 to Recorded Cost.....	3	
D. Compliance Requirements	5	
II. POLE LOADING AND DETERIORATED POLE BALANCING ACCOUNT	7	
A. Overview.....	7	
B. Discontinuation.....	7	
III. POLE LOADING PROGRAM CLOSEOUT.....	8	
A. Overview.....	8	
1. Regulatory Background	8	
B. Historical Context	8	
C. Pole Loading Program Assessments.....	9	
1. Pole Loading Assessments Historical Overview	9	
a) Work Description and Need for Activity.....	9	
b) Assessment Historical Variance Analysis	9	
(1) Labor.....	10	
(2) Non-Labor.....	11	
D. Remediations Associated with PLP	11	
1. PLP Replacements	11	
2. PLP Repairs	11	

SCE-02, Vol. 09: Poles
Table Of Contents (Continued)

Section	Page	Witness
a) Work Description and Need for Activity.....	12	
b) PLP Repairs Historical Variance Analysis	13	
c) PLP Repairs Forecast.....	13	
IV. INTRUSIVE POLE INSPECTIONS.....	14	T. Anderson
A. Overview.....	14	
1. Regulatory Background/Policies Driving SCE’s Request.....	14	
B. Scope and Forecast Analysis	15	
1. Intrusive Pole Inspection Program.....	15	
a) Intrusive Pole Inspection Work Description.....	15	
(1) Changes to Intrusive Pole Inspection Standards.....	16	
b) Inspection Historical Variance Analysis.....	16	
c) Inspections Forecast.....	16	
V. POLE REMEDIATIONS.....	18	K. Davis
A. Overview.....	18	
1. Regulatory Background Driving the Request.....	18	
B. Pole Replacements	18	
1. Program Description	18	
a) Replacements Driven by Pole Loading Assessments	19	
b) Replacements Driven by Intrusive Pole Inspections	19	

SCE-02, Vol. 09: Poles
Table Of Contents (Continued)

Section	Page	Witness
c) Replacements Driven by Non-Programmatic Activities	20	
d) Replacements Driven by Pole Loading Calculation Failures	20	
2. Basis for Capital Expenditure Forecast for Pole Replacements	20	
a) Pole Replacement Scope Forecast	22	
b) Pole Replacement Unit Cost Forecast.....	24	
(1) General Discussion of SCE’s Cost Controls.....	24	
(2) Forecast Unit Cost.....	26	
(3) Pole Replacement Capital Forecast	31	
C. Steel Stubbing	33	
1. Basis for Capital Expenditure Forecast.....	33	
D. Wood Pole Disposal.....	35	
1. Basis for Capital Cost Forecast.....	35	
VI. JOINT POLE CREDITS.....	37	
A. Overview.....	37	
1. General Explanation of Cost Sharing Joint Owners and Renters.....	37	
B. O&M Forecast	38	
1. Joint Pole O&M Credits Work Description.....	38	
2. Scope and Forecast Analysis	38	
a) Joint Pole O&M Credit Historical Variance Analysis.....	39	

SCE-02, Vol. 09: Poles
Table Of Contents (Continued)

Section	Page	Witness
b) Joint Pole O&M Credit Forecast.....	40	
C. Joint Pole Capital Credits.....	40	
1. Program Description	40	
2. Basis for Capital Expenditure	40	
VII. JOINT USE POLE MANAGEMENT	42	
A. Overview.....	42	
1. Regulatory Background and Need for Activity	42	
B. Scope and Forecast for Joint Use Pole Management.....	43	
1. Joint Pole Operations	43	
a) Work Description for Joint Pole Operations.....	44	
b) Historical Variance Analysis	45	
c) Forecast for Joint Pole Operations.....	45	
2. Request for Attachment Inspections	45	
a) Work Description for Attachment Inspections	46	
b) Historical Variance Analysis for Attachment Inspections	47	
c) Forecast for Attachment Inspections	48	
3. Compliance Requirements	48	
a) Possible Elimination of the Requirement that Third-Party Attachers Submit Pole Loading Calculations with Their Attachment Requests.	48	

SCE-02, Vol. 09: Poles
Table Of Contents (Continued)

Section	Page	Witness
b) Compliance with the FCC’s Requirements That The Utility Charge Just, Reasonable, and Nondiscriminatory Rates for Pole Attachments.	49	
Appendix A General Explanation of Cost Sharing with Joint Owners and Renters from 2021 GRC Exhibit SCE-02, Vol. 5		

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I.

INTRODUCTION

A. Content and Organization of Volume

In this volume, Southern California Edison (SCE) presents its Test Year 2025 forecast of Operations and Maintenance (O&M) expenses and 2023 – 2028 Capital expenditures for the Poles Business Planning Element (BPE). SCE summarizes the scope of work, key drivers for the work, and any regulatory mandates that impact the level of O&M and Capital requested for Pole activities.

The testimony in this volume includes analysis of (1) O&M and Capital funding authorized in the 2021 General Rate Case (GRC) compared to recorded amounts in 2021, and (2) the 2025 Test Year O&M labor and non-labor forecast relative to historical spending. The volume also describes the 2023-2028 Capital expenditure forecasts for the Poles BPE.¹

The Poles BPE is the set of activities that deal with the inspection, repair, and replacement of poles, and the joint use management of poles. The Deteriorated Pole Program is the major pole replacement program, which focuses on compliance with California Public Utilities Commission’s (CPUC or Commission) General Order 95 (GO 95)² and GO 165³ requirements. The Pole Loading Program (PLP) was another pole replacement program in the 2021 GRC. As of 2022, the Pole Loading Program ended, and any subsequent pole replacements associated with PLP will not continue after 2025. The Poles BPE exists in both the Transmission Grid and Distribution Grid Business Planning Groups.⁴ This volume is organized by activities since the work is similar for both Transmission and Distribution poles. This volume is structured as follows:

- Section I summarizes the O&M and Capital requests for the Poles BPE
- Section II explains SCE’s proposal to discontinue the Pole Loading and Deteriorated Pole Balancing Account (PLDPBA)
- Section III explains the Pole Loading Program Closeout
- Section IV summarizes Intrusive Pole Inspections

¹ The forecasts presented in this volume include all costs forecast for each activity, regardless of cost recovery mechanism.

² GO 95 -- Rules for Overhead Electric Line Construction.

³ GO 165 -- Inspection Requirements for Electric Distribution and Transmission Facilities.

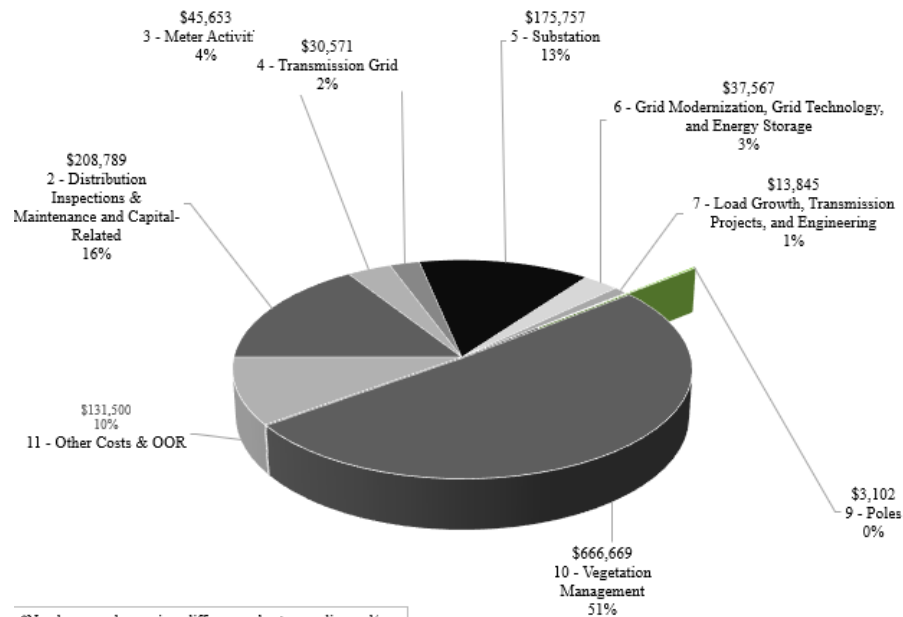
⁴ The distinction between Transmission and Distribution is based on the asset classification of the pole.

- Section V describes Pole Remediations
- Section VI summarizes Joint Pole Credits
- Section VII describes Joint Use Pole Management

B. Summary of O&M and Capital Request

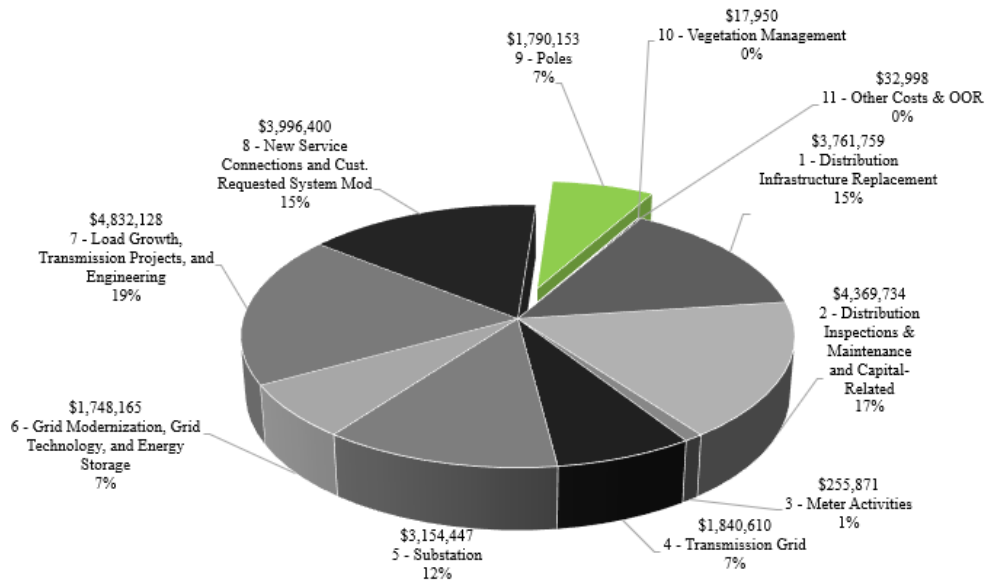
This testimony supports SCE’s request for \$1.289 million (constant 2022\$) in O&M expense for 2025 Test Year and \$1,790 million (nominal dollars) in Capital expenditures for 2023-2028 to effectively perform its functions. Figure I-1 and Figure I-2 show the O&M expenses and Capital expenditures by BPE (Poles) as a proportion of the T&D Grid Activities O&M expenses and Capital expenditures.

Figure I-1
Poles O&M Expenses 2025 Test Year
Total SCE-02 Grid Activities 2025 O&M Request = \$1,313
(Constant 2022 \$ Million)



*Numbers may have minor differences due to rounding and/or known errata as referenced in this testimony.

Figure I-2
Poles Capital Expenditures 2023-2028
Total SCE-02 Grid Activities Capital Request = \$25,800
(Total Company – Nominal \$ Million)



*Numbers may have minor differences due to rounding and/or known errata as referenced in this testimony.

C. Comparison of Authorized 2021 to Recorded Cost

This section compares the amount authorized by the Commission in the 2021 GRC to 2021 recorded O&M and Capital spending for the Poles BPE. Table I-1 shows a comparison of the amount authorized by the Commission in the 2021 GRC to 2021 recorded O&M expenses.

Table I-1
2021 Requested, Authorized and Recorded O&M⁵
(Constant 2022 \$000)

GRC_Activity	2021 Request	2021 Authorized	2021 Recorded	Variance
Distribution Intrusive Pole Inspections	\$6,228	\$6,228	\$6,345	\$117
Distribution Joint Pole O&M Credits	(\$11,379)	(\$11,379)	(\$10,635)	\$745
Distribution Joint Pole Operations	\$2,056	\$2,056	\$1,177	(\$880)
Distribution Pole Loading Assessments	\$1,176	\$1,176	\$3,636	\$2,460
Distribution Pole Loading Repairs	\$889	\$889	\$5,968	\$5,079
Distribution Request for Attachment Inspections	\$3,504	\$3,504	\$1,328	(\$2,176)
Transmission Intrusive Pole Inspections	\$673	\$673	\$446	(\$227)
Transmission Joint Pole Operations	\$227	\$227	\$119	(\$108)
Transmission Pole Loading Assessments	\$121	\$121	\$326	\$205
Transmission Pole Loading Repairs	\$408	\$408	\$858	\$451
Transmission Request for Attachment Inspections	\$522	\$453	\$483	\$30
Total	\$4,424	\$4,355	\$10,050	\$5,695

1 Overall, the O&M 2021 recorded expenses are higher than the authorized amount by \$5.695
2 million. The primary drivers for the overrun are PLP Assessments and PLP Repairs. PLP Assessments
3 were nearing the end of the program, which required assessing the hardest to access poles. The
4 difficulties assessing the remaining poles led to higher costs. The 2021 authorized totals were
5 normalized from 2021-2023, which projected a total of roughly 8,000 poles to assess in 2021. Most of
6 the remaining PLP assessments were completed in 2021. The 2021 recorded assessments total was over
7 20,000, which led to PLP being \$2.665 million over the authorized amount. Another driver for the
8 overrun was PLP repairs being \$5.5 million higher than authorized. An increase in the number of pole
9 repairs led to the overrun. SCE made improvements in the assessments phase to more accurately identify
10 the need for repairs, which resulted in fewer repairs falling out of scope during the planning phase.
11 Historically the fallout rate for repairs was around 45%-60% of all repairs. This means that 45%-60% of
12 all repairs would fall out of scope. The 2021 fallout rate was closer to 20% to 25%, which led to a higher
13 number of repairs than anticipated.

⁵ WP SCE-07, Vol. 01 Authorized vs. Recorded.

Table I-2
2021 Requested, Authorized and Recorded Capital⁶
(Total Company – Nominal \$Million)

GRC_Activity	2021 Request	2021		Variance
		Authorized	2021 Recorded	
Distribution Deteriorated Pole Replacement	\$213,969	\$213,969	\$218,326	\$4,356
Distribution Joint Pole Capital Credits	(\$103,959)	(\$103,959)	(\$88,787)	\$15,171
Distribution Pole Loading Program Pole Replacement	\$267,436	\$267,436	\$279,422	\$11,986
Distribution Wood Pole Disposal	\$3,069	\$3,069	\$5,350	\$2,280
Distribution Wood Pole Disposal - Pole Loading Program	\$1,719	\$1,719	\$0	(\$1,719)
Telecommunication Deteriorated Pole Replacement	\$230	\$230	\$261	\$31
Telecommunication Pole Loading Program Replacement	\$1,124	\$1,124	\$20	(\$1,104)
Transmission Deteriorated Pole Replacement	\$98,274	\$98,274	\$90,033	(\$8,242)
Transmission Joint Pole Capital Credits	(\$21,367)	(\$21,367)	(\$4,010)	\$17,357
Transmission Pole Loading Program Replacement	\$43,910	\$43,910	\$26,864	(\$17,046)
Total	\$504,405	\$504,405	\$527,478	\$23,073

1 Table I-2 compares the amounts authorized by the Commission in the 2021 GRC to 2021
2 recorded Capital expenditures.

3 Overall, SCE’s 2021 recorded Capital expenditures are approximately \$23 million over the
4 authorized amount. The variance was largely driven by lower recorded Joint Pole Capital Credits due to
5 delayed billing from the Southern California Joint Pole Committee (SCJPC). Another reason for the
6 variance was the increase of the 2021 pole replacement unit cost compared to the unit cost authorized,
7 which was driven by rising construction, design, and material costs. A decrease in the volume of pole
8 replacement installations when compared to the forecast offset some unit cost increases.

9 **D. Compliance Requirements**

10 In Decision (D.) 21-08-036 (2021 GRC Decision) the CPUC requested that SCE provide
11 testimony in its 2025 GRC application relating to certain aspects of SCE’s pole fees. Pole fees include,
12 among other things, fees that SCE collects from qualified attachers who, pursuant to the Commission’s
13 rights-of-way (ROW) rules,⁷ install attachments on SCE’s poles, including the following: (1) pole rental
14 fees, (2) process and engineering (P&E) fees, and (3) post-attachment inspection fees. These pole fees

⁶ WP SCE-07, Vol. 01 Authorized vs. Recorded.

⁷ D.98-10-058 (as modified by D.16-01-046 and D.18-04-007).

1 are recorded in FERC Account 454.000 (Rent from Electric Property) and in SCE's GRCs they are
2 included as part of T&D's Other Operating Revenues (OOR) in Exhibit SCE-02, Volume 11.

3 Pursuant to the Commission's direction in D. 21-08-036, SCE provides testimony in Section VII
4 (Joint Use Pole Management) on the following two areas relating to pole attachments:

- 5 • ***Possible elimination of the requirement that third-party attachers submit pole loading
6 calculations with their attachment requests.***⁸ Since SCE performs pole loading calculations
7 for attacher requests, the Commission directed SCE to evaluate whether this requirement for
8 attachers could be eliminated and whether there would be any safety impacts or cost
9 considerations.⁹
- 10 • ***Compliance with the Federal Communications Commission's (FCC) requirement that the
11 utility charge "just, reasonable, and nondiscriminatory rates for pole attachments" with
12 respect to SCE's pole attachment fees.***¹⁰ Since SCE does not charge itself pole rental fees,
13 P&E fees, and post-attachment inspection fees for third-party, commercial attachments that
14 SCE places on its poles, the Commission requested SCE to explain how its pole attachments
15 fees comply with the FCC's requirement.¹¹

⁸ D.21-08-036, pp. 255-261, and in particular pp. 259-260.

⁹ D.98-10-058.

¹⁰ D.21-08-036, pp. 255-261, and in particular pp. 260-261.

¹¹ D.21-08-036, pp. 255-261.

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II.

POLE LOADING AND DETERIORATED POLE BALANCING ACCOUNT

A. Overview

The Pole Loading Program, approved in D.15-11-021 (2015 GRC Decision), also approved a two-way balancing account. The Pole Loading and Deteriorated Pole Programs Balancing Account (PLDPBA) would recover Pole Loading Program O&M and Capital costs, as well as Deteriorated Pole Program Capital costs. Without historical record, the PLDPBA was authorized to reduce risk to customers from unknown costs associated with PLP such as estimates in support of operational plans, cost forecasts, and failure rates.

Upon approval of the PLDPBA, the CPUC allowed a 15% cap on all expenditures for the balancing account. Additionally, all recorded balancing account costs are CPUC-jurisdictional, which means only CPUC-associated costs are recorded. The PLDPBA is reviewed on a yearly basis by the CPUC in SCE's Energy Resource and Recovery Accounting (ERRA) Review filing. Any over- or under-collection of the PLDPBA is transferred to the Base Revenue Requirement Balancing Account (BRRBA) to be returned to customers. The 2021 GRC Decision authorized the continuation of the PLDPBA.

B. Discontinuation

Since the Pole Loading Program is ending, SCE proposes to discontinue the Pole Loading and Deteriorated Pole Programs Balance Account (PLDPBA). The established Deteriorated Pole Program will continue with routine inspection cycles for poles. With the end of the Pole Loading Program, it is SCE's position that the PLDPBA is no longer necessary beginning in 2025.

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III.

POLE LOADING PROGRAM CLOSEOUT

A. Overview

SCE performed a one-time assessment of all poles through its Pole Loading Program (PLP). This activity improved the safety and reliability of the electric grid by identifying and replacing overloaded poles. The improved level of safety and reliability will be maintained by SCE's ongoing Pole-related programs.

Through PLP, SCE assessed poles to identify and repair or replace poles that did not meet GO 95 loading, temperature, and safety factor requirements. As a result of a 2013 wind study, SCE implemented increased wind loading criteria in many areas and in some locations added a new 24 pounds per square foot wind loading specification. PLP assessments began in January 2014 with the initial focus on the highest-risk areas including high fire areas. The revised wind loadings were implemented in March 2014.

1. Regulatory Background

The PLP was approved in D.15-11-021 as a comprehensive program to address pole loading issues. SCE completed a vast majority of assessments throughout its territory by the end of 2021. PLP had a low number of remaining assessments that were completed in 2022.

B. Historical Context

The 2011 San Gabriel Windstorm was a major event that brought renewed focus on pole loading. The windstorm took place on November 30, 2011 and was one of the strongest and most damaging in recent history. Hurricane-force winds of 80 to 100 miles per hour, with gusts possibly exceeding 100 mph, knocked down thousands of trees and caused widespread outages to SCE's grid. Approximately 440,000 SCE customers across its service area experienced either momentary or extended service interruptions and nearly 250 poles fell as a result of the storm. Although most of the pole failures were a result from trees and vegetation, pole loading calculations done after the storm did determine that a number of poles did not meet loading requirements as set forth in GO 95. This resulted in the Commission rendering D.12-11-051.

D.12-11-051 was issued on December 10, 2012. In this decision, the CPUC ordered SCE to perform full inspections on a statistically valid, random sample of utility-owned and jointly owned loaded poles, to determine whether the loads met minimum requirements from standards in place at that time. In addition to the pole loading study, SCE also initiated a wind study at around the same time.

1 The Safety Enforcement Division (SED) of the CPUC recommended that SCE conduct the wind study
2 to determine wind conditions throughout SCE’s service area.

3 As a result of the Pole Loading Study and the Wind Study, the SED and SCE agreed that SCE
4 should analyze all poles with SCE facilities attached throughout its service area. In the 2015 GRC, SCE
5 outlined a timeline for assessing all poles in the service area along with the projected costs over the
6 course of the timeline. In the 2015 GRC Decision, the CPUC adopted SCE’s proposed PLP to be
7 completed over the next seven years (2014-2021), with poles in the highest risk areas (fire, wind) given
8 higher priority for scheduling.

9 **C. Pole Loading Program Assessments**

10 **1. Pole Loading Assessments Historical Overview**

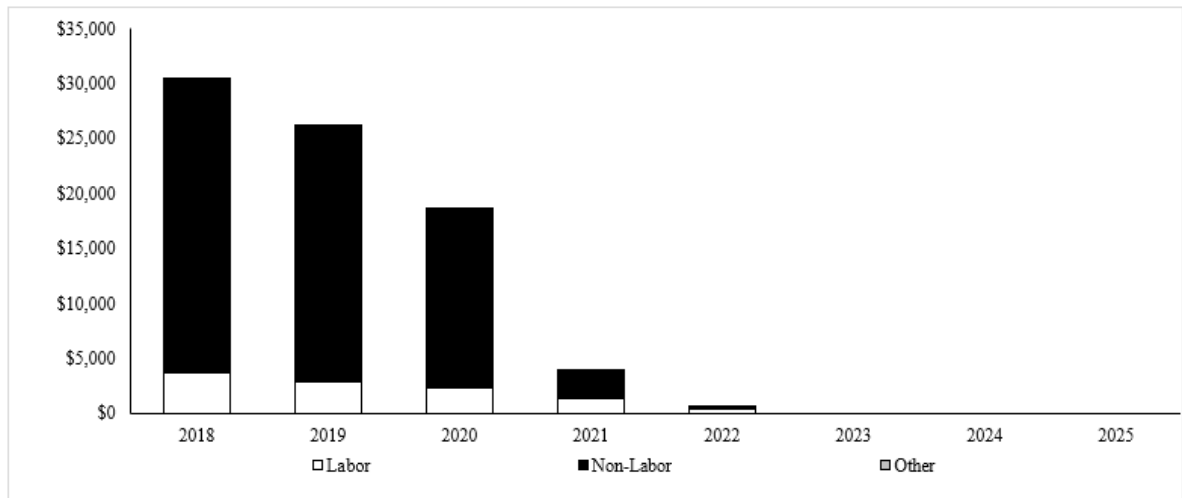
11 **a) Work Description and Need for Activity**

12 PLP assessments were performed to determine a pole’s safety factor. PLP
13 assessments required a field assessment and a desktop analysis to calculate each pole’s safety factor.
14 Inputs to the analysis of the pole included the physical attributes, its attachments, and the applicable
15 wind loading. The field assessment measured, or validated, the pole’s attributes (type of pole, species for
16 wood poles, height, and class) and the type and size of equipment it supported. Collecting the data to
17 perform a pole loading calculation required an experienced field assessor. The field assessor had to be
18 able to access poles throughout SCE’s service area, including those in remote terrain and other difficult
19 to access locations, such as customer backyards, in order to take accurate measurements. Assessors had
20 to measure the ground line circumference and have sufficient room around the pole to measure
21 attachment heights and span lengths. Photographs were also taken of each pole. The information
22 collected during the field assessment was input to perform a desktop analysis using SPIDACalc to
23 calculate the pole’s safety factor.

24 **b) Assessment Historical Variance Analysis**

25 Figure III-3 shows the PLP recorded costs for 2018-2022. The PLP ended in
26 2022, therefore there will be no forecasted costs moving forward.

Figure III-3
PLP Assessments Recorded 2018-2022/Forecast 2023-2025^{12,13}
O&M Expenses
(Constant 2022 \$000)



	Recorded					Forecast		
	2018	2019	2020	2021	2022	2023	2024	2025
<i>Labor</i>	\$3,671	\$2,906	\$2,325	\$1,344	\$348			
<i>Non-Labor</i>	\$26,749	\$23,351	\$16,288	\$2,617	\$334			
<i>Other</i>								
Total Expenses	\$30,420	\$26,258	\$18,613	\$3,962	\$682			
Ratio of Labor to Total	12%	11%	12%	34%	51%	-	-	-

(1) Labor

As the PLP reached completion, fewer assessments were conducted year-over-year, which allowed for a decrease in labor through attrition. In 2019, three full-time employees (FTEs) departed the PLP team and senior manager labor allocations were split 50/50 between the Intrusive Pole Inspection (IPI) and PLP teams. From 2020 to 2021, in preparation for the PLP closeout, additional reduction in staff occurred as the majority of the assessments were completed. In 2022, only three FTEs remained to close out the PLP and residual assessments were completed by SCE’s in-house

¹² WP SCE-02, Vol. 09 pp. 3-15 O&M Detail for Pole Loading Program Assessments.

¹³ An error was identified subsequent to the finalization of financial data. Therefore, the intended financial number that is stated here in testimony does not align with the financial numbers in standardized workpapers and the RO model. An errata will be submitted to align the financial numbers in testimony, standardized workpapers, and the RO model at a future date.

1 local planning department and charged to the PLP. The year-over-year variances reflect the reduction of
2 staff as the program came to a close.

3 **(2) Non-Labor**

4 The primary driver for the year-over-year variances from 2018-2022 is the
5 decrease in the number of assessments completed each year. In 2018, 208,000 assessments were
6 completed. Assessments decreased to 174,000 in 2019, 118,000 in 2020, and 20,000 in 2021. In 2022,
7 there were minor non-labor costs associated with the program close out, as the remaining assessments
8 were completed by SCE planners.

9 **D. Remediations Associated with PLP**

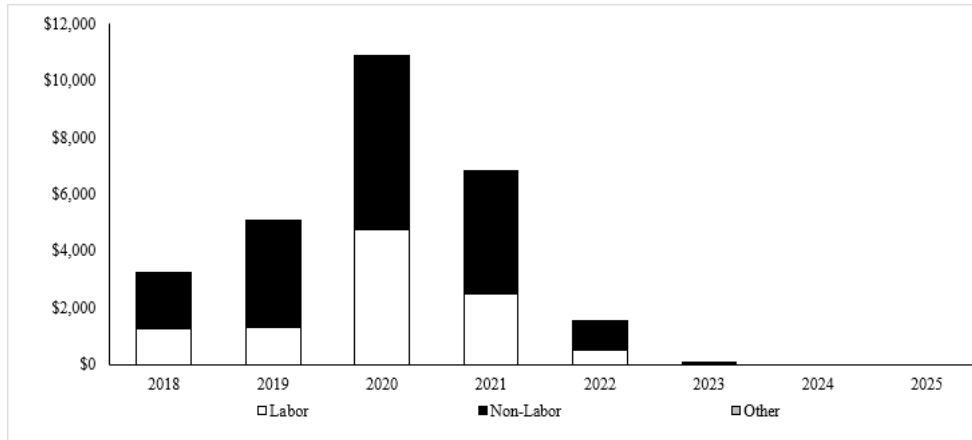
10 **1. PLP Replacements**

11 While the assessments have completed, some of their PLP-driven pole replacements
12 identified remain. This is discussed in Section V.B.

13 **2. PLP Repairs**

14 Figure III-4 shows the PLP Repairs recorded costs for 2018-2022. PLP Repairs will end
15 in 2023, therefore there will be no forecast costs for Test Year 2025.

Figure III-4
Pole Loading Program Repairs Recorded 2018-2022/Forecast 2023-2025¹⁴
O&M Expense
(Constant 2022 \$000)



	Recorded					Forecast		
	2018	2019	2020	2021	2022	2023	2024	2025
Labor	\$1,262	\$1,319	\$4,764	\$2,493	\$510	\$57		
Non-Labor	\$1,991	\$3,761	\$6,126	\$4,333	\$1,055	\$43		
Other								
Total Expenses	\$3,252	\$5,080	\$10,891	\$6,826	\$1,565	\$100		
Ratio of Labor to Total	39%	26%	44%	37%	33%	57%	-	-

a) Work Description and Need for Activity

The PLP Repairs involve both the design and installation or modification of guy wires. Design involves determining the appropriate size and placement of a guy wire(s) that conforms to SCE design standards and produces a compliant safety factor. Environmental review and land rights checks, when needed, are conducted as part of the design process. A drawing is developed showing the location of the pole that must be repaired, the placement of the guy on the pole, and the guy specifications. Once the design work is completed, the repair notification is sent to a construction crew. The drawing created during the design process is used by the construction crew in performing the repair work in the field. The guy repair may be completed by either an SCE or contractor crew.

¹⁴ WP SCE-02, Vol. 09 pp. 16-28 O&M Detail for Pole Loading Program Repairs.

1 **b) PLP Repairs Historical Variance Analysis**

2 In 2019, SCE’s high fire logic was aligned with the Commission’s changes in the
3 High Fire Mapping Decision.¹⁵ This affected in-flight compliance due dates and ultimately affected
4 scope. With this alignment, notifications that were due greater than one year, were now due in less than
5 one year. This had a direct impact to how many repairs required completion in 2020. Repair costs
6 decreased in 2022 as less work was required due to the PLP coming to an end.

7 The primary driver for year-over-year variances is directly related to the number
8 of repairs completed each year. Additionally, labor costs were directly impacted with the increase of
9 repairs due in less than one year. In order to meet compliance requirements, premium time hours
10 increased in some regions.

11 **c) PLP Repairs Forecast**

12 SCE projects a small number of remaining repairs to be completed in 2023.
13 The Distribution and Transmission pole loading repairs forecast is based on the 2022 recorded unit cost
14 applied to the remaining 2023 scope of PLP repairs.

¹⁵ Fire Mapping Decision D.17-12-024.

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IV.

INTRUSIVE POLE INSPECTIONS

A. Overview

SCE intrusively inspects poles through the Intrusive Pole Inspection (IPI) Program. The IPI Program is required for SCE’s approximately 1.3 million wood poles which are located in varying climate areas, such as “coastal” and “desert” climates throughout SCE’s 50,000 square-mile service area. Environmental factors such as decay, fungi, and insect attacks may cause degradation of the inner portion of a wood pole, which may not be detected by visual inspections. SCE established the IPI Program to comply with GO 165, which became effective in 1997. GO 165 defines intrusive pole inspections as “involving movement of soil, taking samples for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections or instrument reading.” An intrusive inspection involves drilling into the pole’s interior to identify and measure the extent of internal decay that is typically undetectable with external observation alone. SCE’s inspection standards describe six types of inspections satisfying this definition which apply different combinations of digging, boring, and sounding depending on the type of pole and its setting. Sounding involves experienced personnel using a hammer to make sound tests to detect internal decay pockets. A visual inspection is also completed as part of these inspections. Visual inspections look for signs of obvious external damage in the above-ground portion of the pole, such as damage from vehicles or woodpeckers.

1. Regulatory Background/Policies Driving SCE’s Request

SCE’s IPI is required by GO 165. GO 165 requires intrusive inspections for all poles by the time they reach 25 years in-service and then requires re-inspection at least once every 20 years. The IPI program began in 1997 and the first cycle was completed by 2009. In 2009, SCE started to perform inspections on a “grid” basis to reduce travel time per inspection and to normalize the number of inspections (and therefore replacements) required each year. SCE also began transitioning to a 10-year inspection cycle, which the Commission approved,¹⁶ that meets and exceeds GO 165 requirements. SCE completed its first grid-based cycle in 2018.

Furthermore, the IPI Program is required in order to comply with Rule 44.2 of GO 95, which mandates that pole loads calculated in anticipation of additional construction incorporate the

¹⁶ D.12-11-051, (2012 GRC Decision), p. 180 and reaffirmed in D.15-11-021 (2015 GRC Decision) at p. 102.

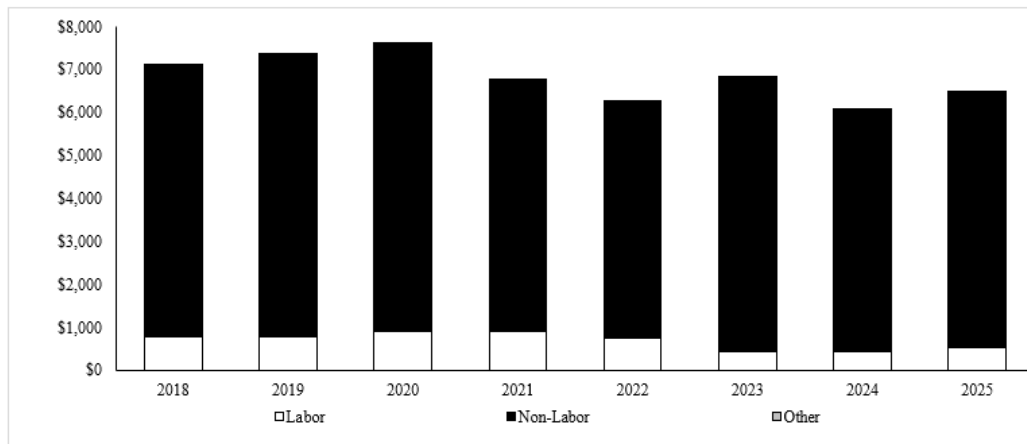
1 results of an intrusive inspection completed within the previous five years for wood poles older than 15
 2 years.

3 **B. Scope and Forecast Analysis**

4 **1. Intrusive Pole Inspection Program**

5 Figure IV-5 shows the recorded and forecast costs for Intrusive Pole Inspections. The
 6 sub-sections below describe the work activity, historical cost variance, and basis for the forecast.

Figure IV-5
Intrusive Pole Inspections Recorded 2018-2022/Forecast 2023-2025¹⁷
O&M Expenses
(Constant 2022 \$000)



	Recorded					Forecast		
	2018	2019	2020	2021	2022	2023	2024	2025
Labor	\$796	\$792	\$911	\$922	\$737	\$425	\$431	\$521
Non-Labor	\$6,336	\$6,585	\$6,704	\$5,869	\$5,553	\$6,406	\$5,641	\$5,974
Other								
Total Expenses	\$7,132	\$7,377	\$7,616	\$6,791	\$6,290	\$6,831	\$6,072	\$6,494

7 **a) Intrusive Pole Inspection Work Description**

8 Intrusive inspections require trained inspectors with experience to drill into the
 9 pole’s interior at several locations to identify and measure the extent of internal decay which is typically
 10 undetectable with external observation alone. The intrusive inspections allow inspectors to quantify and
 11 assign a value (by percentage) of remaining good wood, called the remaining section modulus, or RSM,
 12 in a cross section of a pole. A wood pole damage calculator software program is utilized to determine

¹⁷ WP SCE-02, Vol 09, pp. 29-41 (O&M Detail for Intrusive Pole Inspections)/WP SCE-02, Vol. 09, pp. 42-43 (Intrusive Pole Inspection Forecast).

1 the lowest RSM value and this lowest RSM is considered the inspection result. A recommended
2 corrective action is based on this value. Additionally, the inspector does a visual inspection of the
3 exterior of the pole to check for damage. If the pole does not require replacement, the interior, and in
4 certain cases the exterior below groundline, of the pole is treated with wood preservatives to prevent
5 decay.¹⁸ The SCE staff works with the vendor, manages the data exchange between the vendor and SCE,
6 and resolves any vendor issues.

7 **(1) Changes to Intrusive Pole Inspection Standards**

8 In January 2020, General Order 95 Rule 44.2 was revised in Decision
9 20-01-010. This decision revised GO 95 to require an intrusive pole inspection performed within the
10 previous five years to be incorporated into the pole loading calculations when planning the addition of
11 facilities. Previously Rule 44.2 only required the intrusive inspection be performed within the previous
12 five years if the addition of facilities resulted in an increase of 5% per installation or 10% over a
13 12-month span. This revision increased the volume of these ad hoc inspections throughout the service
14 territory.

15 **b) Inspection Historical Variance Analysis**

16 The Intrusive Pole Inspection program has remained relatively consistent for both
17 labor and non-labor from 2018-2022. In 2020, labor increased due to an additional Specialist being hired
18 to improve data integrity and eliminate access constraints associated with inspections. The Senior
19 Manager for assessments and inspections also began charging 50% of labor to the IPI program.
20 The labor costs decreased in 2022 due to unfilled positions within the program. The primary drivers for
21 the decrease in non-labor in 2021 are a decrease in pole tests associated with the change in Rule 44.2 of
22 GO 95 as well as a decrease in overall inspections by 2,000 as compared to 2020.

23 **c) Inspections Forecast**

24 Figure IV-5 shows the forecast cost for Intrusive Pole Inspections. For Test year
25 2025 SCE forecasts \$6.494 million for Intrusive Pole Inspections. The forecast for intrusive inspections
26 is based on the number of inspections forecast to be completed in Test Year 2025 and the inspection unit
27 cost with a 3.5% increase included to account for contractor rate increases. The forecast also includes
28 current vacancies for three full time employees (FTEs) within the program that will potentially be filled

¹⁸ If the pole is identified for replacement, it is not chemically treated.

1 prior to Test Year 2025. Additionally, the program has added a projected increase to ad hoc pole test
2 requests. SCE forecasts to complete 143,600 intrusive inspections in 2023 and 133,000 a year from 2024
3 through 2028. The reason for the decrease is due to the decrease in the overall population of poles in our
4 system. As more wood poles are replaced with composite or engineered steel poles and as more poles
5 are removed from the system, less inspections will be required as part of the ten-year inspection cycle.
6 The unit cost is forecast using the recorded average unit cost from 2022. This approach was preferred
7 over using a five-year or three-year average unit cost, as the recorded average from last year was
8 specifically chosen to reflect a contractor rate increase that took place in July 2022. Using an average
9 over a longer period of time would not have provided an accurate representation of the current
10 contractor rate. Using a three-year average, a five-year average, or a last year recorded methodology
11 would not consider the decreased inspection scope and would result in a higher Test Year forecast.
12 A \$0.017 million increase in 2025 is attributable to reflect certain changes made to SCE's employee
13 compensation program. Please refer to Exhibit SCE-06 Vol. 04.

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V.

POLE REMEDIATIONS

A. Overview

In this section SCE explains pole remediations, which includes pole replacement, steel stubbing, and wood pole disposal. Poles requiring replacement are identified through Intrusive Pole Inspections, Overhead Detail Inspections (non-high fire), and by planners during the normal course of work. Although the PLP has ended, there are remaining pole replacements previously identified through the program set to be installed by 2025. Poles requiring the installation of steel stubs are identified through the Intrusive Pole Inspection Program. Steel stubbing, where applicable, provides a lower-cost alternative to pole replacement. When a pole is replaced, there is a cost to dispose of the pole that was removed.

1. Regulatory Background Driving the Request

The pole remediation activities described in this section of testimony are required by GO 95. GO 95 Rule 18A(1) states, “Each company (including electric utilities and communications companies) is responsible for taking appropriate corrective action to remedy potential violations of GO 95 and Safety Hazards posed by its facilities.”¹⁹ Rule 18B(1) goes on to specify the timeframes for taking corrective actions. GO 95 Rule 44 specifies applicable safety factors. Once a Safety Hazard or potential violation, such as pole deterioration or a noncompliant safety factor, has been identified, it must be remediated.

B. Pole Replacements

1. Program Description

Pole replacements are identified through a variety of sources which are described in Section V.B.1.a) through V.B.1.d). Regardless of the way in which the pole is identified, the process for replacement is generally the same. The steps to design and construct a pole replacement are described here. The vast majority of pole replacements discussed in this exhibit are designed by contract planners. Environmental clearances must be obtained and any special execution requirements to protect the environment must be identified. If the pole is jointly owned, SCE coordinates with the joint owners on the design and construction. Permits must be obtained from various agencies such as city or county

¹⁹ Safety Hazard is defined as a condition that poses a significant threat to human life or property.

1 governments, railroads, or Caltrans. In addition to replacing the pole, there are other pieces of equipment
2 that often must be replaced, such as transformers and switches. Construction is predominantly
3 performed by SCE’s regional contractors.

4 When a pole supports both Transmission and Distribution equipment, SCE refers to it as
5 a “combo” pole. When a combo pole is replaced, the cost to set the new pole and transfer the
6 Transmission equipment is charged to Transmission. The cost associated with the Distribution
7 equipment is charged to Distribution. This Distribution work is called “Underbuild.” The Underbuild
8 work is in a separate work order from the Transmission pole replacement. The number of Underbuild
9 units is related to the number of combo poles that are replaced. Underbuild costs and forecast are
10 presented in Section III.2.a).

11 **a) Replacements Driven by Pole Loading Assessments**²⁰

12 Pole loading assessments identified poles that are noncompliant that must be
13 replaced within the timeframe for replacements per GO 95. Under these assessments a pole will be
14 replaced between 72 hours and 36 months. The Pole Loading Program has ended as of 2022, but
15 replacements will continue through 2025.

16 **b) Replacements Driven by Intrusive Pole Inspections**²¹

17 After an intrusive pole inspection, the poles identified as needing replacement are
18 prioritized based on the extent of deterioration and are assigned a Remediation Action Code (RAC) as
19 explained in Section IV.B.1. The timeframes used for the scope forecast are outlined in Table V-3.
20 The cost of these replacements is included in the Deteriorated Pole Replacements activity.

²⁰ WBS CET-PD-IR-PD and CET-PD-OT-PD for Distribution PLP, CET-PD-IR-PT and CET-PD-OT-PT for Trans PLP, CET-PD-IR-PU for Underbuild PLP.

²¹ WBS CET-PD-IR-DP for Distribution IPI, CET-PD-IR-TR for Transmission IPI, CET-PD-IR-DU for Underbuild IPI.

Table V-3
Remediation Action Codes and Timeframe

RAC	Timeframe
1	72 Hours
2	6 Months for Tier 3 1 Year for all others
3	6 Months for Tier 3 1 Year for Tier 2 2 Year for all others
4	6 Months for Tier 3 1 Year for Tier 2 3 Year for all others
5	Steel Stub - 3 Years

1 c) **Replacements Driven by Non-Programmatic Activities**

2 Poles identified through other activities outside of the Intrusive Pole Inspection
3 Program may be submitted to the Deteriorated Pole Program for replacement based on their external
4 condition. If these poles meet the criteria for external decay outlined in the program standard, they are
5 prioritized according to the standard for replacement in the Deteriorated Pole Program.

6 d) **Replacements Driven by Pole Loading Calculation Failures²²**

7 Pole loading calculations (PLC) performed in the course of design work may
8 identify poles that do not meet GO 95 requirements. Planners perform pole loading calculations as part
9 of day-to-day work when they plan to add new equipment to a pole, such as a transformer, capacitor
10 bank, or conductor wire. The planner may perform a pole loading calculation on the pole “as-is,” in its
11 current state, assuming only the currently attached equipment is in place. If the pole does not satisfy
12 compliance requirements “as-is,” the cost of its replacement is included in the Deteriorated Pole
13 Program.

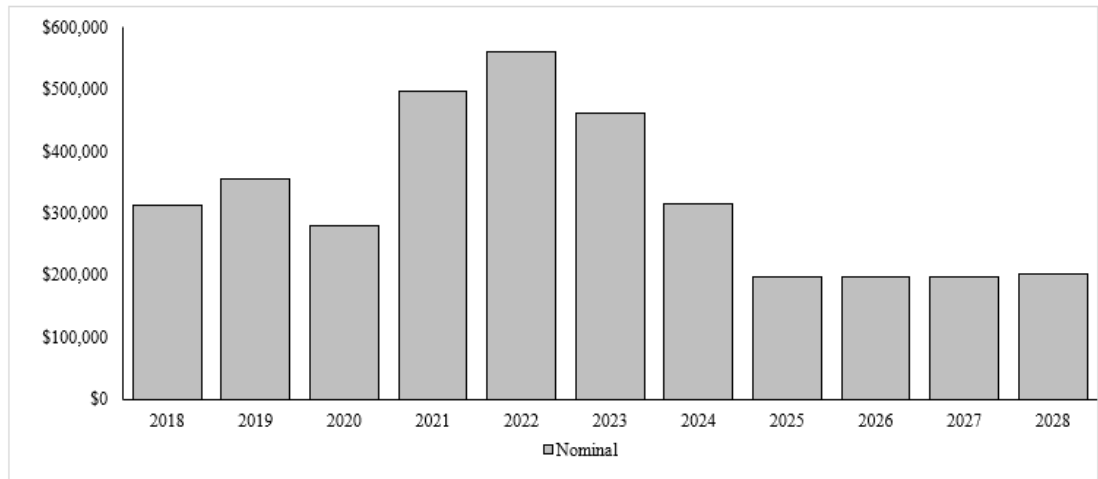
14 2. **Basis for Capital Expenditure Forecast for Pole Replacements**

15 This section of testimony describes the forecast for Distribution pole replacements,
16 Transmission pole replacements, Telecommunication pole replacements, and Underbuild work.
17 It includes both the Pole Loading Program pole replacements and the Deteriorated Pole Program pole
18 replacements. This Section is organized as follows:

²² WBS CET-PD-IR-DL for Distribution PLC, CET-PD-IR-TL for Trans PLC.

- Section V.B.2.a) explains the scope forecast (i.e. the number of units)
- Section V.B.2.b) explains the unit cost forecast and includes a discussion of how unit costs have changed over time and are forecast to change in the future
- Section V.B.2.c) combines the scope and cost forecast to arrive at the pole replacement Capital expenditure forecast

Figure V-6
Distribution Pole Replacement Forecast^{23,24,25}
Recorded 2018 – 2022/Forecast 2023-2028
Capital Expenditures
(Nominal \$000)



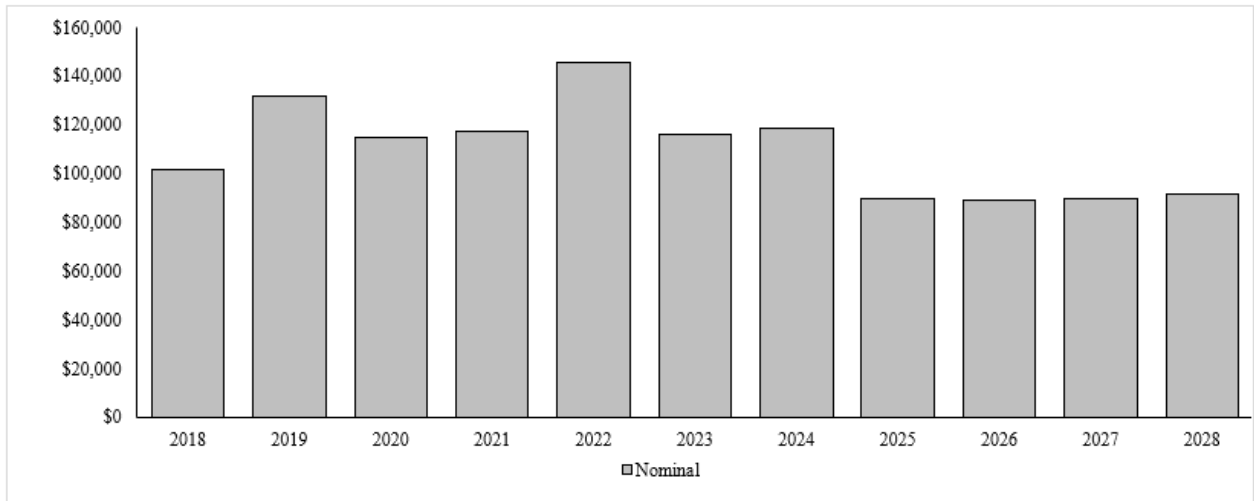
	Recorded					Forecast					
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<i>Nominal</i>	\$312,854	\$354,628	\$279,300	\$497,748	\$560,084	\$461,918	\$314,783	\$198,288	\$196,731	\$198,109	\$201,151

²³ WP SCE-02 Vol. 09, pp. 44-49 (Capital Detail for Distribution Pole Replacement).

²⁴ This table includes Distribution PLP, Distribution Deteriorated Pole Program, Distribution Steel Stub, and Underbuild work.

²⁵ The forecast incorporates accounting adjustments to reflect certain changes made to SCE’s employee compensation program. See Exhibit SCE-06, Vol. 04.

Figure V-7
Transmission Pole Replacement Forecast^{26,27,28}
Recorded 2018 – 2022/Forecast 2023-2028
Capital Expenditures
(Nominal \$000)



	Recorded					Forecast					
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<i>Nominal</i>	\$101,767	\$132,056	\$114,541	\$117,178	\$145,397	\$116,222	\$118,372	\$89,717	\$88,961	\$89,956	\$91,303

a) Pole Replacement Scope Forecast

The 2023-2028 Capital Expenditure forecast for Pole Replacements is \$1,571 million for Distribution and \$595 million for Transmission as shown in Figure V-6 and Figure V-7 respectively. The scope forecast is made up of two categories. First, poles that have already been identified as requiring replacement and will be planned for replacement during the 2023-2028 period. Second, pole replacements that SCE forecasts will be identified through the activities described above in Section V.B.1 during the 2023-2028 time period. Table V-4 shows the unit scope forecast for Distribution, Transmission, and Telecommunication 2023-2028.

²⁶ WP SCE-02, Vol. 09, pp. 50-55 (Capital Detail for Transmission Pole Replacement).

²⁷ This table includes Transmission and Telecommunication PLP, Transmission and Telecommunication Deteriorated Pole Program, and Transmission Steel Stub work.

²⁸ The forecast incorporates accounting adjustments to reflect certain changes made to SCE’s employee compensation program. See Exhibit SCE-06, Vol. 04.

Table V-4
Pole Replacement Unit Scope Forecast 2023-2028

	2023	2024	2025	2026	2027	2028
Pole Loading Program	10,276	4,485	343	-	-	-
Deteriorated Pole Program	5,724	5,515	5,657	6,000	6,000	6,000
Distribution Subtotal	16,000	10,000	6,000	6,000	6,000	6,000
Pole Loading Program	694	372	21	-	-	-
Deteriorated Pole Program	2,279	2,603	2,175	2,194	2,194	2,194
Transmission Subtotal	2,973	2,975	2,196	2,194	2,194	2,194
Pole Loading Program	3	8	-	-	-	-
Deteriorated Pole Program	24	17	4	6	6	6
Telecommunication Subtotal	27	25	4	6	6	6
Grand Total	19,000	13,000	8,200	8,200	8,200	8,200

1 The forecast is based on the number of previously completed assessments and
2 inspections and the forecast failure rate applied to the forecast number of Deteriorated Pole Inspections.
3 This annual forecast scope is further refined based on the compliance requirement for completing
4 replacements. For example, if an intrusive pole inspection takes place in October 2023 on a pole located
5 in Tier 3 that results in a RAC 2, 3, or 4 failure, the pole replacement will be due in 6 months (i.e., by
6 April 2024). If an intrusive inspection takes place in October 2023 of a pole located in a non-high fire
7 area that results in a RAC 4 failure, the pole replacement will be due in 36 months (i.e., by October
8 2026). The expected failure rate is based on the historical failure rates from 2021. This failure rate was
9 selected as it is based on the current pole population age and condition and is best representative of the
10 expected failure rate during this GRC. The number of inspections forecast to be completed in each year
11 is set forth in Section IV.B.1.c).²⁹

12 Forecast volumes of replacements driven by PLC and non-programmatic
13 activities are based on the counts of poles identified in a given year for same-year replacement,
14 replacement in the next year, and replacement in two years. The forecast volumes for each timeframe are
15 based on the 2021 identification rate.

16 Sometimes, poles scheduled for replacement may be delayed due to execution
17 constraints, such as environmental, permitting requirements, limited physical access to the pole due to

²⁹ WP SCE-02, Vol. 09, pp. 56-64 (Pole Replacement Forecast).

1 obstructions, or remote locations. While SCE goes to great lengths to work with agencies and property
2 owners to get access to poles, a percentage of poles may roll over from the scheduled year into the
3 following year or until SCE is able to obtain access.

4 Poles may be replaced prior to their scheduled year and bundled with other work
5 in the current year to achieve efficiencies, levelize workload, and minimize customer impacts such as
6 outages and traffic disruptions.

Table V-5
Underbuild Scope Forecast 2023-2028³⁰

	2023	2024	2025	2026	2027	2028
Pole Loading Program	430	231	13	-	-	-
Deteriorated Pole Program	1,413	1,614	1,349	1,360	1,360	1,360
Distribution Subtotal	1,843	1,845	1,362	1,360	1,360	1,360

7 The scope forecast for Underbuild in Table V-5 is based on the number of combo
8 poles replaced. SCE forecasts that 61% of Transmission pole replacements will be combo poles. This is
9 based on the percentage from 2019-2021. A three-year average was selected because the mix of pole
10 types will vary over time. Using a single year would skew the forecast and would not be representative
11 of the replacements over the GRC period.

12 **b) Pole Replacement Unit Cost Forecast**

13 This section of testimony begins with a general discussion of how SCE manages
14 pole replacement costs. Next, the testimony explains the development of the unit cost forecast for
15 Distribution, Transmission, Telecommunication, and Underbuild. The development of the unit cost
16 forecast starts with the historical unit cost as the base and then adds on future impacts. These
17 expenditures are stated as increases to the unit cost (e.g., Caltrans Design Standard Decision Document
18 (DSDD) and contractor rate increases).

19 **(1) General Discussion of SCE's Cost Controls**

20 SCE exercises considerable due diligence in managing the cost of pole
21 replacements. This testimony will focus on the process to manage contractor costs since historically
22 91% of Distribution and 73% of Transmission pole replacements described in this volume were

³⁰ WP SCE-02, Vol. 09 pp. 65-66 Underbuild Forecast.

1 performed by contractors. This begins with the Supply Chain Management organization working with
2 the appropriate stakeholders to issue a Request for Proposal for construction services. Supply Chain and
3 stakeholders work collaboratively to achieve fair rates through contractor negotiations while maintaining
4 operational flexibility. Unit pricing, as well as normal and premium time rates, are evaluated to ensure a
5 fair and competitive cost for the work being done. When the Capital work order is given to the region to
6 construct, both SCE's staff and the contractor's staff review each work order and agree on the work
7 required and the applicable unit price. The contractor performs the work and then SCE staff verifies that
8 the work agreed upon was completed. The use of premium time or additional charges must be pre-
9 approved by SCE staff before the charges are incurred. This process provides appropriate oversight of
10 the contractors performing pole replacements.

11 Occasionally, there are circumstances that drive the unit cost of a pole
12 replacement significantly above the average. One example was the cost of two Transmission pole
13 replacements where material and construction costs were higher than typical unit costs. Planning a job of
14 this complexity also required SCE to address the needs of many stakeholders, such as the City of
15 Oxnard, City of Port Hueneme, Ventura County Railroad (VCRR), and customers.

16 The material costs for both new poles were higher due to being designed
17 15 feet taller than the previous poles. The poles also utilized a more expensive material in engineered
18 light weight steel. Additional concrete was required in the footing because the length of the poles
19 required a deeper and wider caisson.

20 Construction costs were impacted as well. Deeper and wider caissons were
21 required which meant additional drilling. To ensure the proper replacement of the poles, SCE had to
22 request the city and another entity to move two conduits with the appropriate costs shared by SCE. Due
23 to the unique size and location of the poles, additional boom trucks were required to hold and support
24 the setting of these poles.

25 Since the poles are located next to railroad tracks, a permit from VCRR
26 was required prior to construction. The permit stipulated that work must be completed on nights or
27 weekends only. As part of the permit, SCE and VCRR had to coordinate outages on the tracks during
28 SCE construction hours. Along with that, these poles are located next to a US Naval base, which also
29 had time restrictions on planned outages. Based on these factors, the use of premium time was necessary
30 to ensure adherence of work timeframe regulations.

1 SCE needed to comply with extensive traffic regulations as part of
2 permitting requirements. SCE provided the traffic control necessary to block lanes and intersections.
3 Proper signage was required in advance to provide residents with sufficient notice of the upcoming
4 street closures.

5 Although this is just an example, the execution challenges encountered
6 with this job are present on other pole replacements and are occurring more frequently as the demands
7 of cities, counties, and permitting agencies continue to increase over time.

8 **(2) Forecast Unit Cost**

9 Table V-6 presents the unit cost elements for Distribution, Transmission,
10 Underbuild, and Telecommunications pole replacements. To develop its unit cost forecast, SCE began
11 by analyzing the cost to replace a pole based on historical data from closed work orders.
12 This methodology was used and approved by the Commission in the 2018 GRC and the 2021 GRC.
13 SCE then evaluated other factors that would impact the pole replacement unit cost going forward.

Table V-6
Development of Pole Replacement Unit Costs
(Nominal \$)

Distribution Pole Replacements	2023	2024	2025	2026	2027	2028
Base Unit Cost	\$23,147	\$23,151	\$23,151	\$23,147	\$23,147	\$23,147
Contractor Rate Increase	\$880	\$880	\$880	\$880	\$880	\$880
Design Standard Decision Document (DSDD)	\$460	\$736	\$764	\$460	\$460	\$460
Line and Non-Line Contractor Cost	\$699	\$699	\$699	\$699	\$699	\$699
Replacement Type and Location	\$454	\$454	\$454	\$454	\$454	\$454
Contract Design Rate Increase	\$365	\$365	\$365	\$365	\$365	\$365
Pole Material Cost Increase	\$297	\$297	\$297	\$297	\$297	\$297
Construction Resource Mix	(\$147)	(\$147)	(\$147)	(\$147)	(\$147)	(\$147)
Change in Material Type Mix	(\$60)	(\$60)	(\$60)	(\$60)	(\$60)	(\$60)
Total Unit Cost (Constant)	\$26,095	\$26,375	\$26,404	\$26,095	\$26,095	\$26,095
Total Unit Cost (Nominal)	\$27,500	\$29,170	\$29,914	\$29,814	\$30,022	\$30,459

Transmission Pole Replacements	2023	2024	2025	2026	2027	2028
Base Unit Cost	\$36,218	\$36,218	\$36,218	\$36,218	\$36,218	\$36,218
Design Standard Decision Document (DSDD)	\$1,255	\$1,254	\$1,698	\$1,247	\$1,247	\$1,247
Replacement Type and Location	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250
Pole Material Cost Increase	\$235	\$235	\$235	\$235	\$235	\$235
Construction Resource Mix	(\$1,781)	(\$1,781)	(\$1,781)	(\$1,781)	(\$1,781)	(\$1,781)
Total Unit Cost (Constant)	\$37,177	\$37,176	\$37,621	\$37,169	\$37,169	\$37,169
Total Unit Cost (Nominal)	\$38,530	\$39,120	\$39,823	\$39,591	\$40,036	\$40,655

Underbuild Pole Replacements	2023	2024	2025	2026	2027	2028
Base Unit Cost	\$10,184	\$10,184	\$10,184	\$10,184	\$10,184	\$10,184
Replacement Type and Location	(\$812)	(\$812)	(\$812)	(\$812)	(\$812)	(\$812)
Total Unit Cost (Constant)	\$9,372	\$9,372	\$9,372	\$9,372	\$9,372	\$9,372
Total Unit Cost (Nominal)	\$9,876	\$10,365	\$10,618	\$10,708	\$10,782	\$10,939

Telecom Pole Replacements	2023	2024	2025	2026	2027	2028
Base Unit Cost (Constant)	\$19,640	\$19,640	\$19,640	\$19,640	\$19,640	\$19,640
Total Unit Cost (Nominal)	\$20,355	\$20,667	\$20,790	\$20,920	\$21,155	\$21,482

(a) **Base Unit Cost**

The base unit cost forecast includes the following components: base unit costs, environmental costs, B-item material costs, and overhead costs. SCE developed its forecast based on the analysis of pole replacement costs derived from historical data from closed work orders. The base unit costs components are summarized in Figure V-6 above and discussed below.

For Distribution, SCE determined the 2022 closed work orders was the best representation of a Distribution pole's base unit cost. Transmission installations are more complex and require additional planning, extending over multiple years. SCE determined that using a 2021 and 2022 closed work order sample was the best representation for Transmission,

1 Telecommunication, and Underbuild base unit costs, as a single year would not be an accurate
2 representation of future costs.

3 For the environmental unit cost, the 2022 closed work order
4 sample did not provide recent known impacts. SCE expects to see an increase in wetlands and
5 construction, storm water permitting reviews, and agency fees due to increased and more complex
6 environmental requirements. Due to these environmental impacts, increased project support for
7 surveying, rights checks, and railroad permits will be required.

8 The best representation and most recent information for B-item
9 material costs, which includes nuts and bolts and other miscellaneous materials used for pole
10 replacements, are based on 2022 recorded costs.

11 For allocated costs, SCE used a five-year historical record analysis,
12 which aligns with the 2021 GRC for Distribution poles.³¹ SCE internal labor increases included in
13 Transmission pole base costs include labor rate adjustments to overtime compensation for line workers
14 which became effective June 2022.

15 (b) **Cost Increase to Base Unit Cost**

16 The testimony in V.B.2.b)(2)(a) described how SCE used historical
17 data to determine the base unit cost as a starting point for its cost forecast. SCE then evaluated other
18 factors that would impact the pole replacement unit cost for 2023-2028. Certain costs are not represented
19 in the historical base and will be described in this section. The future impacts are explained in more
20 detail in the following sections: 1) the program type driving the replacement and the region or grid in
21 which the work is performed, 2) DSDD, 3) the construction resource that replaces the pole, 4) contractor
22 rate increases, 5) pole material cost increase, 6) contract design rate increase, 7) line and non-line
23 contractor cost increase, and 8) change in material type mix.

24 (c) **Replacement Type and Location Impacts to Unit Costs**

25 Unit costs can vary up to \$12,000 per pole based on the
26 replacement program type as well as the location (region or grid) where the pole is being replaced.
27 Replacement program type can impact costs when a pole is replaced under the deteriorated pole

³¹ See Exhibit SCE-07, Vol. 1C.

1 program, typically with the same size pole. If there is an anticipation that additional equipment may be
2 added to the pole in the future, SCE may replace with a larger pole to account for a safety factor. This is
3 done with future cost savings in mind for customers. When a pole replacement is driven by a pole
4 loading calculation failure, the pole may be replaced with a larger pole to safely maintain the equipment
5 currently installed.

6 Additionally, a pole's replacement location will impact costs.
7 These costs vary regionally based on contractor unit costs and variations in the complexity of work
8 performed in different areas. For example, urban pole replacements are more complex and often require
9 additional completion time. Limited space adds difficulties to a pole replacement and maneuverability
10 with heavy equipment to and around the pole worksite. Traffic control and pedestrian accommodations
11 in more populous areas are often more onerous. SCE will be installing a higher volume of poles in
12 densely populated regions in 2023-2028 as compared to the closed work order samples.

13 Therefore, the overall cost impact is calculated based on the
14 difference between the replacement program type and region in the historical work orders and the
15 forecast. The region forecast for 2023 – 2028 is based on the overall pole population. For 2022, SCE
16 used its pole replacement scope which has quantities by region. Accordingly, based on SCE's analysis,
17 the location and program type will result in a forecast increase to the unit cost of Distribution poles by
18 \$454, an increase to the unit cost of Transmission poles by \$1,250, and an increase to the unit cost of
19 Underbuild work by \$812 in 2023 – 2028 (Constant 2022\$).

20 (d) **California Department of Transportation Design Standard**
21 **Decision Document (DSDD)**

22 The California Department of Transportation (Caltrans) requires
23 new and replacement structures be relocated outside of their Right of Way (ROW)/easement or Clear
24 Recovery Zone (CRZ). If SCE cannot relocate facilities outside the CRZ or Caltrans ROW/easement,
25 Caltrans requires SCE to prepare a DSDD. The DSDD is a request for deviation from Caltrans design
26 standards published in Caltrans Highway Design Manual.

27 To comply with Caltrans' requirement, SCE submits a DSDD with
28 justification whenever SCE cannot meet Caltrans design standard for all discretionary fixed objects (e.g.,
29 SCE poles) within the Caltrans ROW. Without a justification approved by Caltrans, the request to install
30 a new pole or replace a pole will be denied. All projects involving new poles, replacement poles or work

1 on existing poles in Tier 2 and Tier 3 high-fire risk areas within the Caltrans ROW requires adherence to
2 the DSDD, regardless of the original pole location. A design study requires SCE Engineering to work
3 with specialized civil engineering consultants to perform collision and traffic data analysis, which results
4 in additional costs. The completion of a DSDD engineering study and design is required. The additional
5 requirements necessary to comply with DSDD result in a forecast increase to the unit cost of
6 Distribution poles by an average of \$557, and an increase to the unit cost of Transmission poles by an
7 average of \$1,325 in 2023 – 2028 (Constant 2022\$). These costs apply to poles within the Caltrans
8 ROW and are allocated to the overall unit cost for all poles.

9 **(e) Construction Resource Mix**

10 Pole replacements are executed by both SCE and contractor
11 resources. When a pole replacement is completed by SCE, only the labor is charged to the activity.
12 Invoiced amounts are charged to work activity when work is completed by a contractor. In order to meet
13 compliance timeframes, SCE will continue to utilize contract resources for most deteriorated pole
14 replacements. SCE forecasts a decrease in the number of pole replacements completed by contractors
15 over this GRC period. This will reduce the unit cost by \$147 per pole for Distribution and reduce the
16 unit cost by \$1,781 per pole for Transmission for 2023 – 2028 (Constant 2022\$).

17 **(f) Contractor Rate Increase**

18 SCE utilizes contract resources as mentioned in Section (e).
19 SCE contractor rates increased 6.5% in June 2022, which are in part attributed to inflationary cost
20 pressures, higher operating costs, and higher business expenses. Future contract renewals are scheduled
21 for June 2023 and 2024. Accordingly, SCE has increased its Distribution forecasts to reflect the 6.5%
22 contractor cost increase to its unit costs by \$880 for 2023-2028 (Constant 2022\$). The contractor rate
23 increase does not affect Transmission contractors because the current contract runs through 2025.

24 **(g) Pole Material Cost Increase**

25 Pole material consists of wood, oil, other wood products and
26 preservatives. Pole material costs are subject to inflationary costs. SCE's inventory of pole materials is
27 typically supplied through direct purchase order which is subject to real time pricing. SCE did not use a
28 closed work order sample for the pole material costs analysis because a closed work order sample would
29 represent material costs prior to April 2022 increases. Wood pole prices affected by inflationary

1 increases resulted in an average cost increase of 11% for Distribution poles in 2022. The rise in pole
2 material costs result in a Distribution forecast increase of \$297 and a \$235 forecast increase for
3 Transmission for 2023-2028 (Constant 2022\$).

4 **(h) Contract Design Rate Increase**

5 SCE employs contract design services to accommodate varying
6 labor demands in their pole planning work. To estimate costs, SCE analyzed a closed work order sample
7 of actual expenses, including the recently implemented August 2022 price increase. The projected unit
8 cost forecast for Distribution poles will reflect an annual increase of \$365 from 2023 to 2028 (Constant
9 2022\$) due to increased contract design rates.

10 **(i) Line and Non-Line Contractor Cost Increase**

11 Higher line contractor costs include time and expense costs. Non-
12 line costs include traffic control, helicopter, and crane use. Pole replacements have increased in
13 condensed and more populated areas which will lead to higher traffic control and use of helicopters and
14 crane sets. SCE uses contractors to supplement equipment when in-house supplies are unavailable.
15 Additionally, the higher the complexity of work, work location, and resource constraints also result in an
16 increase in the use of contract equipment and traffic control needs. The higher line/non-line contractor
17 costs result in an annual increase to the unit cost forecast for Distribution poles of \$699 in 2023-2028
18 (Constant 2022\$).

19 **(j) Change in Material Type Mix**

20 SCE's poles include fire resistant material wrapped around the
21 base of the pole in Tier 2 and Tier 3 HFRA areas. SCE forecasts a decrease in the number of fire wrap
22 poles completed over this GRC period. This will reduce the Distribution unit cost by \$60 for 2023-2028
23 (Constant 2022\$).

24 **(3) Pole Replacement Capital Forecast**

25 The preceding sections explained the forecast pole replacement scope and
26 unit cost. This section presents the pole replacement forecast, which is calculated by multiplying the
27 scope by the replacement unit cost and adding identified costs such as the SCE/Contractor region/grid
28 mix rate, DSDD costs, and the contractor rate increase. Table V-7, Table V-8, Table V-9, and

1 Table V-10 show the 2023 through 2028 forecasts for the Distribution, Transmission, and
 2 Telecommunication pole replacements, and Underbuild work respectively.

Table V-7
Distribution Pole Replacement Forecast 2023-2028³²
Capital Expenditures
 (Nominal \$000)

Cost In Nominal \$000	2023	2024	2025	2026	2027	2028
Pole Replacement Scope	16,000	10,000	6,000	6,000	6,000	6,000
Distribution Unit Cost	\$27,500	\$29,170	\$29,914	\$29,814	\$30,022	\$30,459
Distribution Cost Forecast	\$439,997	\$291,701	\$179,484	\$178,884	\$180,134	\$182,756

Table V-8
Transmission Pole Replacement Forecast 2023-2028³³
Capital Expenditures
 (Nominal \$000)

Cost In Nominal \$000	2023	2024	2025	2026	2027	2028
Pole Replacement Scope	2,973	2,975	2,196	2,194	2,194	2,194
Transmission Unit Cost	\$38,530	\$39,120	\$39,823	\$39,591	\$40,036	\$40,655
Transmission Cost Forecast	\$114,548	\$116,383	\$87,450	\$86,863	\$87,838	\$89,198

Table V-9
Telecommunication Pole Replacement Forecast 2023-2028³⁴
Capital Expenditures
 (Nominal \$000)

Cost In Nominal \$000	2023	2024	2025	2026	2027	2028
Pole Replacement Scope	27	25	4	6	6	6
Telecommunication Unit Cost	\$20,355	\$20,667	\$20,790	\$20,920	\$21,155	\$21,482
Telecommunication Cost Forecast	\$550	\$517	\$83	\$126	\$127	\$129

³² Table combines Distribution PLP Replacements and Distribution Deteriorated Pole Replacements. Total does not include Steel Stub, Underbuild, or adjustments to the employee compensation program.

³³ Table combines Transmission PLP Replacements and Transmission Deteriorated Pole Replacements. Total does not include Steel Stub or adjustments to the employee compensation program.

³⁴ Table combines Telecommunication PLP Replacements and Telecommunication Deteriorated Pole Replacements. Total does not include adjustments to the employee compensation program.

Table V-10
Underbuild Forecast 2023-2028
Capital Expenditures
(Nominal \$000)

Cost In Nominal \$000	2023	2024	2025	2026	2027	2028
Pole Replacement Scope	1,843	1,845	1,362	1,360	1,360	1,360
Underbuild Unit Cost	\$9,876	\$10,365	\$10,618	\$10,708	\$10,782	\$10,939
Underbuild Cost Forecast	\$18,202	\$19,124	\$14,461	\$14,562	\$14,664	\$14,877

1 **C. Steel Stubbing**

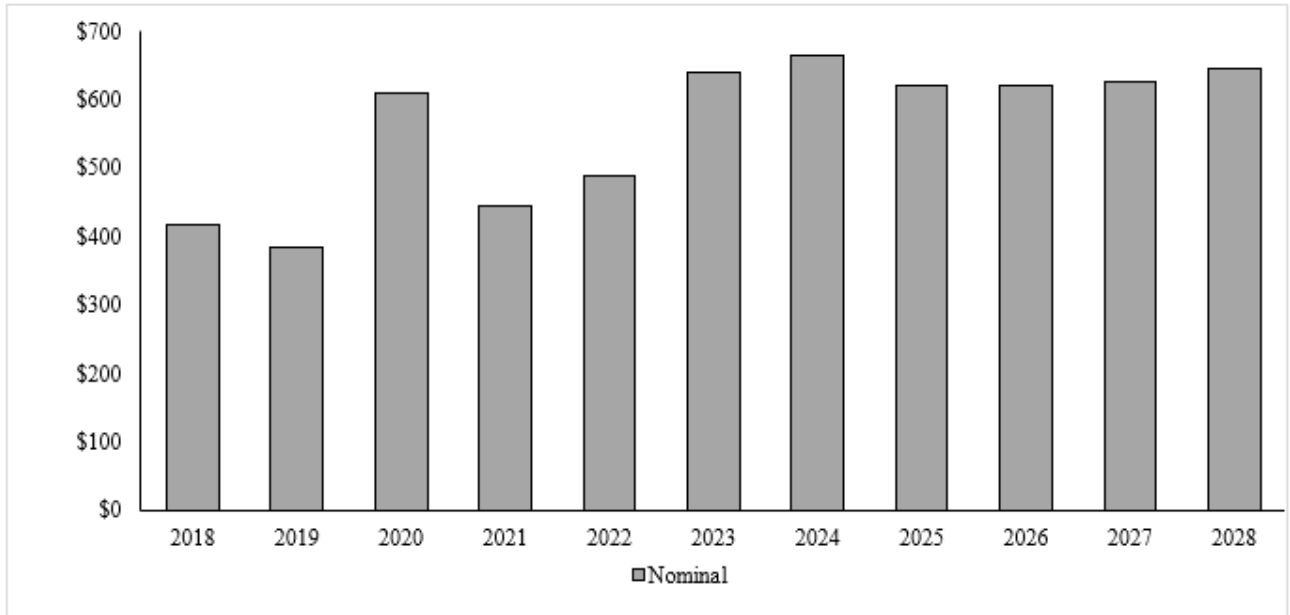
2 Some deteriorated poles can be remediated with the installation of a steel stub. Steel stubbing is a
3 restoration method that extends the life of a deteriorated pole over 15 years and likely much more than
4 that. Steel stub installations are done by a contractor; therefore, the Capital cost includes all costs
5 associated with a steel stub installation including design, material, and construction. The contractor
6 selects the correct steel stub size based on the size of the pole. The contractor then performs all the
7 required construction activities to install the steel stub. Steel stubbing is a cost-effective way to
8 remediate poles that would otherwise require replacement. The cost to install a steel stub is less than
9 10% of the cost to perform a full pole replacement.

10 **1. Basis for Capital Expenditure Forecast**

11 The 2023-2028 Capital forecast for Steel Stub, shown in Figure V-8, is \$3.815 million.
12 The steel stub installation forecast is based on the number of steel stubs identified to be installed,³⁵
13 multiplied by the installation unit cost. 2022 unit cost data was not finalized during the development of
14 the steel stub forecast, therefore, the unit costs of \$1,510 for Distribution and \$2,384 for Transmission
15 are based on the 2021 recorded costs.

³⁵ Poles that have been intrusively inspected and result in a RAC 5 are candidates for steel stubbing. However, there are conditions in the field that can prevent a pole from being steel stubbed. Some examples include underground obstructions, or the pole may be next to a freeway. Based on 2022 data, 70% of poles in RAC 5 can be remediated with steel stubbing. The remaining 30% are poles that require a pole replacement.

Figure V-8
Steel Stub Recorded 2018-2022/Forecast 2025-2028^{36,37}
Capital Expenditures
(Nominal \$000)



	Recorded					Forecast					
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<i>Nominal</i>	\$417	\$383	\$609	\$445	\$490	\$640	\$663	\$621	\$620	\$626	\$645

1 The number of steel stub installations scheduled in 2023 is based on the number of poles
2 currently identified as eligible for steel stub installation. The number of steel stubs estimated for
3 installation for the years 2024 – 2028 is based on the number of intrusive pole inspections in the
4 previous year, multiplied by the steel stub remediation rate. The steel stub remediation rate is referenced
5 in the steel stub workpaper, see below footnote 28.

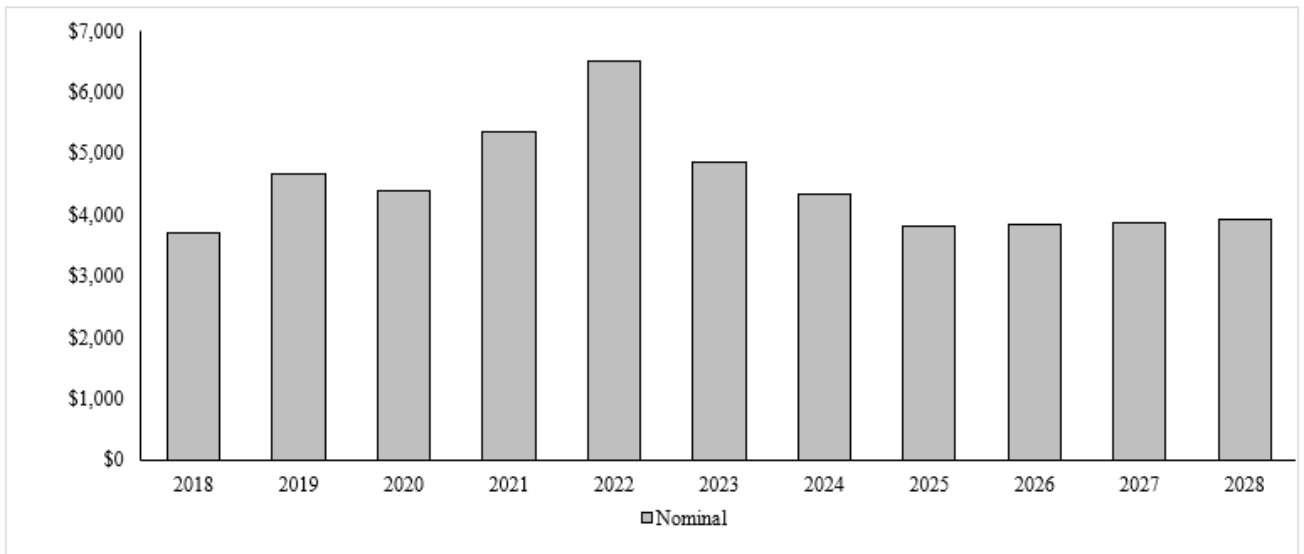
³⁶ WP SCE-02, Vol. 09, pp. 67-68 (Steel Stub Forecast).

³⁷ Steel Stub total was included in the totals presented in Figure V-6 and Figure V-7; it is presented here for informational purposes only and combines both Distribution and Transmission Steel Stub.

D. Wood Pole Disposal

When wood poles are removed from service, they must be appropriately disposed of to mitigate adverse environmental impacts. Poles are treated with chemical preservatives to prevent decay. Since 2006, poles treated with chemical preservatives must be disposed of as hazardous waste materials.

Figure V-9
Wood Pole Disposal Recorded 2018-2022/Forecast 2025-2028³⁸
Capital Expenditures
(Nominal \$000)



	Recorded					Forecast					
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<i>Nominal</i>	\$3,704	\$4,669	\$4,383	\$5,350	\$6,494	\$4,860	\$4,334	\$3,811	\$3,842	\$3,869	\$3,928

1. Basis for Capital Cost Forecast

Figure V-9 shows the recorded and forecast expenditures for wood pole disposal. The 2023-2028 Capital forecast for Wood Pole Disposal is estimated to be \$24.643 million. This estimation is derived by multiplying the number of pole replacements by the disposal unit cost. The disposal unit cost is determined based on an average of the preceding three years. It should be noted that the recorded costs may fluctuate due to a multitude of factors. One significant variable that can influence the costs is the geographical location of the poles and the availability of disposal options in

³⁸ WP SCE-02, Vol. 09, pp. 69-71 (Capital Detail for Wood Pole Disposal) / WP SCE-02, Vol. 09, pp. 72-73 (Wood Pole Disposal Forecast).

1 that specific area. As such, the expenses of utility wood pole disposal can differ for various reasons.
2 Inadequate proximity to the appropriate disposal facilities can result in higher transportation and
3 disposal costs. In addition, the size and condition of the poles may require specific handling and disposal
4 procedures, which can increase the overall cost. Furthermore, environmental regulations and permits can
5 have an impact on the disposal costs, particularly in cases where the poles are treated with hazardous
6 chemicals or materials, and therefore require specific disposal procedures. These aforementioned factors
7 may all contribute to the variability in utility wood pole disposal costs.

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VI.

JOINT POLE CREDITS

This section of testimony describes Joint Pole Credits. Joint Pole O&M Credits include the following sub-activities: O&M Maintenance Credits, O&M Inspection Credits, and O&M Penalty Credits. This testimony also describes Distribution Joint Pole Capital Credits and Transmission Joint Pole Capital Credits.

A. Overview

There are two types of third-party entities that attach facilities to SCE poles: (1) joint owners and (2) renters. This section focuses on joint owners.³⁹ Joint owners are entitled to purchase interest in a pole through membership in the Southern California Joint Pole Committee (SCJPC).⁴⁰ The SCJPC includes Investor-Owned Utilities, Competitive Local Exchange Carriers, Incumbent Local Exchange Carriers, and Publicly Owned Utilities in Southern California who hold joint equity interest in utility poles. The primary functions of the SCJPC are to keep accurate records of ownership for each jointly owned pole, to calculate the established value of each transaction involving the sale or purchase of joint pole equity interests or maintenance of those interests, and to prepare a monthly summary of the Bills of Sale, which are sent to the members to enable them to make monetary settlement of their joint activities.

The SCJPC does not perform pole loading calculations and does not enforce or track compliance with Commission rules and regulations. Each joint owner is individually responsible for maintaining compliance with Commission rules and regulations. Prior to purchasing ownership interest in a pole and at all times thereafter, the joint owner is solely responsible for conducting pole loading calculations for its attachments (or the attachments of its renters) to ensure they meet GO 95 safety factor requirements.

1. General Explanation of Cost Sharing Joint Owners and Renters

The cost sharing arrangements differ between joint owners and renters. For a full explanation please see Appendix A.

³⁹ For information on fees received from renters, *See* Exhibit SCE-02, Vol. 11 Other Costs and Other Operating Revenue.

⁴⁰ For more information regarding the SCJPC, please visit <https://scjpc.net/>.

1 **B. O&M Forecast**

2 **1. Joint Pole O&M Credits Work Description**

3 This activity includes the amounts received from joint owners as reimbursement for
4 SCE’s pole activities described in this volume. Joint Pole O&M Credit activity reduces costs for SCE’s
5 customers. The costs for certain pole-related O&M activities are shared among joint owners. Some of
6 these pole-related O&M activities include intrusive inspections or minor maintenance activities to place
7 a new pole. These costs are shared among the joint owners and the cost recovery is based on the SCJPC
8 Authorized Cost for each task performed.⁴¹

9 As mentioned, SCE receives payments from joint owners when it performs an intrusive
10 inspection on a jointly owned pole. Costs are shared equally by the number of owners of a pole. The cost
11 is based on the authorized cost to perform the work. For example, assuming the authorized cost to
12 perform an intrusive inspection is \$100, and there are two joint owners on a pole, SCE would receive a
13 payment of \$50.

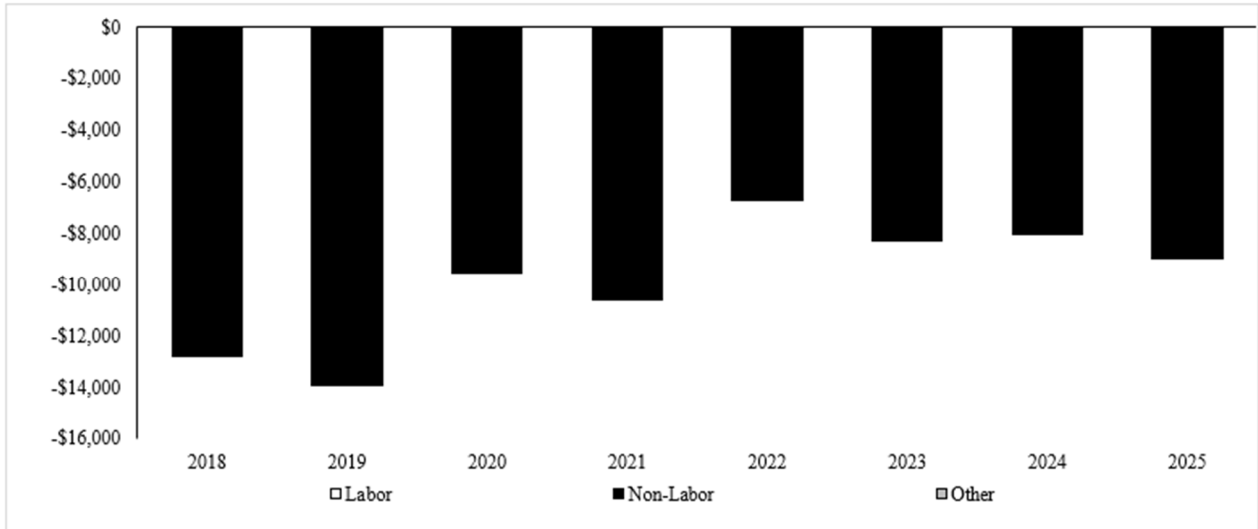
14 Payments are also received for the penalty charged for unauthorized attachments.
15 Note that when a member of the SCJPC attaches facilities to a pole without authorization, the member
16 must pay both a penalty and pay to purchase interest in the pole. The purchase of interest in the pole is
17 described in Appendix A.

18 **2. Scope and Forecast Analysis**

19 Figure VI-10 shows the Joint Pole O&M Credits recorded credits for 2018-2022 and
20 forecast credits 2023-2025.

⁴¹ Each joint owner submits its cost to perform each item of work. All joint owner submissions are averaged, and that average is used as the Authorized Cost that joint owners charge each other.

Figure VI-10
Joint Pole Credits Recorded 2018-2022/Forecast 2023-2025⁴²
O&M Credits
(Constant 2022 \$000)



	Recorded					Forecast		
	2018	2019	2020	2021	2022	2023	2024	2025
<i>Labor</i>								
<i>Non-Labor</i>	(\$12,833)	(\$13,940)	(\$9,534)	(\$10,635)	(\$6,732)	(\$8,264)	(\$8,014)	(\$8,967)
<i>Other</i>								
Total Expenses	(\$12,833)	(\$13,940)	(\$9,534)	(\$10,635)	(\$6,732)	(\$8,264)	(\$8,014)	(\$8,967)
Ratio of Labor to Total	0%	0%	0%	0%	0%	0%	0%	0%

a) Joint Pole O&M Credit Historical Variance Analysis

Joint Pole O&M credits are broken up into three different credit activities which are Maintenance Credits, Inspections Credits, and Penalty Credits. The drivers for how SCE obtains credits year-over-year is dependent on many factors outside of SCE’s control. Inspection Credits are driven by the amount of work performed by SCE inspection teams. Joint owners are billed to cover their portion of cost for the inspections. Similarly, Maintenance Credits are driven by the work performed by SCE. Any repairs at ground level are performed by SCE inspectors and costs incurred are recorded. These costs are shared by joint owners and the credits received are based on allowance agreed upon through joint ownership. Penalty Credits are driven by the work performed by SCE’s Joint Pole

⁴² WP SCE-02, Vol. 09, pp. 74-80 (O&M Detail for Joint Pole O&M Credits).

1 Organization (JPO) inspectors. Inspectors find unauthorized attachments and collect Penalty Credits
2 from joint owners. Since the number of inspections and subsequent maintenance associated with the
3 inspections can vary year-over-year, the total amount of inspection credits can fluctuate due to these
4 factors. Penalty Credits can also vary year-over-year based on how many unauthorized attachments are
5 found.

6 **b) Joint Pole O&M Credit Forecast**

7 The 2025 Test Year forecast for Joint Pole O&M credits is (\$8.967) million.
8 The forecast for O&M credits from joint owners is based on a three-year recorded average amount for
9 this activity. Because the drivers of these credits are largely based on the actions of the SCJPC joint
10 owners and are not within SCE's control, the three-year average is a reasonable forecast method. This is
11 also consistent with Commission guidance from D.89-12-057, and subsequently in D.04.07-022, where
12 the Commission stated that if recorded expenses have significant fluctuations from year to year, or
13 expenses are influenced by external forces beyond the utility's control, an average of recorded expenses
14 is appropriate.

15 **C. Joint Pole Capital Credits**

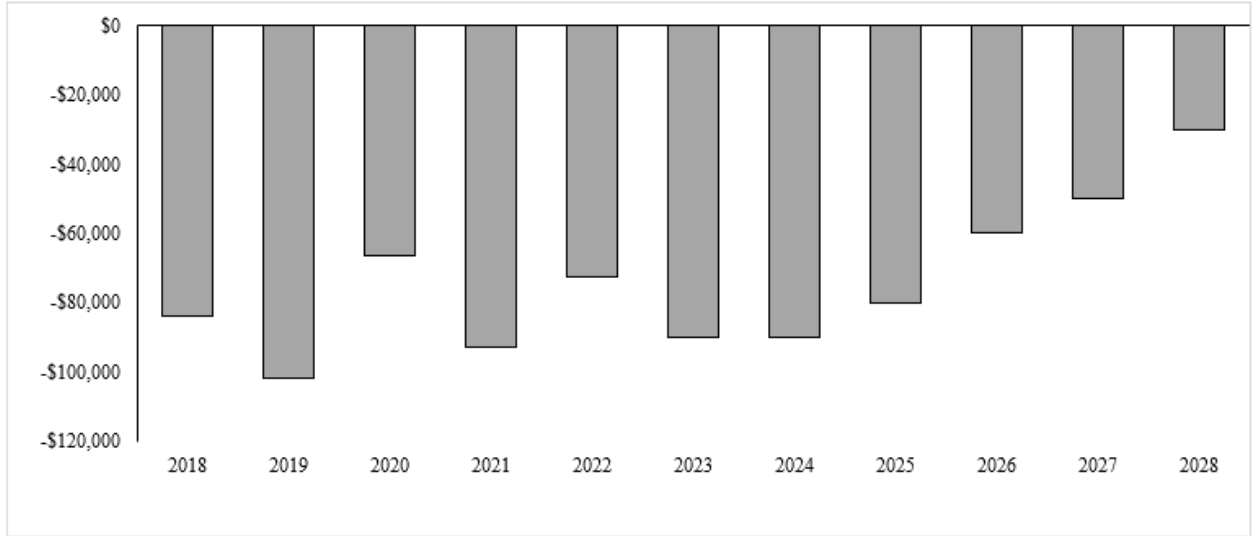
16 **1. Program Description**

17 When SCE replaces a jointly owned pole, the other utility must purchase an interest in the
18 new pole. SCE refers to the amounts received as Joint Pole Capital Credits. Joint owners have an
19 opportunity to purchase a shared interest in every pole. As poles are replaced, additional opportunities
20 for joint ownership become available.

21 **2. Basis for Capital Expenditure**

22 Figure VI-11 shows the recorded and forecast amounts for Joint Pole Capital Credits.
23 The Joint Pole Capital Credits 2023-2028 forecast is (\$400.000) million. The Joint Pole Capital Credits
24 activity is forecast using the 2021 average amount billed per pole and multiplying this amount by the
25 billing quantity forecast for the period. First, an analysis was done to determine the amount and quantity
26 recorded for Joint Pole Capital Credits. The result was an average Capital credit of (\$2,464) (Constant
27 2022\$) per pole replacement. Secondly, a proactive strategy was employed to develop the billing
28 quantity forecast, with the intention of eliminating the historical billing backlog of 173,200 from 2022
29 and prior by the end of 2029. Lastly, the Joint Pole Capital credits forecast was determined by
30 multiplying the average credit per pole replacement of (\$2,464) with the SJPC billing quantity
31 forecast.

Figure VI-11
Joint Pole Capital Credits Recorded 2018-2022/Forecast 2023-2028⁴³
Capital Credits
(Nominal \$000)



	Recorded					Forecast					
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<i>Nominal</i>	(\$83,911)	(\$101,525)	(\$66,158)	(\$92,797)	(\$72,463)	(\$90,000)	(\$90,000)	(\$80,000)	(\$60,000)	(\$50,000)	(\$30,000)

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⁴³ WP SCE-02, Vol. 09, pp. 81-85 (Capital Detail for Joint Pole Capital Credits) / WP SCE-02, Vol. 09, pp. 86-87 (Joint Pole Capital Credit Forecast).

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VII.

JOINT USE POLE MANAGEMENT

A. Overview

Under California’s nondiscriminatory access rules implemented in D.98-10-058 and amended by D.16-01-046, D.18-04-007, and D. 22-10-025 (i.e., the Rights-of-Way (ROW) rules), SCE must provide nondiscriminatory access to certain Telecommunications providers to attach to SCE’s poles through a license agreement. SCE’s Joint Pole Organization (JPO) is responsible for the execution and administration of agreements to license pole space to other utilities, also referred to as renters. SCE also participates in the SCJPC whereby members may have an ownership interest in each other’s poles (including SCE’s) to attach their equipment or the equipment of a licensee in their ownership portion of their pole. SCE’s JPO manages SCE’s relationships with these entities. JPO communicates and coordinates with joint owners regarding the planning, construction, record keeping and cost sharing of pole replacements and new pole installations. Under the Commission’s ROW rules, renters, sometimes called “tenants,” license space for their attachments within space owned by SCE on its poles. Renters, primarily competitive local exchange carriers and some cable television companies, will execute a license agreement with SCE and then submit their requests to attach to SCE’s poles. Each renter is responsible for ensuring they comply with Commission rules and regulations. However, SCE also independently calculates the resulting safety factors and determines whether the requestor can attach to an existing pole, or whether modification or replacement of the pole is required after permitting the requestor to attach. SCE has over 150 active license agreements with pole renters.

1. Regulatory Background and Need for Activity

Regarding renters, SCE follows all applicable laws and Commission decisions. The rental rate is based on the statutory formula set forth in Public Utilities Code Section 767.5(c) for those entities covered under the ROW rules. The Commission has supported the use of the statutory rate in D.16-01-046 and in D.18-04-007. In the Commission’s Decision 16-01-046, the Commission extended the ROW rules adopted in Decision 98-10-058 to encompass nondiscriminatory access to Commercial Mobile Radio Service (CMRS) providers’ wireless attachments on utility pole tops. The Commission issued D.18-04-007 to also provide nondiscriminatory access for wireless facilities placed by competitive local exchange carriers (CLEC).

SCE’s JPO is responsible for the execution and administration of agreements to license pole space to other CPUC-authorized utilities or entities. Because of the Commission’s decisions, JPO is

1 responsible for the administration of the license agreements, including generating the invoices for the
2 process and engineering fees, rental fees, post inspection fees, and rental unauthorized attachment
3 penalties. JPO is also responsible for implementing D. 22-10-025, which is the Commission's most
4 recent decision amending the ROW regarding the processing of Request for Attachments.

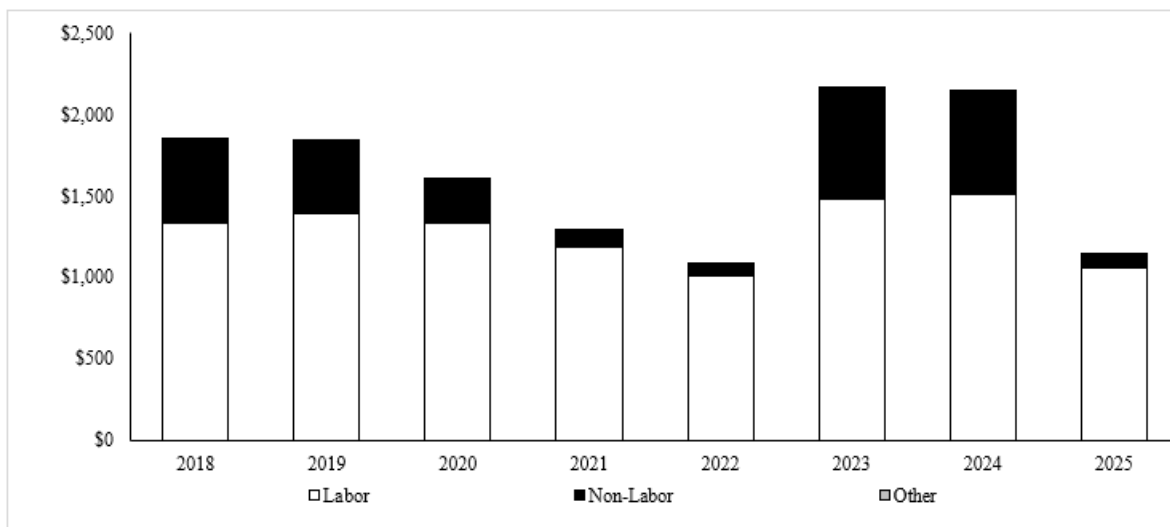
5 **B. Scope and Forecast for Joint Use Pole Management**

6 **1. Joint Pole Operations**

7 Figure VII-12 shows the five-year historical and three-year forecast for SCE's JPO.

8 The sub-sections below describe the work activity, historical cost variance, and basis for the forecast.

Figure VII-12
Joint Pole Operations Recorded 2018-2022/Forecast 2023-2025^{44,45}
O&M Expense
(Constant 2022 \$000)



	Recorded					Forecast		
	2018	2019	2020	2021	2022	2023	2024	2025
<i>Labor</i>	\$1,337	\$1,389	\$1,337	\$1,185	\$1,005	\$1,484	\$1,506	\$1,059
<i>Non-Labor</i>	\$512	\$457	\$271	\$110	\$86	\$679	\$642	\$86
<i>Other</i>								
Total Expenses	\$1,849	\$1,846	\$1,609	\$1,295	\$1,091	\$2,163	\$2,149	\$1,145
Ratio of Labor to Total	72%	75%	83%	92%	92%	69%	70%	92%

a) Work Description for Joint Pole Operations

JPO is the lead organization that is responsible for complying with the Commission’s ROW decisions and administering all aspects of the pole license agreements. This includes providing support for SCE’s participation in Commission regulatory proceeding such as OII 17-06-027/OIR 17-06-028, reviewing requests for attachment, executing license agreements,

⁴⁴ WP SCE-02, Vol. 09, pp. 88-100 (O&M Detail for Joint Pole Operations).

⁴⁵ An error was identified subsequent to the finalization of financial data. Therefore, the intended financial number that is stated here in testimony does not align with the financial numbers in standardized workpapers and the RO model. An errata will be submitted to align the financial numbers in testimony, standardized workpapers, and the RO model at a future date.

1 responding to licensees' inquiries, and generating the invoices for renters for process and engineering
2 fees, rental fees, post inspection fees, and unauthorized attachment penalties.

3 In addition, as indicated earlier, JPO is responsible for the communication and
4 coordination with joint owners regarding the planning, construction, record keeping and cost sharing of
5 pole replacements and new pole installations. JPO works with SCJPC members to establish rules and
6 resolve issues that affect all members. JPO also performs inspections on poles to identify unauthorized
7 attachments.

8 **b) Historical Variance Analysis**

9 Figure VII-12 shows the recorded cost for Joint Pole Operations. Labor costs
10 were consistent in 2018 through 2022. A decrease in labor for both 2021 and 2022 were due to a loss of
11 four Senior Specialist resources that remained unfilled. Additionally, SCE resources were redirected to
12 address the Request for Attachments backlog reducing labor costs further as discussed in section
13 VII-B.2. Non-labor totals associated with Joint Pole Operations relate to employee expenses,
14 informational and offsite meetings, and other expenses associated with the Joint Pole Organization.
15 Totals decreased in 2020 due to COVID resulting in remote working, which decreased the overall spend
16 for non-labor. Unfilled vacancies have also led to a decrease in non-labor totals, as there were less
17 employee expenses incurred.

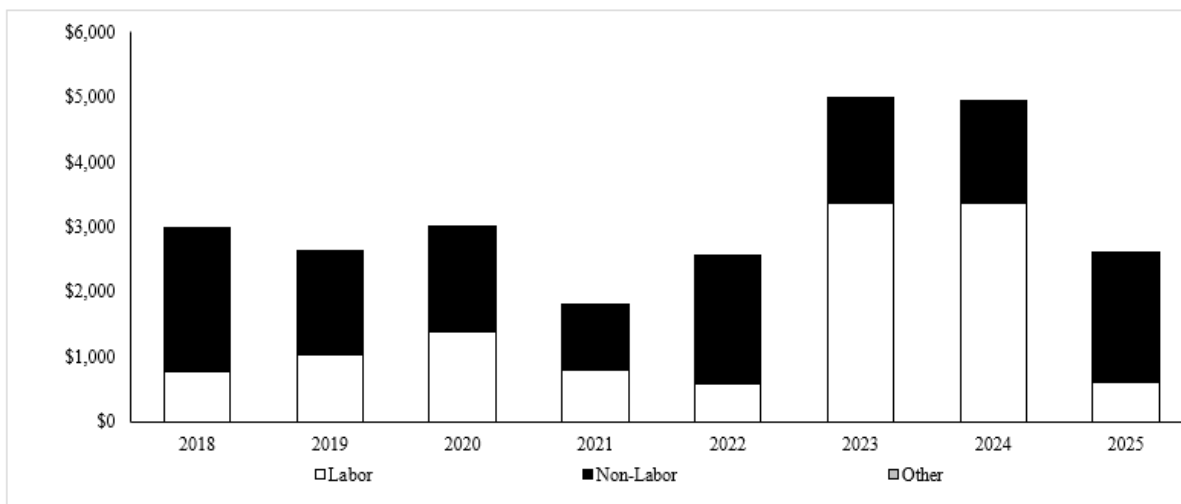
18 **c) Forecast for Joint Pole Operations**

19 The 2025 Test Year forecast for Joint Pole Operations is \$1.145 million. The Joint
20 Pole Operations forecast for labor and non-labor is based on 2022 recorded costs. Joint Pole Operations
21 does not anticipate any changes to staffing levels or current operations. A last year recorded
22 methodology is the most effective forecast due to current operations matching what took place in 2022.
23 The \$0.086 million increase in 2025 labor is attributable to an adjustment to reflect certain changes
24 made to SCE's employee compensation program. Please refer to SCE-06, Vol. 04.

25 **2. Request for Attachment Inspections**

26 Figure VII-13 shows the five-year historical and three-year forecast for Request for
27 Attachment Inspections. The sub-sections below describe the work activity, historical cost variance, and
28 basis for the forecast.

Figure VII-13
Attachment Inspections Recorded 2018-2022/Forecast 2023-2025^{46,47}
O&M Expenses
(Constant 2022 \$000)



	Recorded					Forecast		
	2018	2019	2020	2021	2022	2023	2024	2025
<i>Labor</i>	\$785	\$1,024	\$1,397	\$786	\$574	\$3,363	\$3,375	\$615
<i>Non-Labor</i>	\$2,196	\$1,617	\$1,607	\$1,025	\$2,001	\$1,620	\$1,576	\$2,001
<i>Other</i>								
Total Expenses	\$2,981	\$2,641	\$3,004	\$1,811	\$2,576	\$4,984	\$4,951	\$2,617
Ratio of Labor to Total	26%	39%	47%	43%	22%	67%	68%	24%

a) Work Description for Attachment Inspections

The Third-Party Attachments Group (TPA), within JPO, is responsible for the technical evaluation of third-party Requests for Access (RFA) applications submitted by renters and Joint Pole Authorizations (JPAs) submitted by joint owners. TPA performs the planning review, pole loading, and field verification for all RFAs. For certain JPAs initiated by a joint owner, TPA reviews the pole loading that was submitted by the owner. TPA approves or denies third-party access to SCE poles or SCE space on jointly owned poles upon verification that the applicant, renter, or owner, has fulfilled

⁴⁶ WP SCE-02, Vol. 09, pp. 101-113 (O&M Detail for Request for Attachment Inspections).

⁴⁷ An error was identified subsequent to the finalization of financial data. Therefore, the intended financial number that is stated here in testimony does not align with the financial numbers in standardized workpapers and the RO model. An errata will be submitted to align the financial numbers in testimony, standardized workpapers, and the RO model at a future date.

1 SCE’s requirements and standards for attachments. As part of their work, TPA may also identify
2 unauthorized attachments.

3 As stated in D.18-04-007,⁴⁸ the attaching entity must meet safety standards
4 outlined in GO 95, GO 128, Cal/OSHA Title 8 and, where applicable, the National Electric Safety Code
5 (NESC). TPA is responsible for conducting post construction inspections on rental attachments to ensure
6 the attaching entity is within existing compliance standards.⁴⁹ The post-inspection may also assist in
7 ensuring that the renter has attached their facilities as SCE-approved. Upon completion of the post-
8 construction inspection, TPA notifies the attaching entity of the inspection results. If any infractions are
9 caused by their attachment, TPA notifies the attaching entity of the infractions. The types of infractions
10 found may include: (1) the applicant attaching after SCE has denied their application; (2) attaching to a
11 different height of attachment than approved; or (3) attaching different equipment than what was
12 approved.

13 **b) Historical Variance Analysis for Attachment Inspections**

14 Figure VII-13 shows the recorded cost for Attachment Inspections. Labor
15 expenses increased from 2018 to 2019 because additional positions in RFAs were filled in 2019.
16 Labor expenses further increased in 2020 due to an increase of post-inspection reviews. The shifting of
17 resources within Joint Pole Operations was needed to complete the application review for post-
18 inspection. Labor expenses in 2021 decreased due to resources leaving the group. The vacancies have
19 remained unfilled in 2021 and 2022 which is why there has been a decrease in labor costs for these
20 years.

21 Non-labor costs are driven primarily by the number of post-inspections completed
22 by SCE contractors, which can fluctuate from year-to-year depending upon contractor capacity and the
23 company’s balancing of priorities. In 2018, there were a higher number of post-inspections completed
24 by contractors. In 2019 and 2020 the non-labor totals decreased from 2018 due to a lower number of
25 post-inspections being completed by contractors. The attachment inspection program maintained a
26 backlog of inspections that required invoicing for work performed in previous years. In 2021, a strategy
27 to eliminate the backlog and make current was implemented resulting in invoices applied in 2022. The
28 increase in non-labor costs in 2022 is due to processing invoices from work done in 2021 as well as

⁴⁸ D.18-04-007, p. B-22.

⁴⁹ D.18-04-007, p. B-8.

1 addressing the backlog of inspection invoices. In order to address the backlog, a third contractor was
2 added at the end of 2021, which also caused non-labor costs to increase in 2022.

3 **c) Forecast for Attachment Inspections**

4 The 2025 Test Year forecast for Request for Attachments is \$2.615 million.
5 The Request for Attachments forecast is based on 2022 labor and non-labor recorded costs. The Request
6 for Attachments group does not anticipate any changes to staffing levels or current operations beyond
7 2022. A last year recorded methodology is the most representative forecast due to ongoing operations
8 matching what took place in 2022. The \$0.040 million increase in 2025 is attributable to an adjustment
9 to reflect certain changes made to SCE’s employee compensation program. Please refer to SCE-06, Vol.
10 04.

11 **3. Compliance Requirements**

12 In D.21-08-036, the Commission requested SCE address the following two areas relating
13 to pole attachments:

- 14 • Possible elimination of the requirement that third-party attachers submit pole loading
15 calculations with their attachment requests.⁵⁰
- 16 • Compliance with the Federal Communications Commission’s (FCC) requirement that
17 the utility charge “just, reasonable, and nondiscriminatory rates for pole attachments”
18 with respect to SCE’s pole attachment fees.⁵¹

19 SCE addresses the Commission’s two requirements below:

20 **a) Possible Elimination of the Requirement that Third-Party Attachers Submit**
21 **Pole Loading Calculations with Their Attachment Requests.**

22 Pursuant to the Commission’s ROW rules,⁵² qualified third parties submit request
23 for access (RFA) applications to install their attachments on SCE’s poles, and SCE charges a processing
24 and engineering (P&E) fee for each pole listed in an RFA application, which includes SCE’s cost for
25 performing pole loading calculations. In SCE’s 2021 GRC decision, D.21-08-036, the Commission
26 found that the P&E fees charged by SCE to be reasonable, necessary, and reflective of SCE’s actual cost

⁵⁰ D.21-08-036, pp. 255-261, and in particular pp. 259-260.

⁵¹ D.21-08-036, pp. 255-261, and in particular pp. 260-261.

⁵² D.98-10-058 (as modified by D. 16-01-046, D. 18-04-007, and D.22-10-025).

1 of service.⁵³ However, because attachers perform their own pole loading calculations as part of the RFA
2 process, the Commission requested SCE to evaluate whether this requirement for attachers could be
3 eliminated and whether there would be any safety impacts or cost considerations.⁵⁴ The Commission
4 made this request after noting that one of the terms in SCE’s settlement with a third-party attacher was
5 that the attacher would not be required to submit ongoing pole loading calculations with its requests for
6 attachments.⁵⁵

7 Since issuing D.21-08-036, the Commission has addressed the electric utilities’
8 RFA application process in D.22-10-025 in OII 17-06-027/OIR 17-06-028. In the decision, the
9 Commission modified Section IV.A of the ROW rules streamlining the utilities’ review and approval of
10 RFAs, but the Commission did not eliminate the requirement in the ROW rules that attachers must
11 submit pole loading calculations as part of their attachment requests.⁵⁶ Therefore, based on the
12 Commission’s decision in the OII/OIR, attachers must continue submitting pole loading calculations as
13 part of the RFA application process to be in compliance with Section IV.A.2 of the ROW rules, and thus
14 this requirement should not be waived.

15 **b) Compliance with the FCC’s Requirements That The Utility Charge Just,**
16 **Reasonable, and Nondiscriminatory Rates for Pole Attachments.**

17 In D.21-08-036, the Commission cited the Federal Communications Act, 47
18 U.S.C. Section 224, which requires that a utility charge “just, reasonable, and nondiscriminatory rates

⁵³ D.21-08-036, p. 258.

⁵⁴ “Additionally, while we deny the September 9, 2020, motion by SCE and Conterra for approval of a settlement agreement (see Section 52.3), we take note that one of the terms of the proposed settlement is that Conterra not be required to submit ongoing pole loading calculations with its requests for attachments. There is nothing in the record of this proceeding to indicate how waiving this requirement would impact safety or cost considerations, but the proposal appears consistent with the Commission’s recognition that a utility’s engineering studies should ‘avoid duplicative costly engineering analysis which could undermine the economic advantages of building a carrier’s own facilities.’ Therefore, as part of the next GRC filing we direct SCE to evaluate whether this or similar process improvements could be applied to third-party requests for pole attachments. For any proposed process improvement(s), SCE shall consider whether there would be associated safety implications or additional costs borne by ratepayers.” D.21-08-036, pp. 259-260.

⁵⁵ D.21-08-036, pp. 259-260.

⁵⁶ Section IV.A.2 of the ROW Rules attached to the September 16, 2022, PD, p. A-6. Section IV.A.2 provides that attachers are required to submit, “[l]oading information, which includes grade and size of attachment, size of cable, average span length, wind loading of their equipment, vertical loading, and bending movement.”

1 for pole attachments” and requested clarification from SCE regarding compliance with this rule.⁵⁷
2 Pole attachment fees approved by the Commission in SCE’s GRC proceedings include the following
3 fees that SCE collects from qualified attachers who, pursuant to applicable ROW rules, install
4 attachments on SCE’s poles: (1) process and engineering (P&E) fees, (2) post inspection fees, and
5 (3) pole rental fees. The Commission observed that SCE, through its Edison Carriers Solutions (ECS)
6 Department, competes for customers against third-party attachers who must pay pole attachment fees,
7 while SCE does not appear to charge itself for these fees for ECS-related attachments. Therefore, the
8 Commission directed SCE to include testimony with this GRC application explaining how the apparent
9 exemptions afforded to ECS complies with Federal Communications Commission (FCC) requirements
10 that a utility charge “just, reasonable, and *nondiscriminatory* rates for pole attachments.”⁵⁸

11 As a threshold matter, the Commission’s inquiry in D.21-08-036 appears to focus
12 on the “nondiscriminatory” (vs. “just and reasonable”) standard of Section 224. Not only is the word
13 “nondiscriminatory” emphasized in D. 21-08-036,⁵⁹ but the Commission also found that SCE’s P&E
14 fees and post inspection fees are “reasonable, necessary, and reflective of SCE’s actual cost of service.⁶⁰
15 And pole rental fees are approved by the Commission in SCE’s GRC decision as part of SCE’s OOR
16 forecast.⁶¹ As such, the Commission directed SCE to reconcile in this 2025 GRC Section 224 of the
17 Federal Communications Act with an apparent exemption for ECS.

18 Testimony on SCE’s compliance with the accounting and reporting requirements
19 associated with ECS activities appears in Exhibit SCE-07, Vol. 1, Section IX.A.6(c)(1). In addition, a
20 detailed background of ECS is found in Exhibit SCE-07, Vol. 1, Section IX.A.6(d)(1). As described in

⁵⁷ “Lastly, beyond clarifying that ECS is not an affiliate, SCE does not respond to Conterra’s assertion that ECS has an unfair advantage to the detriment of broadband competition and the greater public good. Given that SCE competes with Conterra directly for education customers in the same area where it owns poles, and ECS is not subject to the pole attachment fees approved in this decision, we have concerns regarding how the exemptions afforded to ECS complies with Federal Communications Commission (FCC) requirements that a utility charge “just, reasonable, and *nondiscriminatory* rates for pole attachments.” D.21-08-036, p. 260 (emphasis in original).

⁵⁸ D.21-08-036, p. 260 (quoting from Federal Communications Act, 47 U.S.C. Section 224 (emphasis in decision)).

⁵⁹ D.21-08-036, p. 260 (quoting from Federal Communications Act, 47 U.S.C. Section 224 (emphasis in decision)).

⁶⁰ D.21-08-036, p. 258.

⁶¹ D.21-08-060, p. 260.

1 more detail in Exhibit SCE-07, Vol. 1, ECS is neither an affiliate nor subsidiary of SCE. Rather, SCE
2 (not ECS) is the owner of the Commission-authorized Certificate of Public Convenience and Necessity
3 (CPCN) to provide limited Telecommunications services. SCE created a department called ECS within
4 SCE's Information Technology Organizational Unit to provide certain commercial Telecommunication
5 services approved by the Commission as Non-Tariff Product and Services (NTP&S). Significantly, in its
6 provision of NTP&S, ECS relies primarily on its own dedicated staff to perform day-to-day work, which
7 is 100 percent funded by SCE shareholders, not customers. SCE tracks the incremental costs incurred in
8 providing NTP&S. Under the "but for" test described in Section IX.A.6(c) of Exhibit SCE-07, Vol. 1, if
9 SCE would not have incurred the cost but for the NTP&S, then the cost is deemed incremental and
10 charged to SCE's shareholders. To the extent that there are non-incremental costs associated with
11 NTP&S, SCE does not charge itself for the non-incremental work performed by its own departments
12 because the Commission has made clear that SCE may make use of non-incremental utility resources
13 without reimbursing the utility.

14 D.21-08-036 makes the incorrect assumption that SCE's ECS Department is
15 "exempt"⁶² and does not pay for pole attachment fees. To the contrary, SCE's ECS Department charges
16 shareholders when SCE incurs incremental costs, such as reviewing and approving attachments and pole
17 loading inspection results. Thus, while SCE's ECS Department does not directly "pay" SCE for P&E
18 and post-inspection fees, SCE's ECS Department incurs the same cost internally, and such costs are
19 borne by SCE's shareholders because they are incremental costs. Pole rental fees are non-incremental
20 and are thus, per the Commission's affiliate transaction rules, not reimbursed by and to SCE.

21 As explained in Exhibit SCE-07, Volume 1, SCE is in full compliance with
22 Commission regulations and requirements relating to ECS' activities, including any recording and
23 reporting requirements set by the Commission. Pursuant to Section 244, the Commission may regulate
24 "rates, terms, and conditions, or access to poles, ducts, conduits, and rights-of-way" and deprive the
25 FCC of jurisdiction over such matters, which the Commission refers to as "reverse preemption."⁶³
26 In other words, the Commission is not obligated to conform to FCC rules and, as a result, decisions
27 issued by the Commission are controlling. And the Commission has done so by promulgating rules

⁶² D.21-08-036, p. 290.

⁶³ For a discussion of the Commission's view of California's reverse preemption, please see Section 1.1 of D.22-10-025. The Commission first exercised reverse preemption by promulgating its Rights-of-Way Rules in D.98-10-058, issued October 22, 1998.

1 regarding rates, terms, and conditions, or access to poles, ducts, conduits, and rights-of-way, which bind
2 SCE. Accordingly, in California, the FCC lacks jurisdiction to regulate or impose requirements on these
3 matters. SCE does incur the cost of pole fees for ECS attachments, but under a different Commission-
4 approved construct that appropriately charges these incremental costs to SCE's shareholders.

Appendix A
General Explanation of Cost Sharing with Joint Owners and Renters from 2021 GRC
Exhibit SCE-02, Vol. 5

General Explanation of Cost Sharing with Joint Owners and Renters

In this Appendix, SCE discusses cost sharing for joint owners and renters. The table below titled “Summary of Cost Sharing for Joint Owners and Renters” briefly summarizes and compares key elements of cost sharing under each joint usage arrangement. Then the details of cost sharing under each arrangement are provided including illustrative examples of the derivation of the joint owner credit and the rental rate.

Summary of Cost Sharing for Joint Owners and Renters

	Joint Owners	Renters
Framework	Rates and terms are agreed upon by the SCJPC members.	Rates and terms are decided by State law and Commission.
Cost for Initial Attachment	Joint owners pay the pole owner to purchase interest in the pole.	Renters pay an application fee ¹ for SCE to evaluate their application. They make no capital contribution to the cost of the existing pole. If the pole will become overloaded because of their attachment, they must reroute or pay the full cost of the pole replacement.
Cost for Pole Replacements	Joint owners share in the cost to replace a bare pole unless the replacement will solely benefit one owner.	Renters do not contribute to the cost of replacements on poles to which they are already attached.
Ongoing cost	Joint owners reimburse each other for certain maintenance costs such as intrusive pole inspections.	Renters pays an annual fee based on a statutory formula that is per attachment for wireline attachments or per foot for wireless attachments. ²
Unauthorized Attachment Penalty	Attacher must purchase interest in the pole and pay a penalty of an additional 50% of the cost to purchase interest in the pole.	Renter pays a \$500 penalty fee and renter must apply for attachment permit.

¹The application fees are referred to as Process and Engineering (P&E) Fees which record to Other Operating Review. See SCE-02, Vol. 07

²The annual fee records to Other Costs & Other Operating Revenue. See SCE-02, Vol. 07

Cost Recovery from Joint Owners

The members of the SCJPC (also referred to as joint owners) agree on the amounts that members will charge each other for various joint activities. Examples of joint activities include: (1) a member purchasing interest in an existing pole; (2) a pole replacement of a jointly owned pole; or (3) an intrusive pole inspection of a jointly owned pole. The members determine what activities are to be reimbursed and how each member will be compensated for performing joint work on behalf of the other joint owners. Approved Pole Prices and Authorized Costs are the two major cost categories used to determine the amount owed among joint owners. There are key differences in these categories and how they apply to joint activities. The table below titled “Joint Owner Cost Categories Set by SCJPC Members” summarizes fundamental attributes of each category.

Joint Owner Cost Categories Set by SCJPC Members

	Approved Pole Prices	Authorized Costs
Description	The capital cost that one joint owner pays another joint owner to purchase ownership interest in a pole	The cost one joint owner pays another joint owner to perform certain O&M work associated with ownership
When is cost used	Used to calculate the cost to purchase ownership interest in a pole either because of a pole replacement or to initially purchase interest in an existing pole	Used to share the cost of work such as removing the old pole after a pole replacement or performing an intrusive inspection
How are costs determined	Each joint owner submits its pole price and that price is used to charge other joint owners	Each joint owner submits its cost to perform each item of work. All joint owner submissions are averaged and that average is used as the Authorized Cost that joint owners charge each other
How costs are shared	Each joint owner pays in proportion to its ownership interest in the pole	Costs are shared equally between joint owners
How often are costs updated	Every year	Every other year

The following example illustrates the cost sharing among SCE and a joint owner where the joint owner owns one foot of space for its own use and SCE is replacing the pole. The calculations are summarized in the table titled “Example of Joint Owner Cost for Pole Replacement” and portrayed in the figure titled “Diagram of Jointly Owned Pole Cost Sharing.”¹

For a 45 foot pole that is jointly owned by two members, the common space (also called the non-usable space) is 30’ and the remaining 15’ is the usable space. The non-usable space is the 6’ in the ground, the 18’ from the ground to the lowest point where facilities can be attached, called the public zone or support structure, and the 6’ of safety clearance zone between the communication and electric facilities in which no attachments can be placed.²

In this example, because SCE is replacing the pole, the other joint owner will need to pay SCE in order to purchase interest on the new pole. Note that regardless of how much space a joint owner purchases, all owners share equally in the cost of common space. The cost of the common space is $30' * \$114 \text{ per foot} = \$3,420$. Therefore, the other owner is responsible for half of the cost of the common space or $\frac{1}{2} * 30' * \$114 = \$1,710$ and is also responsible for the full unit cost foot of usable space it owns or $1' * \$114 = \114 .

After SCE replaces a pole, it transfers its equipment to the new pole. Assuming the joint owner is responsible for removing the old pole. The next step is for the communication company to transfer its

¹ 2014 SCJPC Approved Pole Prices are used in this example and rounded to the nearest dollar.

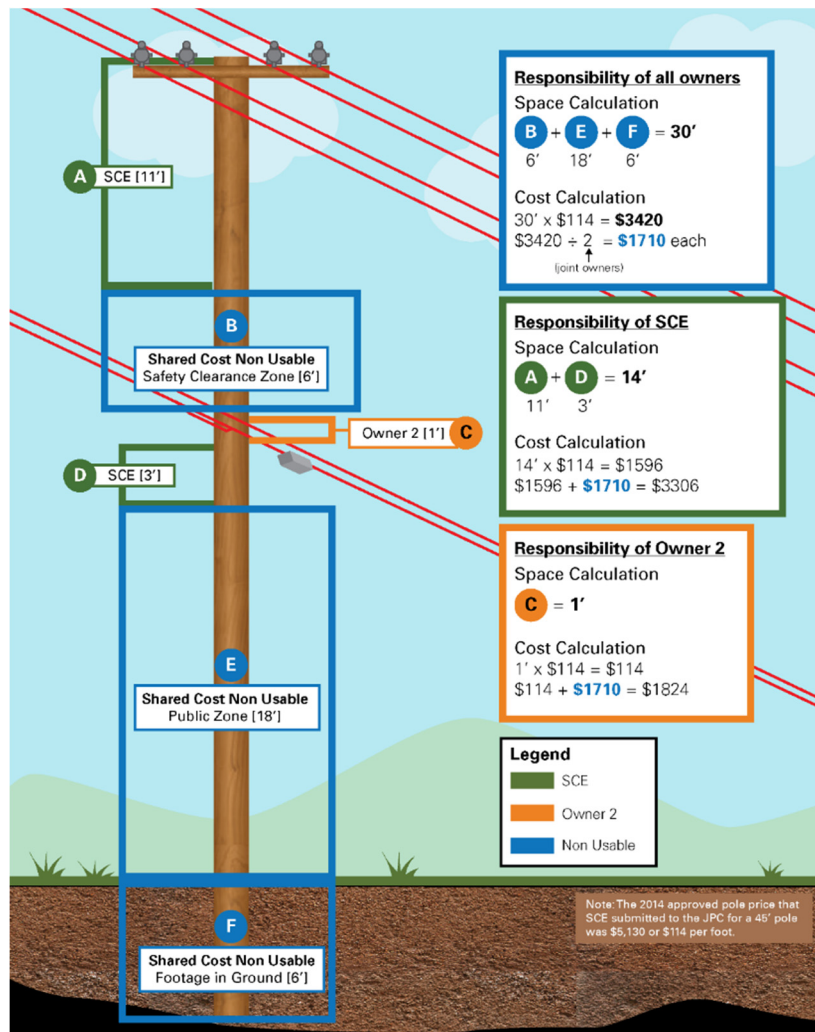
² In some instances, if a guard arm is placed, the safety clearance zone may be reduced to 4 feet.

equipment at its own cost and then remove the old pole, referred to as pulling, transporting, and disposing (PTD). The cost to PTD a pole is an Authorized Cost. In contrast to Approved Pole Prices, which are member specific, the Authorized Cost for an activity is the same regardless of which owner performs the work. Authorized Costs are shared equally among the joint owners of the pole. Since there are two owners, each joint owner is responsible for one half of the Authorized Costs. The Authorized Cost for PTD is \$1,361, therefore SCE will owe one half of the cost to PTD to the other owner or $\frac{1}{2} * \$1,361 = \681 .

In summary, the other joint owner will owe SCE \$114 for its own foot of usable space, plus \$1,710 for its half of the common space, totaling \$1,824. SCE will owe the other joint owner \$681 for half the cost of PTD. The net recovery for SCE will be $\$1,824 - \$681 = \$1,143$.

Considering the same pole replacement example above, if SCE were responsible to PTD the old pole, the joint owner would owe SCE for half of the cost to PTD. In summary, the joint owner will owe SCE \$114 for its own foot of usable space, plus \$1,710 for its half of the common space, plus \$681 for its half the cost of PTD. The net recovery for SCE will be $\$114 + \$1,710 + \$681 = \$2,505$.

Diagram Example of Jointly Owned Pole Cost Sharing



Example of Joint Owner Cost for Pole Replacement

		Amount Paid to SCE		
JPC Authorized Cost	Total Cost	Joint Owner Share of the Cost	Scenario 1 Joint Owner Cost SCE Removes the Old Pole	Scenario 2 Joint Owner Cost Joint Owner Removes the Old Pole
Cost of Usable Space	\$ 1,710	1 foot of 15 feet or 6.67%	\$ 114	\$ 114
Cost of Common Space	\$ 3,420	50%	\$ 1,710	\$ 1,710
Subtotal Cost of Pole	\$ 5,130		\$ 1,824	\$ 1,824
Transporting, Disposal (per pole)	\$ 1,361	50%	\$ 681	\$ (681)
Net Payment to SCE			\$ 2,505	\$ 1,143

The previous example covered what is called a mutual benefit pole replacement. Mutual benefit pole replacements benefit all owners of a pole. Joint owners have agreed that when a pole is replaced for mutual benefit, joint owners share the cost to set a bare pole in the ground and other associated costs such as the cost to pull, transport, and dispose of the old pole. Each joint owner is responsible for the costs of transferring its own equipment from the old pole to the new pole.

Some poles require replacement because SCE is adding equipment or reconductoring, which causes the pole to be overloaded. In these situations, the cost of a pole replacement is not shared because the pole replacement is solely for the benefit of SCE. Therefore, SCE must bear the cost of the replacement while the joint owner would only pay for the interest purchased on the new pole. The joint owner must pay to purchase into the new pole however, they receive a credit for their equity interest in the old pole. This has the effect of lowering the overall joint owner credit per pole replaced.

Cost Recovery from Renters

The Commission has adopted the statutorily set rate of 7.4% of the public utility's annual cost of ownership.³ The 7.4% came from the Federal Communications Commission's pricing formula which assumed a hypothetical pole of 37.5 feet. The hypothetical pole was the average of a 35 foot pole and 40 foot pole. A 37.5 foot pole would have 24 feet of unusable space leaving $(37.5' - 24' = 13.5')$ 13.5 feet of usable space. If a renter rents one foot of the 13.5 feet, then they have rented $(1' / 13.5' = 7.4\%)$ 7.4% of the usable space.⁴ Renters are not responsible for the cost of routine pole replacements.⁵ Renters are not billed for the O&M or inspection cost of the poles on which they attach. Instead, the cost of O&M is included in the formula used to calculate the annual rental rate.

³ Cal. Pub. Util. Code § 767.5 and D.18-04-007.

⁴ 47 C.F.R. § 1.1410.

⁵ When a renter is denied an attachment, the renter may pay to replace the pole, reroute its attachment and apply to attach to other poles, underground, or install an interest pole.