

Application No.: A.19-08-013
Exhibit No.: SCE Tr. 4-01
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(U 338-E)

***SCE-01: Direct Testimony in Support of GRC
Track 4 Request***

Before the

Public Utilities Commission of the State of California

Rosemead, California
May 13, 2022

SCE-01: Direct Testimony in Support of GRC Track 4 Request

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I.

INTRODUCTION

A. Introduction & Procedural History

In this Track 4 of SCE’s Test Year (TY) 2021 General Rate Case (GRC), SCE requests that the California Public Utilities Commission (Commission) authorize a revenue requirement of \$8.639 billion for 2024. This represents an increase of \$972 million compared to SCE’s estimated revenue requirement of \$7.667 billion¹ for the 2023 attrition year and is necessary to continue our fundamental mission of providing safe, reliable, affordable and increasingly clean electricity to our 15 million customers. Although styled as the third attrition year in SCE’s 2021 GRC, essentially Track 4 serves as a bridge year funding mechanism for 2024 between SCE’s three-year 2021 GRC cycle and our upcoming four-year 2025 GRC cycle, which will be filed one year from now. SCE’s Track 4 request is to continue our foundational work to maintain and prudently improve the grid, as well as the support functions necessary to provide service to our customers. SCE will carry out this work while continuing to focus on the efforts needed to implement the State’s vital policy objective of protecting customers and communities from the threat of wildfires; reducing greenhouse gas emissions and more broadly decarbonizing the economy through widespread electrification;² and safely and reliably integrating distributed energy resources across a rapidly modernizing grid. A significant component of SCE’s Track 4 proposed revenue requirement relates to projects previously authorized by the Commission (including those which have been completed and put into service since SCE’s 2021 GRC).

SCE’s request is consistent with the April 17, 2020 Amended Scoping Memo and Ruling (Amended Scoping Memo) that established Track 4 to consider funding for a third post-test year rate mechanism covering 2024.³ This Amended Scoping Memo and Ruling effectuated the changes in

¹ In accordance with D.21-08-036 Ordering Paragraph 3, the 2023 estimated authorized base revenue requirement amount of \$7.667 billion includes attrition year adjustments as specified in advice letters 4586-E and 4639-E. The final 2023 base revenue requirement will be set based on IHS Markit indices published in the fourth quarter of 2022.

² In November 2019, SCE published its Pathway 2045 White Paper, a data-driven, in-depth analysis that outlines the steps California must take to meet its 2045 goals to clean our electricity grid and reach carbon neutrality.

³ See Amended Scoping Memo, p. 1.

1 Decision (D.)20-01-002, which revised the Rate Case Plan (RCP)⁴ for all IOUs from a three-year to
2 four-year cycle. Further, it amended the November 29, 2019 Scoping Memo that originally divided this
3 proceeding into three tracks: Track 1 of this GRC addressed SCE’s forecast-based revenue request for
4 2021-2023, and Tracks 2 and 3 considered recorded 2018-2020 costs in SCE’s wildfire mitigation
5 regulatory cost tracking accounts.⁵ The Commission resolved Track 1 in D.21-08-036 (the Track 1 Final
6 Decision) and Track 2 in D.21-01-012. Track 3 has been fully briefed and submitted and is pending a
7 Proposed Decision as of the date SCE submits this Track 4 filing. The Amended Scoping Memo
8 contemplated and provided guidance on several issues that have shaped SCE’s Track 4 funding
9 methodology and presentation. First, in generally discussing the constraints on parties’ resources
10 associated with the addition of a fourth year in this proceeding and the COVID-19 pandemic, the
11 Commission stated, “our goal for the administration of this proceeding is to provide a fair hearing
12 process to all parties, alongside a workable schedule expected to produce timely decisions.”⁶

13 The Commission provided the following additional direction:

14 First, SCE’s third attrition year request [Track 4] must be consistent with the general policy
15 decisions reached by the Commission in Track 1 of this proceeding. The intent behind
16 Track 4 is to allow SCE to update its spending budget, not relitigate policy determinations
17 made in the Commission’s Track 1 decision. As such, if a ‘budget-based’ attrition year
18 mechanism is not adopted for attrition years 2022-2023 we do not expect SCE to revisit
19 this issue in Track 4.⁷

20 The Track 1 Final Decision also authorized a Post Test-Year Ratemaking (PTYR) to adjust the
21 revenue requirement in 2022 and 2023 that utilizes utility-specific, index-based escalation rates for
22 O&M and non-wildfire capital additions. Separately, the Track 1 Final Decision authorized a budget-
23 based forecast methodology for Residential and Commercial New Service Connections as well as

⁴ The RCP was last revised on a large scale in D.89-01-040 (30 CPUC2d 576). Minor changes to the RCP were subsequently adopted in D.92-08-033, D.93-07-030, D.07-07-004 and D.14-12-025. The latest description and schedule of the RCP for the energy utilities is reflected in Appendix A of D.20-01-002 with Appendix B providing the schedule for the transition from the three-year GRC cycle to the four-year GRC cycle. These decisions are collectively referred to herein as the “Rate Case Plan.”

⁵ SCE’s wildfire mitigation regulatory cost tracking accounts refer to: Wildfire Mitigation Plan Memorandum Account (WMPMA); (2) Fire Hazard Prevention Memorandum Account (FHPMA), (3) Fire Risk Mitigation Memorandum Account (FRMMA), and the (4) Grid Safety and Resiliency Program Balancing Account (GSRPBA). Both the FHPMA and GSRPBA have subsequently been closed.

⁶ See Amended Scoping Memo, p. 8.

⁷ Amended Scoping Memo, p. 9.

1 Wildfire Management capital additions in 2022 and 2023 given the unique impacts on wildfire
2 mitigation capital additions during this GRC cycle. While the Track 1 Final Decision adopted the 2022
3 and 2023 PTYR mechanism and implementing advice letter process, it also clarified that it did not
4 address funding for 2024, which would be addressed in this Track 4.⁸

5 In light of guidance provided by the Amended Scoping Memo and the Track 1 Final Decision,
6 SCE has limited its requests related to 2024 to three primary forecast methodologies:

- 7 • Utility-specific index-based escalation for all Operations and Maintenance (O&M) and
8 non-wildfire capital additions (except Residential and Commercial New Service
9 Connections (NSC)) consistent with D.21-08-036)⁹
- 10 • 2024 O&M forecasts for wildfire mitigation and vegetation management activities based
11 on 2021 last-year recorded levels;¹⁰ and
- 12 • Budget-based capital additions forecasts for NSC, wildfire mitigation and vegetation
13 management activities.¹¹

14 In accordance with the Commission’s directive to “not relitigate policy determinations made in
15 the Commission’s Track 1 decision,”¹² SCE’s other requests in Track 4 are generally limited to cost
16 updates based on more current information such as recorded financial data.¹³ SCE also requests to

⁸ See D.21-08-036 at pp. 3-4 (“This decision does not address recorded expenditures tracked in SCE’s various wildfire-related memorandum accounts, or the approval of funding for a third attrition year covering 2024, which are the subject of separate decisions in this proceeding.”).

⁹ In addition, SCE’s Track 4 request accounts for the significant increase in inflation related to the COVID-19 pandemic that was not and could not have been foreseen at the time SCE developed its Track 1 Application in 2019. As discussed in Chapter III.B, the impact of COVID-19 on inflation is not reflected in the Commission authorized 2021 TY revenue requirement, resulting in an increasing deficiency between actual escalation rates and authorized escalation rates in each attrition year. SCE’s proposed escalation rates for 2024 reflect the known impact of COVID-19 on inflation during the 2021 Test Year.

¹⁰ The wildfire mitigation-related O&M forecasts are set forth in Exhibit SCE-02, Chapters V-XIV and the vegetation management O&M forecast is set forth in Exhibit SCE-02, Chapter VIII.

¹¹ The utility-specific, index-based escalation for O&M and the bifurcation of capital PTYR proposals are discussed in more detail in Chapter III.B, the NSC capital proposal is discussed in SCE-02 Chapter XIV, the wildfire-related capital forecasts are discussed in Exhibit SCE-02, Chapters V-XIV, and the vegetation management capital forecast is set forth in Exhibit SCE-02, Chapter VII.

¹² Amended Scoping Memo, p. 9.

¹³ Please also refer to Chapter III.E and Chapter IV for SCE’s requests related to Customer Deposits and the Safety Reliability Investment Incentive Mechanism (SRIIM). While SCE’s Track 4 request is generally

(Continued)

maintain the existing Track 1-authorized treatment of all existing memorandum and balancing accounts and proposes in Track 4 to extend the cost-tracking accounts through at least the end of 2024.

B. Summary of Request

SCE's highest priority is safety. The existential risk from wildfires facing our customers and communities we are privileged to serve remains SCE's number one safety risk, as reflected in SCE's concurrently-submitted 2022 Risk Assessment Mitigation Phase (RAMP). Through the robust wildfire mitigation efforts we have employed to date, SCE has made significant progress in reducing the amount of ignition risk on SCE's system, as well as reducing the need to resort to Power Safety Power Shutoffs (PSPS) to mitigate that risk. But more remains to be done to continue to drive down risk to our customers and communities. SCE's Track 4 Request therefore seeks continued funding necessary to combat the substantial challenges California faces as a result of our global climate crisis and its effects. In 2021, California experienced another year of extreme wildfire activity, exacerbated by intensifying drought conditions and record-high temperatures. To deal with the challenge of climate-change-driven wildfire risk, and to respond to direction from this Commission and the Office of Energy Infrastructure Safety (Energy Safety or OEIS), SCE has developed a new Integrated Grid Hardening Strategy (IGHS) to prudently make the electric grid more resilient in a risk-informed manner. The IGHS included in SCE's Track 4 request is consistent with our overall grid hardening strategy described in our 2022 Wildfire Mitigation Plan (WMP) Update. Specifically, IGHS proposes the continued deployment of covered conductor in 2024 through our Wildfire Covered Conductor Program (WCCP), but adds increased deployment of Targeted Underground (TUG), as well as a suite of complementary mitigation measures for sections of our overhead distribution facilities where an ignition has the most potential of growing into a significant wildfire.

SCE's IGHS is consistent with three regulatory directives from the Commission and OEIS regarding grid hardening. First, in the Track 1 Final Decision, the Commission "allow[ed] SCE to install

constrained to continue methodologies or policies adopted in Track 1, SCE's silence in Track 4 on a particular matter should not be interpreted as SCE's concurrence with the Track 1 policy outcome on that matter. Accordingly, SCE may propose or revisit certain policy positions in its upcoming TY 2025 GRC.

1 additional covered conductor miles above the 4,500 circuit-mile level, including within this GRC period,
2 subject to after-the-fact reasonableness review; however, SCE will have the burden to affirmatively
3 establish further covered conductor deployment is justified based upon its most recent WMP and up-to-
4 date circuit segment risk calculations.”¹⁴ Second, in the August 2021 Final Action Statement on SCE’s
5 2021 WMP, OEIS required SCE to “[r]e-evaluate the scope and pace of its future covered conductor
6 program,” with an “explicit consideration of all possible alternative mitigation initiatives [including for
7 the] [r]eduction of PSPS events,” and to further evaluate the “[e]ffectiveness of covered conductor in the
8 field”¹⁵ Third, in the Track 1 Final Decision, the Commission also directed “SCE to incorporate
9 egress, and other conditional risks as appropriate, in future RAMP and GRC risk modeling.”¹⁶ Chapters
10 V-XIV of this testimony set forth how IHGS complies with these three regulatory directives, and
11 provide the rationale for the installation of covered conductor needed beyond the 4,500 circuit-mile level
12 in 2024. SCE’s proposed scope was developed after a rigorous segment-by-segment analysis, with
13 specific consideration of egress risk in its calculus. In addition, that testimony describes the preliminary
14 results of a recent, independent third-party expert analysis that further validates that covered conductor
15 is effective at preventing ignitions.

16 In order to achieve our ambitious long-term safety-driven and de-carbonization goals,
17 operational excellence is imperative and will be a continued focus in 2024. In 2021, SCE continued to
18 advance its operational capabilities with new systems and digital tools deployed across the company that
19 resulted in enhanced data quality, improved power line inspection and maintenance, and enriched
20 abilities to gather and act on customer feedback. To further strengthen operational excellence as a
21 capability and focus, in late 2021, we also launched an employee-led continuous improvement program.
22 Employees have enthusiastically provided thousands of ideas that we believe will have positive,
23 measurable impacts on safety, affordability, and quality. While SCE is still in the process of evaluating
24 and determining implementation plans for many of the ideas gathered, we expect ideas to be

¹⁴ D.21-08-036 at p. 201.

¹⁵ August 18, 2021 Final Action Statement on the 2021 Wildfire Mitigation Plan (WMP) Update of Southern California Edison Company (SCE) at pp. 57-58.

¹⁶ D.21-08-036, Finding of Fact (FoF) 31, p. 567.

1 implemented over the next several years that will enable delivering greater value for customers,
2 employees, and other stakeholders. SCE will incorporate any forecast savings or lower recorded costs in
3 future GRCs to the extent we are able to appropriately estimate the amount and timing of those savings
4 based on ongoing evaluation and implementation status of the ideas.

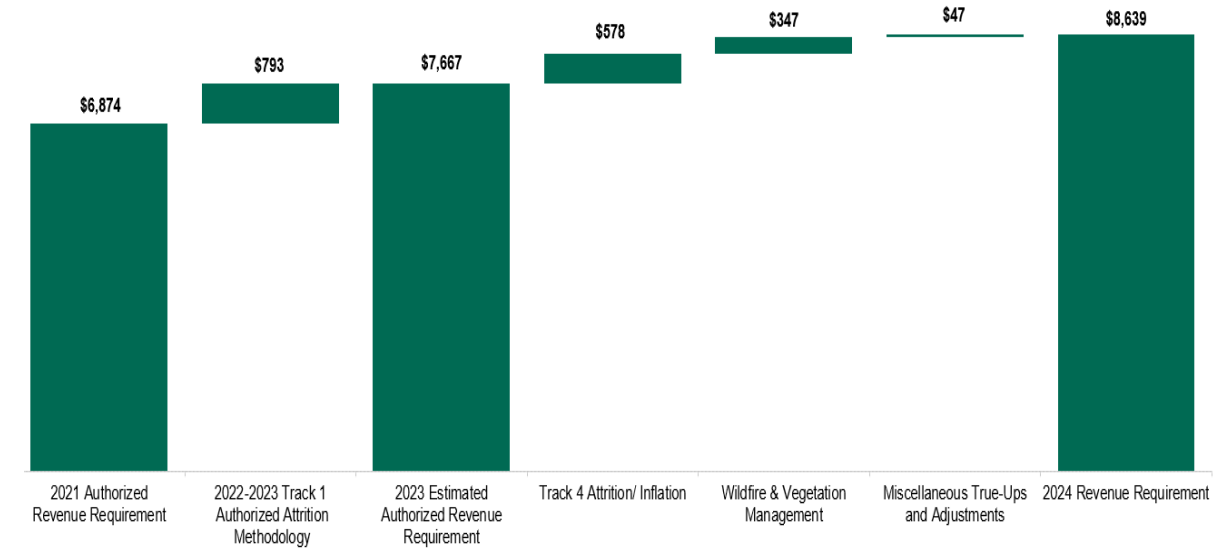
5 As shown in Figure I-1 below, SCE requests a revenue requirement of \$8.639 billion for the
6 2024 bridge-funding year. This represents a 6.49%¹⁷ increase over total system rates as of April 15,
7 2022.¹⁸ Figure I-1 illustrates the drivers for the 2024 revenue requirement beyond the estimated 2023
8 authorized revenue requirement: (1) Track 4 attrition/escalation for O&M and non-wildfire/vegetation
9 management capital additions previously authorized;¹⁹ (2) SCE's 2024 vegetation management and
10 wildfire mitigation O&M and capital spending forecasts; and (3) miscellaneous adjustments related
11 to customer deposits and a true-up for SCE's recorded 2020 non-wildfire capital expenditures.
12 These drivers are discussed further below.

¹⁷ Equivalent to 12.67% over estimated authorized base revenue requirements for 2023.

¹⁸ Refer to WP SCE Tr. 4-01 - Advice 4760-E pp. 2 – 160.

¹⁹ Track 4 attrition includes the Track 4 PTYR escalation proposal for O&M, non-wildfire mitigation/vegetation management capital additions, and wildfire, vegetation management and residential/commercial NSC capital spending at 2023 authorized levels.

Figure I-1
Change in GRC Revenue Requirement from 2021 to 2024
(CPUC, in \$millions)



1. Track 4 PTYR Escalation

SCE’s 2024 PTYR cost escalation proposal is designed to cover our costs of doing business in 2024 for capital additions and O&M. This Track 4 is a unique filing from a typical PTYR standpoint for several reasons. First, it covers only one year, 2024, a bridge funding year to SCE’s 2025 GRC filing, which will be SCE’s first four-year GRC cycle with a three-year PTYR mechanism. Second, SCE necessarily relied on 2021 as the Test Year, but 2021 was impacted by significant, once-in-a-generation inflation related to the COVID-19 pandemic that could not have been foreseen when SCE filed its Track 1 Application. Consequently, actual escalation rates for 2021 far exceeded the escalation rate forecasts made in 2019 during the preparation of Track 1 of this GRC and in the Update Testimony submitted in July 2020 that ultimately set the TY 2021 revenue requirement. For these reasons, SCE’s proposed 2024 PTYR mechanism seeks to establish the 2024 revenue requirement and authorized capital additions at levels that more accurately reflect the inflation impacting the utility-specific indices adopted in the Track 1 Final Decision that SCE has experienced in and since 2021. SCE discusses these PTYR cost proposals in greater detail in Chapter III.B.

2. 2024 Vegetation Management and Wildfire Mitigation Spending Budgets

For wildfire mitigation-related capital expenditures, the Track 1 Final Decision specifically authorized a “budget-based” forecasting approach for the attrition years 2022-2023, which SCE has maintained in this Track 4 Request (with the addition of vegetation management capital expenditures, which is a sub-activity created after Track 1 and are also in large part driven by wildfire mitigation activities). For wildfire mitigation-related O&M and vegetation management-related O&M, SCE’s Track 4 forecast for 2024 is set at 2021 last-year recorded levels,²⁰ which is a well-established forecasting tool used when determining forecast GRC revenue requirements. This is also consistent with the Track 4 Scoping Memo’s guidance to SCE “to update its spending budget,” because 2021 recorded costs in these categories reflect what SCE needed in order to meet the objectives and work activities described in the Track 1 Final Decision and serve as a reasonable proxy for the cost of the work SCE expects to perform in 2024. Simply escalating the TY 2021 authorized amounts that were based on forecasts developed in 2019 would be woefully insufficient to cover SCE’s forecast costs for 2024, particularly for these categories of vegetation management and wildfire mitigation costs which have evolved dynamically in recent years.

For vegetation management, in Track 1 the Commission denied SCE’s Update Testimony request to include the increased pass-through costs of labor based on completed contract negotiations that reflected (among other drivers) the passage of SB 247, a law that required SCE to pay its vegetation management contractors significantly more and which became effective more than two years ago (and four years before the 2024 Authorized Base Revenue Requirement (ABRR) will be implemented). The way vegetation management costs are incurred and recorded in our financial systems did not enable us to separate which portion of the increased labor costs was specifically driven by SB 247 in our Track

²⁰ As discussed in SCE-02, in a few select instances SCE developed 2024 forecasts by adjusting 2021 recorded O&M expenses *downward* to account for known one-time non-recurring expenses, resulting in 2024 forecasts that are lower than 2021 recorded. In addition, some sub-activities with historical authorized and/or recorded O&M expenses or capital expenditures but with no 2024 forecast are not included in testimony, though they are referenced in applicable footnotes. Information on those sub-activities are included in the workpapers WP SCE Tr. 4-01 - O&M Financial Mapping pp. 161–162 and WP SCE Tr. 4-01 - Capital Financial Mapping pp. 163 - 165. These workpapers also serve as a reference for how sub-activities are grouped in testimony, and align any naming differences between testimony, standard workpapers, and the Results of Operations model.

1 1 Update Testimony. In the Track 1 Final Decision, the Commission indicated SCE’s proposed update
2 was beyond the limited changes appropriate for Update Testimony.²¹

3 In part due to this regulatory deferral of cost recovery, in 2021 SCE accrued a material
4 under-collection in the Vegetation Management Balancing Account (VMBA) and expects to do so again
5 in 2022 and 2023. Setting a 2024 vegetation management-related revenue requirement based on 2021’s
6 authorized amounts will only compound this under-collection problem and will lead to a potentially
7 avoidable future Application to recover these under-collected costs for calendar year 2024, well after
8 these reasonable and unavoidable pass-through costs have been incurred. Continuing the deferral of
9 recovery of these unavoidable costs (and other vegetation management cost-of-service expenses) is not
10 only contrary to the regulatory compact, but also not in customers’ best interests. Expenses prudently
11 incurred for utility service should be expeditiously authorized for immediate recovery; deferral of
12 recovery puts pressure on future customer rates and impairs utility financial health, which ultimately
13 increases costs to customers. The Commission and parties have reviewed these costs for calendar year
14 2020 in Track 3 of this GRC (on a recorded basis) and also have the benefit of actual 2021 recorded data
15 to inform the reasonableness of SCE’s Track 4 forecast.

16 For wildfire mitigation O&M, the Track 1 Final Decision denied SCE’s request to track
17 all wildfire mitigation costs in a two-way balancing account. Instead, for non-WCCP wildfire mitigation
18 activities, the Commission held that because “[t]he projected scope of these activities are significantly
19 less than that of SCE’s WCCP,” and “because SCE’s Wildfire Mitigation Plan Memorandum Account
20 allows SCE to track costs incurred to implement SCE’s approved WMP,” that “SCE has every
21 opportunity to seek reasonableness review for any recorded costs in excess of the amounts approved in
22 this decision.”²² Pursuant to the Track 1 Final Decision, SCE has tracked non-WCCP wildfire mitigation
23 costs above authorized levels in its existing fire mitigation memorandum accounts. That will necessitate

²¹ D.21-08-036, pp. 182-183.

²² D.21-08-036, pp. 250-51.

1 a reasonableness review in one or more future Applications for calendar years 2021-2023.²³ But because
2 2021 wildfire mitigation O&M recorded costs are now known, and because the scope of this work and
3 its associated costs for 2024 is likely to be at least as much as was performed and incurred in 2021, it is
4 appropriate to set the 2024 forecast at the 2021 recorded level to help minimize or avoid further under-
5 collection, which would likely necessitate yet another future cost recovery Application. Doing so may
6 help obviate pressure on constrained Commission and party resources and will also be consistent with
7 the Amended Scoping Memo's objective that Track 4 should "not place additional material burden on
8 parties to this proceeding."²⁴ Finally, similar to vegetation management O&M expenses discussed
9 above, deferral of recovery of prudently incurred costs for wildfire mitigation is not in the best interest
10 of customers.

11 **3. Miscellaneous True-Ups and Adjustments**

12 In Track 4, SCE is also proposing to update its Customer Deposits (CDs) balance that is
13 used as an off-set (*i.e.*, reduction) to rate base. CDs are funds collected from customers for security
14 against non-payment. CDs are returned to those same customers or used as a credit against their bills in
15 the event of non-payment. In accordance with D.20-06-003, SCE has continued to experience a decline
16 in CDs during its 2021 GRC cycle and is therefore revising its forecast customer deposit balance to
17 reflect this decline, utilizing a 12-month average.

18 SCE is also proposing to true-up 2020 non-wildfire-related recorded capital expenditures
19 for 2020 and reflect that trued-up balance in 2024 rate base. SCE's 2020 wildfire mitigation capital
20 expenditures are excluded from equity rate base and SCE intends to recover these just and reasonable
21 costs through a financing order pursuant to AB 1054.²⁵ Accordingly, it makes practical sense for SCE to

²³ In Chapter II of SCE's supporting direct testimony, SCE discusses its forthcoming application that will seek reasonableness review and recovery of incremental wildfire costs above authorized levels for calendar year 2021.

²⁴ Amended Scoping Memo at p. 8.

²⁵ Cal. Pub. Util. Code §8386.3(e) applies to the first \$1.575 billion of Commission-approved fire risk mitigation capital expenditures incurred by SCE after August 1, 2019. Section 8386.3(e) provides that such expenditures must be excluded from SCE's equity rate base but may be financed through a financing order under Section 850.1. In SCE's Track 1 proceeding, SCE estimated reaching this cap in the first half of 2021 and updated the Results of Operation (RO) Model as part of its Rebuttal Testimony in June 2020.

1 forego a wildfire-related capital expenditure true-up at this time. SCE is truing up recorded capital
2 expenditures for non-wildfire-related capital expenditures as it is accepted practice by the Commission
3 in forecast-based GRC proceedings once those amounts are known.²⁶ Track 4 is a forecast-based GRC
4 proceeding. This true-up, as well as SCE's CD proposal described above are discussed in greater detail
5 in Chapter III.E.

²⁶ D.12-11-051 formally adopted the policy of replacing the forecast values of capital expenditures of the first forecast year, or the first post-base year, with the recorded amounts. Rate case decisions since that time have followed this practice with only a few exceptions.

II.

TRACK 4 INTEGRATION

This section discusses the relationship between Track 4 and the contemporaneously filed 2022 Risk Assessment Mitigation Program (RAMP) report, as well as between Track 4 and SCE's forthcoming application seeking recovery of incremental wildfire mitigation and vegetation management costs in 2021.

A. 2022 RAMP

The RAMP report is a precursor to SCE's 2025 GRC (to be filed in May 2023), and as such SCE will include an integration of the 2022 RAMP report in the TY 2025 GRC filing as per the Rate Case Plan.²⁷ There are several important distinctions between RAMP and Track 4, which SCE explains here for the benefit of comparing analyses and costs in the two filings. First, as directed by the Commission, SCE's 2022 RAMP report uses 2025 as a baseline from which to then discuss planned spending for 2025-2028, which aligns with SCE's forthcoming TY 2025 GRC filing.²⁸ This is consistent with the recent ruling directing the Sempra utilities to incorporate certain recommendations into their next GRC.²⁹ In contrast, Track 4 is exclusively about funding for calendar year 2024. Second, RAMP represents SCE's recommended level of work and cost estimates for RAMP-eligible controls and mitigations. The activities discussed in Track 4 do not always align with RAMP-eligible mitigations as the two filings are related but designed to fulfill different requirements (RAMP to address safety risks across the utility, and Track 4 to revise 2024 spending budgets). Third, RAMP provides planned future

²⁷ The Amended Scoping Memo dated requires this Track 4 Request to be filed on the same date as the 2022 RAMP Report.

²⁸ See D.21-11-009 (Decision Addressing Phase I, Track 1 And 2 Issues in R.20-07-013) at Ordering Paragraph 1.d. p. 140. The baseline is a reference point in time at the start of the new GRC cycle. The baseline risk as applied to RAMP and GRC proceedings refers to the amount of residual risk evaluated at the baseline (*i.e.*, at the start of the new GRC cycle) after taking into account all risk reduction benefits from all risk mitigation activities projected to have been performed by the start of the new GRC cycle.

²⁹ See A.21-05-011, Assigned Commissioner's Ruling Directing Sempra Utilities To Incorporate Staff Recommendations On Their Risk Assessment And Mitigation Phase In The Upcoming 2024 General Rate Case Applications, p. 3 ("IT IS RULED that for the upcoming Test Year (TY) 2024 General Rate Case (GRC) filing, San Diego Gas & Electric Company and Southern California Gas Company shall recalculate their 2021 Risk Assessment and Mitigation Phase Risk Spending Efficiency (RSE) values using 2023 as a baseline for years 2024-2027 in their TY 2024 GRC and show this calculation as part of its TY 2024 GRC presentation.").

1 spending in nominal dollars on a total company basis, whereas Track 4 O&M is in constant dollars to
2 demonstrate the relationship to the Track 1 Final Decision's authorized budgets.

3 **B. Upcoming Wildfire Mitigation and Vegetation Management Cost Application for**
4 **Incremental 2021 Recorded Costs**

5 Finally, in this Track 4 filing, SCE uses 2021 recorded expenses (in 2018 constant dollars) as the
6 basis for its 2024 forecasts for vegetation management and wildfire-related O&M forecasts. SCE's
7 recorded 2021 expenses for certain activities exceed levels authorized by the Track 1 Final Decision.
8 While the reasonableness of using 2021 recorded as the basis for 2024 forecasts is discussed in the
9 testimony for each activity in SCE-02, SCE will seek reasonableness review and approval for recovery
10 of the 2021 incremental wildfire mitigation and vegetation management amounts recorded in both
11 balancing and memorandum accounts in a separate application filed later this year.

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III.

RESULTS OF OPERATIONS

This section of testimony presents SCE's updated 2024 GRC revenue requirement request based on various changes supported throughout SCE's Track 4 request. Table III-1 below summarizes the revenue requirement impact of the changes SCE is proposing, followed by descriptions of each line item.³⁰

Table III-1
2024 GRC CPUC Revenue Requirement
(Thousands of Dollars)

Southern California Edison Company 2024 GRC CPUC Revenue Requirement (Thousands of Dollars)	
	CPUC
1. 2021 Revenue Requirement (AL 4586-E)	6,874,110
2. Implemented Attrition Increase	385,110
3. 2022 Attrition (AL 4639-E)	7,259,220
4. Estimated Attrition Increase	408,270
5. 2023 Estimated Revenue Requirement (AL 4639-E)	7,667,490
6. <u>Track 4 Attrition/Inflation</u>	
7. 2024 Attrition Estimate	431,859
8. Inflation Proposals	145,743
9. Subtotal	577,602
10. <u>Wildfire and Vegetation Management</u>	
11. Vegetation Management	264,588
12. Wildfire	81,449
13. Subtotal	346,037
14. <u>Miscellaneous True-ups and Adjustments</u>	
15. Customer Deposits	7,049
16. 2020 Recorded Capital Expenditure True-Up	40,656
17. Subtotal	47,705
18. Total Revenue Requirement Changes	971,345
19. Track 4 2024 Revenue Requirement	8,638,835

7 Lines 1-5: provides SCE's Commission-issued decision D.21-08-036 (2021 GRC Track 1
8 Final Decision), authorized base revenue requirement (ABRR) for the 2021 Test

³⁰ Please refer to WP SCE Tr. 4-01 – Results of Operations, pp. 169-209 for additional information.

1 Year, adjusted to incorporate various changes outlined in the 2021 GRC Final
2 Decision Implementation Advice Letter 4586-E and the Implementation of the
3 2022 Post-Test Revenue Requirement Advice Letter 4639-E;

4 Lines 6-9: provides the revenue requirement change associated with the updated funding
5 mechanism for 2024 that takes into account the historic inflation recently
6 experienced in the economy, as supported in Exhibit SCE-01, Chapter III, Section
7 B of this testimony;

8 Lines 10-13: provides the revenue requirement change related to this Track 4 O&M forecast
9 request for vegetation management and wildfire activities and the 2024 budget-
10 based capital expenditure forecasts for wildfire mitigation/vegetation management
11 and Residential/Commercial New Service Connections activities, as supported in
12 Exhibit SCE-02;

13 Line 15: provides the revenue requirement change related to updating the 2024 customer
14 deposit forecast, as supported in Exhibit SCE-01, Chapter III, section E;

15 Line 16: provides the revenue requirement change related to updating 2020 recorded
16 capital expenditures as discussed in Exhibit SCE-01, Chapter I.

17 Table III-2 below presents SCE's Results of Operations request for 2024. The 2024 Results of
18 Operations shows that SCE will need \$8.639 billion in CPUC-jurisdictional base-related revenue in
19 2024 to cover the costs of operations and have an opportunity to earn its currently authorized rate of
20 return.³¹

³¹ In A.22-04-009 (SCE's Cost of Capital for Utility Operations for 2023 Application), SCE has requested that the Commission find reasonable and authorize SCE's return on common equity (ROE) of 10.53 percent, long-term debt of 4.27 percent, and cost of preferred equity of 5.72 percent (*i.e.*, a weighted average 7.60 percent rate of return for 2023, which is a decrease from the currently authorized 7.68 percent rate of return).

Table III-2
Results of Operations
Commission Jurisdictional
(Thousands of Dollars)

		GRC CPUC
Line	Item	2024
1.	Total Operating Revenues	8,638,835
2.	Operating Expenses:	
3.	Production	
4.	Steam	6,151
5.	Nuclear	73,499
6.	Hydro	45,187
7.	Other	84,745
8.	Total Production O&M	209,582
9.	Transmission	128,991
10.	Distribution	922,681
11.	Customer Accounts	131,128
12.	Uncollectibles	15,550
13.	Customer Service & Information	69,554
14.	Administrative & General	1,074,122
15.	Franchise Requirements	80,004
16.	Revenue Credits	(165,996)
17.	Total O&M	2,465,617
18.	Escalation	375,519
19.	Depreciation	2,304,660
20.	Taxes Other Than On Income	
21.	Property Taxes	413,312
22.	Payroll Taxes & Misc	74,508
23.	Taxes Based On Income	360,960
24.	Total Taxes	848,780
25.	Total Operating Expenses	5,994,575
26.	Net Operating Revenue	2,644,260
27.	Rate Base	34,444,200
28.	Rate Of Return	7.68%

SCE's Track 4 Update increases the 2023 estimated authorized base revenue requirement by \$971.3 million, as identified in Table III-3 (line 3). This update represents a 12.67% increase in 2024 over the estimated authorized base revenue requirement.³²

³² Estimated 2023 revenue requirement is based on the RO model used in SCE Advice Letter 4639-E, Implementation of the 2022 Post-Test Year Revenue Requirement in Accordance with Decision 21-08-036.

Table III-3³³
2024 Revenue Changes From 2021 GRC Request – Commission Jurisdictional
(Thousands of Dollars)

ABRR and Revenue Change			
Line	Item	2024	Reference
1.	Proposed GRC Base Revenue Requirement	8,638,835	Table III-3
2.	Estimated Present (Prior Year) Revenue Requirement	7,667,490	AL 4639-E
3.	Change in Authorized Base Revenue Requirement	971,344	
4.	Percent GRC Revenue Change	12.67%	
5.	Total System Present Rate Revenues	14,959,784	AL 4760-E
6.	Percent Total Revenue Change	6.49%	

A. GRC Ratemaking & Balancing Account Proposals

The ratemaking and balancing accounts listed in Table III-4 were addressed in SCE’s GRC Track 1 Application and will maintain the same ratemaking structure as authorized in D.21-08-036. SCE will continue to maintain its authorized CPUC-jurisdictional base-related revenue requirements through the operation of the BRRBA, PABA and the New System Generation Balancing Account (NSGBA).

A fundamental purpose of the BRRBA, PABA and NSGBA is to compare portions of the monthly ABRR to retail revenues from distribution, generation/Power Charge Indifference Adjustment (PCIA), and new system generation rates. The BRRBA tracks under-collections and over-collections to be recovered or refunded through distribution rates. Similarly, the NSGBA and PABA track under-collections and over-collections to be recovered or refunded through the New System Generation rate and generation/PCIA rate component, respectively. The balances in SCE’s balancing accounts, such as the BRRBA, PABA and NSGBA, are consolidated into rate levels annually in SCE’s year-end consolidated revenue requirement and rate change advice letter or as part of the implementation of the Energy Resource Recovery Account (ERRA) Forecast proceeding.³⁴ In addition, SCE sets forth the

³³ Line 2 is the estimated 2023 revenue requirement based on the RO model used in SCE Advice Letter 4639-E (Implementation of the 2022 Post-Test Year Revenue Requirement). Line 5 is based on the rate change effective 4/15/2022 (AL 4760-E, filed 4/1/2022).

³⁴ Distribution over- or under-collections are consolidated into distribution rate levels. Generation over- or under-collections are consolidated into generation and /or PCIA rate levels. New System Generation over- or under-collections are consolidated into New System Generation rate levels.

1 entries recorded in the BRRBA, PABA and NSGBA for Commission review for each calendar year in
2 the ERRA Review proceeding submitted to the Commission on April 1 of each year.

3 SCE's continuing Track 1-authorized GRC-related balancing and memorandum accounts
4 include:

Table III-4
GRC-Related Balancing and Memorandum Accounts

Balancing/Memorandum Account Name	Acronym	2021 GRC Track 1 Authorized	2021 GRC Track 4 Proposal
Catalina Repower Memorandum Account	CRMA	Tracks the capital-related revenue requirements associated with the Catalina Repower Project for future recovery following a reasonableness review in SCE's 2025 GRC	Continuation
DER-Driven Grid Reinforcement Program Memorandum Account	DER-DGRPMA	Tracks the capital-related revenue requirements associated with SCE's DER-Driven Grid Reinforcement Program over the 2021-2024 period for future cost recovery in SCE's ERRR Review or GRC	Continuation
Seismic Retrofit for Non-Electric Facilities Memorandum Account	SRNEFMA	Tracks the incremental capital-related revenue requirements above those authorized in Track 1 of SCE's 2021 GRC associated with seismic retrofits of SCE's non-electric facilities for future cost recovery in SCE's 2025 GRC	Continuation
Z-Factor Memorandum Account	ZFMA	Tracks costs associated with potential Z-Factor events	Continuation
Risk Mitigation Balancing Account	RMBA	One-way BA to record the difference between authorized and actual costs for wildfire liability insurance and alternative risk transfer instruments; costs above authorized amount of \$429M are eligible for tracking in the WEMA for future recovery	Continuation
Underground Structures Replacement Balancing Account	USRBA	Two-way BA to record the revenue requirement associated with capital expenditures related to underground structure replacements that are classified as Grade F or Grade D	Continuation
Officer Compensation Memorandum Account	OCMA	Tracks compensation for SCE officers authorized in the 2021 GRC	Continuation
Service Center Modernization Projects Memorandum Account	SCMPMA	Continuation of the MA to record the costs associated with the Bishop, Kernville, Redlands, Ridgecrest, San Joaquin, Santa Ana, and Santa Barbara service center modernization projects	Continuation
Safety and Reliability Investment Incentive Mechanism	SRIIM	Retained and updated the headcount classifications, headcount targets, and capital component	See Chapter V for program modifications.
Pole Loading and Deteriorated Pole Programs Balancing Account	PLDPBA	Continuation of the two-way BA to track the difference between recorded capital-related and O&M revenue requirements for the Pole Loading and Deteriorated Pole Programs and the authorized revenue requirement; recovery of amounts above authorized capped at 15%	Continuation
Short-Term Incentive Program Memorandum Account	STIPMA	Continuation of the one-way STIPMA through the 2021 GRC cycle to record the difference between authorized and actual STIP expenses	Continuation
Wildfire Mitigation Plan Memorandum Account	WMPMA	Tracks incremental WMP-related costs that are above the amounts authorized in the GRC	Continuation
Fire Risk Mitigation Memorandum Account	FRMMA	Tracks incremental non-WMP wildfire mitigation-related costs that are above the amounts authorized in the GRC	Continuation
Wildfire Expense Memorandum Account	WEMA	Tracks actual wildfire liability insurance premiums and the costs of alternative risk transfer instruments above the amounts authorized for recovery in the RMBA	Continuation
Residential Rate Implementation Memorandum Account	RRIMA	Extension of SCE's existing MA through 2024 to align the closing of the RRIMA with the end of the 2021 GRC cycle	Continuation
Tax Accounting Memorandum Account 2018	TAMA 2018	Retains the two-way MA through 2024 to record the differences between forecast and recorded income tax expense during the 2021 GRC period	Continuation
Rule 20 Balancing Account	Rule 20 BA	Continuation of the one-way BA to track the difference between the authorized and actual capital expenditures and related expenses required to complete the overhead to underground conversion projects consistent with the Rule 20 programs	Continuation
Pensions Costs Balancing Account	PCBA	Continuation of the two-way BA to record the difference between authorized and actual pension expenses	Continuation
Post-Employment Benefits Other Than Pensions Costs Balancing Account	PBOPBA	Continuation of the two-way BA to record the difference between authorized and actual PBOP expenses	Continuation
New System Generation Balancing Account	NSGBA	Records the authorized peakers and energy storage base revenue requirement	Continuation
Medical Programs Balancing Account	MPBA	Continuation of the two-way BA to record the difference between authorized and actual medical, dental, and vision expenses	Continuation
Portfolio Allocation Balancing Account	PABA	Records the authorized generation-related base revenue requirement	Continuation
Base Revenue Requirement Balancing Account	BRRBA	Records the authorized distribution-related base revenue requirement	Continuation

1. Proposed Extensions to Memorandum/Balancing Accounts

a) Vegetation Management Balancing Account

In the Track 1 Final Decision, the Commission authorized the VMBA, which incorporated all four of the Vegetation Management programs (Distribution and Transmission Routine Vegetation Management, Dead and Dying Tree Removal Program, and the HTMP) into a single two-

1 way balancing account. Adopted costs for the VMBA were set at the level SCE proposed in its initial
2 application, apart from HTMP. The Commission also adopted reporting and cost recovery requirements,
3 setting a threshold of recorded costs up to 115% of authorized costs through recovery via a Tier 2 advice
4 letter and the opportunity to seek recovery of costs above the threshold via an Application. In this Track
5 4, SCE proposes to set the 2024 authorized revenues at the 2021 last year recorded amount and to
6 maintain the existing threshold on the revised 2024 amount. SCE also requests the Commission clarify
7 that it is reasonable for SCE to record vegetation management-related Environmental Services
8 Department (ESD) costs in the VMBA as further discussed in SCE-02 Chapter VIII.

9 b) Wildfire Risk Mitigation Balancing Account

10 The Track 1 Final Decision authorized the establishment of SCE's Wildfire Risk
11 Mitigation Balancing Account (WRMBA), which is a two-way balancing account used to record the
12 costs of WCCP.³⁵ In this Track 4, SCE proposes to extend the Track 1-authorized WRMBA, with the
13 following modifications:

- 14 • **Term:** The WRMBA will be extended through the end of 2024.³⁶
- 15 • **Scope and Cost Recovery Parameters:** The Track 1 Final Decision
16 authorized up to 4,500 miles of covered conductor in the WCCP for the
17 period 2019-2023 (with the ability to seek cost recovery after a
18 reasonableness review for revenue requirement associated with
19 expenditures above 110% of the authorized capital expenditure threshold),
20 and SCE is not seeking to alter that determination in Track 4.³⁷ In Track 4,

³⁵ See D.21-08-036 at pp. 249-50: "SCE is authorized to establish a two-way balancing account for the WCCP, along with the requirement that SCE file an application for reasonableness review of any recorded costs in excess of 110 percent of the WCCP capital expenditure amounts authorized in this decision."

³⁶ SCE reserves the right to propose the extension, modification or elimination of the WRMBA starting in 2025 in SCE's forthcoming TY 2025 GRC filing.

³⁷ See, e.g., D.21-08-036 at Conclusion of Law (CoL) 74. SCE has completed approximately 2,500 miles of covered conductor through the end of 2021 through WCCP and forecasts the completion of an additional 1,250 miles of WCCP installation in each of 2022 and 2023 (*i.e.*, approximately 5,000 miles total through YE 2023). To the extent the total recorded costs of the estimated 5,000 miles through YE 2023 exceed 110% of the Track 1 Final Decision's authorized direct capital expenditure amount, SCE will seek reasonableness review and cost recovery for those expenditures via a separate Application, consistent with D.21-08-036.

1 SCE seeks authorization for 1,200 miles installed in calendar year 2024
2 (with the continued ability to seek cost recovery through a separate
3 reasonableness review for expenditures above 110% of the authorized
4 revenue requirement associated with the capital expenditures threshold for
5 those authorized 1,200 miles, consistent with the ratemaking treatment for
6 2021-23 WCCP expenditures). The expenditures associated with these
7 2024 miles would be tracked separately in a sub-account in the WRMBA.

8 c) Represented Labor Memo Account

9 As discussed in Section III.B.5b)(3), SCE proposes that a new memorandum
10 account be established to track incremental labor rates, if any, should labor negotiations remain ongoing
11 at the time the Proposed Decision is issued.

12 **B. Post-Test Year Cost Escalation**

13 **1. Overview**

14 This chapter presents SCE's proposed 2024 PTYR mechanism to fund our estimated
15 costs of doing business in calendar year 2024 for capital additions and O&M. This Track 4 is a unique
16 filing from a typical PTYR standpoint for several reasons. First, it covers only one year, 2024, a bridge
17 year to SCE's 2025 GRC filing, which will be SCE's first four-year GRC cycle with a three-year PTYR
18 mechanism. Second, SCE necessarily relied on 2021 as the Test Year, but 2021 was impacted by
19 significant, once-in-a-generation inflation related to the COVID-19 pandemic that could not have been
20 foreseen when SCE filed its Track 1 Application. Consequently, actual escalation rates for 2021 far
21 exceeded the reasonable escalation rate forecasts made during the preparation of Track 1 of this GRC in
22 2019 and in the Update Testimony submitted July 2020 that ultimately set the 2021 Test Year revenue
23 requirement. Moreover, because SCE's PTYR advice letters for 2022 and 2023 only update attrition
24 year escalation rates from the previous year, they do nothing to reflect unforeseen inflation in the Test
25 Year, thereby compounding the problem. For these reasons, SCE's proposed 2024 PTYR mechanism
26 seeks to establish the 2024 revenue requirement and authorized capital additions at levels that better
27 reflect the inflation that the economy has experienced since 2021.

Specifically, SCE proposes to set the 2024 revenue requirement at the appropriate compensatory level to reflect inflationary impacts that have occurred since the emergence of the COVID-19 pandemic, impacts that the PTYR mechanism is supposed to address. For O&M, SCE proposes to apply the actual 2021 O&M escalation rates of the utility-specific indices adopted in the Track 1 Final Decision to set the 2024 O&M revenue requirement. To be clear, SCE is not proposing to retroactively collect O&M revenues “lost” to inflation in 2021. Furthermore, SCE’s Track 4 request is not proposing to recover compounding revenue requirement shortfalls for 2022 and 2023. In Track 4, SCE is merely proposing to set the 2024 O&M revenue requirement at a level that reflects actual inflation rates recorded in 2021 along with the forecast inflation from 2022 and 2023 in order to prevent the continuation of this non-compensatory O&M revenue requirement in 2024.

For capital, SCE proposes to maintain the approved bifurcated attrition mechanism, with budget-based treatment for wildfire mitigation/vegetation management and NSC, and a proposal to escalate all other capital additions from 2023 authorized levels for 2024 using the IHS Markit forecast weighted-average capital escalation rate, consistent with prior Commission PTYR treatment for capital additions.³⁸ SCE further proposes to specify the revenue requirement adjustment for 2024 O&M and capital additions in the PTYR mechanism advice letter submitted by December 1, 2023 to reflect the then-current forecasts for escalation rates.

2. Need for Revenue Requirement Escalation in Attrition Years

a) Attrition Year Escalation Mechanisms are Needed to Address Inflation and Cost Increases

In the early 1980s the Commission adopted the Attrition Revenue Requirement Adjustment mechanism to compensate utilities for the increased costs due to inflation that occurred between triennial test years and has since been a regular part of utility ratemaking.³⁹ Over approximately

³⁸ See D.19-05-020, pp. 284-285.

³⁹ In D.92549, issued in conjunction with SCE’s 1981 GRC application, the Commission adopted Staff’s recommendation to implement stepped rate changes for 1982, citing Staff’s argument that “the use of stepped rates would provide a more stable earnings pattern, which would have a positive effect on the financial community’s attitude toward investment in Edison and on the yields required on new debt issues.” D.92549, pp. 71-72.

1 this same period, the Commission adopted decoupling, initially through the Electric Revenue
2 Adjustment Mechanism (ERAM) and later through balancing account mechanisms, such as the Base
3 Revenue Requirement Balancing Account (BRRBA), to remove the incentive for utilities to promote
4 electricity sales at the expense of conservation and demand reduction programs.

5 Annual cost increases can be caused by inflation and plant additions used to
6 maintain and provide service. Without a means to recognize these increases in rates, SCE will not have a
7 reasonable opportunity to earn its authorized rate of return after the Test Year. Since the BRRBA
8 prevents SCE from retaining the incremental revenues from sales that are above projected levels, SCE
9 must have an explicit ratemaking mechanism to permit it to recover increased costs. After the Test Year,
10 SCE's earned rate of return is directly affected by operational and financial cost changes. Operational
11 cost changes due to price increases in the goods and services that are employed in SCE's operations and
12 the level of capital assets required to operate its business were addressed by the PTYR mechanism
13 adopted in the Track 1 Final Decision for 2022 and 2023, but did not address calendar year 2024.
14 Financial costs, such as the cost of common equity, long-term debt and preferred equity, are not
15 addressed by the PTYR mechanism.

16 b) A Compensatory PTYR Will Support SCE's Financial Health

17 A PTYR mechanism that will allow SCE to recover its revenue requirement, including
18 escalation, in attrition years will support SCE's overall financial health, which is to the direct benefit of
19 SCE's customers. Credit rating agencies have viewed California's attrition mechanism as an important
20 feature of a stable regulatory utility framework.⁴⁰ However, recent COVID-19-related inflation is a
21 threat to this framework due to the uncertainty of rate recovery for utilities between rate case cycles, a
22 threat that is exacerbated by a four-year GRC cycle.⁴¹ Credit-supportive regulatory measures, such as a

⁴⁰ S&P Global Ratings, RatingsDirect, Southern California Edison Co. (December 22, 2021), p. 7 (noting California's predictable regulatory construct that includes multiyear rate case filings with attrition rate increases).

⁴¹ S&P Capital IQ, FINANCIAL FOCUS, Dan Lowrey, Market Intelligence: State regulatory constructs offer insight on inflation threat to utility income, p. 1 (June 3, 2021) (noting high inflation and potential that increased utility costs will not be addressed between rate cycles and referencing California's attrition mechanism as a potential risk mitigant).

compensatory PTYR mechanism, are critical now, given the uncertainty concerning wildfire liabilities, which led to a series of downgrades for SCE and concurrently led to the January 2019 bankruptcy of Pacific Gas and Electric Company (PG&E). While the passage of AB 1054 was intended to help mitigate SCE's (and other California IOUs') wildfire-related risks, these risks still persist. SCE faces residual wildfire-related risk due to worsening wildfire conditions in California combined with continued uncertainties related to the bill's implementation. These persistent risks continue to put the California IOUs under credit pressure; the investment community consistently discounts Edison International's (EIX) stock valuation as compared to electric peers in other jurisdictions notwithstanding SCE's extensive grid hardening efforts.

Strong credit metrics and ratings benefit SCE's customers by reducing financing costs. A PTYR that ignores 2021 actual escalation rates would yield a non-compensatory revenue requirement in 2024, which would impair SCE's credit metrics and overall financial health. The Commission should approve SCE's proposed refined PTYR mechanism for 2024 to support SCE's financial standing and provide capital markets the assurances necessary to finance our investments and operations. The PTYR mechanism should provide that non-wildfire and non-NSC capital-related costs reflect inflation-related cost increases, and also allow recovery of reasonable cost increases in O&M expenses that result from cost inflation.

c) Affordability

SCE recognizes the pandemic's impact on our customers and has worked diligently and cooperatively with the Commission and stakeholders to support customers throughout the pandemic. SCE also supports the Commission's focus on affordability and has actively participated in the ongoing Affordability Rulemaking and recent En Bancs. As mentioned previously, SCE is continuing to pursue operational excellence that would improve safety, quality and affordability. However, efforts to reduce impacts on customer rates must be balanced with providing SCE the funding it needs to provide essential services to the same customers. Therefore, it is essential that the Commission adopt a compensatory escalation rate that is reflective of actual costs consistent with cost-

1 of-service ratemaking principles. COVID-19-related inflationary cost pressures are real and reduce the
2 real purchasing power of the utility while it must continue operating and maintaining the grid.

3 **3. The Track 1 Final Decision Established a PTYR Mechanism for 2022 and 2023, but**
4 **Not for 2024**

5 SCE's 2022 and 2023 PTYR mechanism was adopted in the Track 1 Final Decision.
6 The Commission explained that "[w]e find it reasonable to authorize a PTYR mechanism during this
7 GRC cycle in order to give SCE an opportunity to offset some inflationary price increases and to recover
8 costs for capital investments, particularly investments for wildfire risk mitigation, which are necessary
9 for SCE to continue to provide safe and reliable service."⁴² Noting concerns related to affordability and
10 uncertainty around the COVID-19 pandemic, the Track 1 Final Decision adopted a 2022 and 2023
11 PTYR mechanism of zero escalation for SCE's non-wildfire related/non-NSC capital additions. It also
12 approved the use of utility-specific indices for O&M, as proposed by SCE in its 2021 GRC
13 Application.⁴³ The Track 1 Final Decision also approved SCE's unopposed request to submit its annual
14 attrition request for 2022 and 2023 via advice letter. While the Track 1 Final Decision adopted the 2022
15 and 2023 PTYR mechanism and advice letter process, it also clarified that it did not address funding for
16 2024, the now third attrition year, which would be addressed in a separate decision resolving this Track
17 4.⁴⁴

18 In D.20-01-002 (revising the RCP), the Commission found that adopting a four-year
19 GRC cycle would improve GRCs by reducing time spent litigating GRCs and enable the Commission
20 and staff to focus on real-time monitoring of utility spend.⁴⁵ The Commission recognized that these
21 benefits must be balanced with the need to adopt new attrition year escalation mechanisms to address the

⁴² D.21-08-036, p. 546.

⁴³ See Exhibit SCE-07, Volume 4a, pp. 28-30 and D.21-08-036, pp. 541-542. For non-labor costs, SCE is approved to use the latest IHS Markit (formerly known as IHS Global Insight) escalation rates available on November 1 of the years in which the PTYR advice letters are submitted. For labor costs, SCE is approved to incorporate known labor cost increases at the time of the Track 1 Final Decision. For other employee benefit costs, SCE is approved to use various escalation factors.

⁴⁴ D.21-08-036, pp. 3-4 ("This decision does not address recorded expenditures tracked in SCE's various wildfire-related memorandum accounts, or the approval of funding for a third attrition year covering 2024, which are the subject of separate decisions in this proceeding.").

⁴⁵ D.20-01-002, pp. 32-33.

1 increased forecast uncertainty that accompanies a third attrition year. As CPUC Staff explained, an
2 appropriate mechanism should be adopted to address the risks of “inaccurate cost forecasts associated
3 with an additional attrition year.”⁴⁶

4 Due to the timing of the change from a three-year to a four-year GRC cycle, SCE’s 2021
5 GRC application covered only Test Year 2021, Post-Test Years 2022 and 2023, and had anticipated
6 filing a new Test Year Application for 2024. The requirement to file a Track 4 was added to the 2021
7 GRC *after* SCE’s GRC Track 1 application was filed, as a bridge from a three-year to four-year GRC
8 cycle.⁴⁷ Beginning with the 2025 GRC, and consistent with the four-year GRC cycle established in
9 D.20-01-002, SCE will include a third attrition year in its 2025 GRC application and will propose a
10 PTYR mechanism that accommodates a three-year attrition period.

11 **4. Need for New PTYR Mechanism for 2024**

12 a) SCE Could Not have Foreseen Unprecedented Inflation Following the Emergence 13 of the COVID-19 Pandemic and the Government’s Response To It

14 Similar to the inflation in the U.S. economy that occurred in the late 1970s and
15 early 1980s, the inflation that the U.S. economy has experienced since 2021 has resulted in dramatically
16 higher costs for the inputs that SCE uses to provide service to customers, including higher costs for
17 capital equipment to replace worn out equipment, harden the grid to prevent wildfires, and build
18 facilities to serve new customers. The COVID-19 pandemic emerged in March 2020, only a couple of
19 months before SCE filed its Update Testimony, which the Commission relied upon to set the Test Year
20 2021 revenue requirement. SCE filed Update Testimony in July 2020 to reflect updated O&M labor,
21 O&M non-labor, and capital forecast escalation rates.⁴⁸ The revenue requirement for the 2021 Test Year
22 authorized by the Commission in the Track 1 Final Decision reflected these July 2020 escalation rates

⁴⁶ D.20-01-002, p. 29.

⁴⁷ D.21-08-036, p. 7.

⁴⁸ See, e.g., D.89-01-040. The Commission’s RCP outlines the criteria for update testimony: A. Known changes in cost of labor based on contract negotiations completed or known changes that result from updated data using the same indices used in the original presentation during the hearing. B. Changes in non-labor escalation factors based on the same indices the party used in its original presentation during hearings. C. Known changes due to governmental action such as changes in tax rates, postage rates, or assessed valuation.

and consequently did not capture the once-in-a-generation inflation experienced in 2021 that continues today due to the COVID-19 pandemic and resultant government actions to support the economy.

b) Compounding Impact of Inflation Variance on O&M

Table III-5 below shows the differences in authorized versus actual O&M escalation rates for 2021.

Table III-5⁴⁹
Comparison of Escalation Rate Forecast to Realized Inflation
2021 Annual O&M Escalation

Non-Labor O&M	
Authorized ¹	0.50%
Actual ²	6.58%
Difference	6.08%
Labor O&M	
Authorized ¹	2.76%
Actual ²	3.19%
Difference	0.44%

¹ IHS Markit June 2020

² IHS Markit March 5, 2022

While the forecast for labor O&M that was utilized for Update Testimony was reasonably close to actual, the 6.08% difference between authorized and actual non-labor O&M highlights the gap between forecast and realized inflation that reflects the historic inflation caused by the COVID-19 pandemic and resultant government actions to support the economy. Moreover, although the advice letter process adopted in the Track 1 Final Decision mitigates the risk of inflation in the attrition years, it does not address the risk that a low Test Year escalation rate forecast will be compounded in attrition years. The unforeseen and dramatic increases in realized escalation rates resulting from COVID-19 pandemic induced inflation in 2021 far exceeded the reasonable forecasts made during preparation and litigation of Track 1 of the GRC. Because SCE's PTYR advice letters for 2022 and 2023 only update attrition year escalation rates from the previous year, they do nothing to reflect unforeseen inflation in the Test Year. Because the impact of the deficiency in 2021 was not accounted for in the

⁴⁹ See WP SCE Tr. 4-01 – Labor and NL Escalation - June 2020, March 2022 pp. 211 – 214.

1 annual attrition year advice letter filed in November 2021 (to update PTY 2022 O&M),⁵⁰ it will
2 compound in 2022 and 2023.

3 The following table shows the authorized and actual O&M escalation rates in
4 2021 and the attrition years considered in Track 1 as well as 2024 and the corresponding escalation
5 factors. The under-forecast in 2021 compounds for 2022 to 8.14% for non-labor O&M. While the
6 escalation factor to set the 2023 O&M revenue requirement will account for the difference between the
7 2022 forecast and actual O&M escalation rates, the 2022 O&M revenue requirement remains depressed
8 due to the differences between the 2021 forecast and actual escalation rates. This deficiency will persist
9 in setting the 2023 O&M revenue requirement. As discussed above, SCE is not seeking to recover these
10 revenue requirement shortfalls for 2022 and 2023 in this Track 4. SCE is merely proposing that the
11 Commission authorize a 2024 O&M revenue requirement that reflects actual O&M escalation rates for
12 2021 in order to prevent the continuation of this non-compensatory O&M revenue requirement in 2024.

⁵⁰ Advice 4639-E, submitted November 12, 2021 to implement the Commission-authorized GRC revenue requirement for the 2022 PTYR adopted in D.21-08-036.

Table III-6⁵¹
Comparison of Authorized v. Actual Escalation Rates and Factors

O&M 2021 Authorized v 2021 Actual Escalation Through 2024				
Non-Labor O&M Escalation Rates				
Authorized (2021-22) ¹ & Forecast (2023-24) ²	2021	2022	2023	2024
	0.50%	2.10%	-0.14%	0.25%
Actual (2021-22) ² & Forecast (2023-24) ²	6.58%	4.11%	-0.14%	0.25%
Difference	(6.08)%	(2.01)%	0.00%	0.00%
Non-Labor O&M Escalation Factors				
Authorized (2021-22) ¹ & Forecast (2023-24) ²	2021	2022	2023	2024
	1.005	1.026	1.025	1.027
Actual (2021-22) ² & Forecast (2023-24) ²	1.066	1.110	1.108	1.111
Difference	(0.0608)	(0.0835)	(0.0834)	(0.0836)
Labor O&M Escalation Rates				
Authorized (2021-22) ¹ & Forecast (2023-24) ²	2021	2022	2023	2024
	2.76%	3.49%	3.04%	2.80%
Actual (2021-22) ² & Forecast (2023-24) ²	3.19%	3.74%	3.04%	2.80%
Difference	(0.44)%	(0.26)%	0.00%	0.00%
Labor O&M Escalation Factors				
Authorized (2021-22) ¹ & Forecast (2023-24) ²	2021	2022	2023	2024
	1.028	1.063	1.096	1.126
Actual (2021-22) ² & Forecast (2023-24) ²	1.032	1.071	1.103	1.134
Difference	(0.0044)	(0.0072)	(0.0074)	(0.0076)

1 2021&2022 Authorized from IHS Power Planner June 2020 and Oct 2021, respectively

2 Actual Escalation and Forecast from IHS Power Planner March 5, 2022

c) Impact of Inflation on Capital Additions

The Track 1 Final Decision authorized zero percent escalation for capital additions in 2022 and 2023. This zero percent rate was established well before the unforeseeable inflation levels appeared in the U.S. economy in 2021 caused by the COVID-19 pandemic and resultant government actions to support the economy. The Commission approved the zero percent rate “to help mitigate the impacts of large wildfire capital additions in the post-test years, and given the uncertainty in SCE’s actual spending in these years and the economic uncertainty facing ratepayers due to the COVID-19 pandemic.”⁵²

Were SCE to apply the zero percent escalation rate to 2024, the authorized level for these capital additions in 2024 would fail to reflect the current forecast for inflation in 2022 and 2023

⁵¹ See WP SCE Tr. 4-01 – Labor and NL Escalation - June 2020, March 2022 pp. 211 – 214.

⁵² D.21-08-036, pp. 549-550.

of 7.68%⁵³ as well as any inflation in 2024. This continued lack of escalation would further hinder SCE's recovery of the revenue requirement associated with the capital necessary to provide safe, reliable service to its customers and accordingly would not be compensatory. For example, Table III-7 further illustrates the impact of the economic dislocation from COVID-19 by comparing the forecast of the compounded capital inflation rates (escalation factors) for 2022 and 2023⁵⁴ as of the time of SCE's Update Testimony with the current inflation forecast for these same categories. Further, when compared to the Commission's authorization of zero percent escalation in 2022 and 2023 for non-wildfire and non-NSC capital additions, it becomes apparent that the severe inflation in the U.S. economy has not been accounted for in the current approved PTYR mechanism for capital additions.

Table III-7
Comparison of Capital Escalation Rate Forecasts to Realized Inflation
2022-2023 Compounded Capital Escalation Rates

Forecast Capital Escalation 2022 - 2023 - June 2020 v March 2022 ¹						
	Update Testimony June 2020			Current Forecast - March 2022		
	2022	2023	Escalation Factor	2022	2023	Escalation Factor
Steam Production Plant	1.73%	2.02%	1.0379	3.85%	-1.76%	1.0202
Total Hydraulic Production Plant	2.12%	2.17%	1.0434	2.36%	-1.19%	1.0114
Total Other Production Plant	1.64%	1.78%	1.0345	5.48%	5.80%	1.1159
Total Transmission Plant	1.81%	2.16%	1.0400	4.70%	2.36%	1.0718
Total Distribution Plant	2.62%	2.72%	1.0541	3.87%	4.25%	1.0828
General Plant	2.58%	1.94%	1.0457	6.41%	0.94%	1.0741
Total Nuclear Palo Verde	1.82%	2.03%	1.0388	4.19%	-0.70%	1.0346
Blended Capital Escalation	2.29%	2.40%	1.0474	4.43%	3.11%	1.0768

1 IHS Power Planner & General Plant IHS Economics

Consistent with the Track 1 Final Decision and the Amended Scoping Memo (which provided that the intent behind Track 4 is to update SCE's spending budget and not to relitigate policy determinations made in Track 1) as well as the Commission's decision authorizing a four-year rate case cycle, SCE is proposing to update its 2023 capital additions (except NSC and wildfire mitigation/vegetation management) through the use of third-party indices to set the authorized level for 2024, rather than through budget-based forecasts.

⁵³ IHS Power Planner March 2022, compounded blended capital escalation rate.

⁵⁴ These are the seven categories of capital spending that the Commission granted SCE PTYR escalation in its Final Decision for SCE's 2018 GRC. See D.19-05-020, pp. 284-85.

5. SCE's Proposed PTYR Mechanism for 2024

This section presents the features of the PTYR mechanism SCE proposes for 2024:

- An advice letter submitted by December 1, 2023 and providing notice of the revenue requirement change for 2024 based on forecasts at the time of submission.
- O&M escalation using the utility-specific escalation rate indices adopted in the Track 1 Final Decision, updated at the time of the advice letter submittal and incorporating the actual 2021 labor and non-labor escalation rates as well as known labor cost increases, specifically wage increases from approved union labor agreements, at the time of the Track 4 GRC decision, as discussed in Section III.B.3.
- Capital addition escalation from 2023 authorized levels for 2024 using the IHS Markit forecast weighted-average capital escalation rate, consistent with prior Commission PTYR treatment for capital additions, updated at the time of the advice letter submittal.
- A “budget-based” forecast for wildfire mitigation consistent with the Track 1 Final Decision for attrition years 2022-2023. SCE also includes a minor vegetation management-related technology capital project, (which is a sub-activity created after Track 1 and is also in large part driven by wildfire mitigation activities). In the near-term, the portfolio of wildfire mitigation and vegetation management capital expenditures have a slightly negative impact to the Track 4 revenue requirement.
- A mechanism to address major exogenous changes in SCE's costs in 2024.

a) PTYR Mechanism Advice Letter

SCE will submit a PTYR mechanism advice letter by December 1, 2023 for 2024 PTYR. This advice letter will specify the revenue requirement adjustment for O&M escalation and changes in capital-related costs based on then-current escalation forecasts.

1 b) O&M Escalation

2 SCE proposes to utilize the utility-specific indices approved in the Track 1 Final
3 Decision, while accounting for actual escalation experienced in 2021 O&M as described above.

4 (1) Latest IHS Markit Escalation Rates Will Be Used

5 SCE will use utility-specific indices⁵⁵ that reflect the latest IHS Markit
6 forecast escalation rates as of the time of the advice letter filing, consistent with Commission’s Decision
7 in Track 1.

8 (2) Escalation Rates in 2024 Will Be Based On The Latest Projections

9 For 2024, SCE will compute the authorized level of O&M expense by
10 applying the compounded escalation factors from 2021 to 2023 to the authorized level of O&M expense
11 for 2023. These escalation factors will be the latest available from IHS Markit as of the time of the
12 advice letter filing. Therefore, the O&M adjustment for 2024 will include the forecast escalation for
13 2024 that captures all of the latest information for escalation from and including 2021.

14 (3) SCE Will Update Labor Rates Based on Known Changes in Labor Costs

15 Approximately 4,000 of SCE’s employees are covered by collective
16 bargaining agreements with the International Brotherhood of Electrical Workers (IBEW). The IBEW
17 collective bargaining agreements expire on December 31, 2022. Depending on the outcome of
18 negotiations with the IBEW, SCE’s labor costs could change. According to the RCP, SCE proposes to
19 submit based on “known changes in cost of labor based on contract negotiations completed or known
20 changes that result from updated data using the same indices used in the original presentation during the
21 hearing.”⁵⁶ If these changes in labor costs are known as of May 2023, SCE plans to submit Update
22 Testimony to reflect them. If the unions reach a collective bargaining agreement after the Update
23 Testimony, but prior to the Track 4 proposed decision being issued, the collective bargaining agreements
24 will be incorporated into the labor escalation calculations for represented employees, consistent with

⁵⁵ D.21-08-036, p. 547 (“With respect to O&M expenses, consistent with our determination in nearly every SCE GRC since 2003, we approve use of the utility-specific indices proposed by SCE because they more accurately reflect how utilities incur costs.”) (internal citation omitted).

⁵⁶ See, e.g., D.89-01-040.

1 prior CPUC practice.⁵⁷ Should the negotiations remain ongoing at that time, SCE respectfully requests
2 that the Commission authorize SCE to establish a memorandum account to track incremental labor
3 costs, if any, above what would be recovered through Track 4 for review and recovery in a subsequent
4 proceeding.

5 (4) Benefit Escalation Rates

6 SCE proposes to utilize the benefit escalation methodology for 2024 that
7 was adopted for 2022 and 2023 in D.21-08-035.

8 c) Capital Escalation

9 (1) Bifurcation of PTYR Mechanism for Capital Additions in the Track 1
10 Final Decision

11 The capital addition PTYR mechanism that the Commission adopted in
12 the Track 1 Final Decision for 2022 and 2023 was bifurcated to address the non-standard capital
13 addition profile of wildfire capital additions that resulted from AB 1054. The mechanism recognized
14 that AB 1054 would result in significant wildfire capital additions in 2021 that would not be included in
15 equity rate base and could instead be financed through securitization. The consequence of this was that
16 SCE was increasing the total wildfire capital additions added to rate base from \$92.4 million in 2021 to
17 \$638.9 million in 2022 such that any escalation methodology other than budget-based would not have
18 been able to have appropriately capture the reality of the spending profile. Additionally, the Commission
19 adopted the budget-based attrition mechanism for NSCs. The budgeted amounts for these two spending
20 categories (wildfire capital additions and NSCs) are shown below in Table III-8 and described in Exhibit
21 SCE-02.

⁵⁷ D.15-11-021, p. 382 (adopting SCE's proposal in Exhibit SCE-73 to incorporate labor escalation calculations in the implementing advice letter from collective bargaining agreements ratified prior to a Proposed Decision), *see also id.* p. 557 Ordering Paragraph 19.a; Advice Letter 3314-E, p. 5.

Table III-8
Budgeted Capital Additions 2024 Wildfire Mitigation/Vegetation Management
and
Residential/Commercial New Service Connections
(\$ Millions)

Wildfire/Vegetation Management	816.7
Residential/Commercial New Service Connections	148.9
Total Budgeted Capital Additions	965.6

The second part of the Commission’s adopted attrition mechanism applied to the remainder, and bulk, of SCE’s capital additions. Specifically, the Commission adopted a zero percent escalation factor for 2022 and 2023. As shown above in Table III-6, this adopted escalation rate was below the IHS Markit forecast at the time of SCE’s Update Testimony in July 2020 and is now well below the current forecasts for 2022 and 2023. It is clear that in this current inflationary environment, the adopted zero percent escalation was non-compensatory. Table III-9 below shows the authorized capital additions for non-budget-based capital for 2021 through 2023 and shows what the capital additions would have been had SCE been authorized to escalate capital additions in 2022 and 2023 using the most recent forecasts from IHS Markit.

Table III-9
Authorized Capital Additions Compared with Pro Forma Escalation
2021-2024
Non-Budget Based
(\$ Millions)

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Authorized (2021-23) with 0% Escalation for 2024	2,889.8	2,889.8	2,889.8	2,889.8
Authorized (2021) with Escalation (2022-23) ¹	2,889.8	3,019.1	3,115.7	3,187.3
Annual Difference	0.0	(129.4)	(225.9)	(297.5)
Cumulative Difference	0.0	(129.4)	(355.3)	(652.8)

¹ Actual Escalation and Forecast from IHS Power Planner March 5, 2022

Despite the fact that the authorized capital additions for 2022 and 2023 are well below SCE’s cost of service (cumulatively forecast to be approximately \$355 million by 2023), SCE is only proposing that the Commission authorize an escalation rate for non-budget-based capital additions for 2024 that reflects forecast inflation from 2023 to 2024. As explained in Section III.B.2.a), the Commission has historically permitted this stepped capital escalation in lieu of budget-based

forecasts in post-test years, acknowledging the inflationary pressures experienced by utilities. Without this escalation, 2024 non-budget based capital additions would be nearly \$300 million below the inflation-adjusted forecast (cumulatively about \$650 million). As shown below in Table III-10, using the current forecast from IHS Markit for the applicable capital categories would result in increasing the authorized level of capital additions in 2024 by approximately \$66 million; however, this amount is illustrative as SCE proposes using the forecast that is current at the time of the Advice Letter submitted in November 2023 for 2024.

Table III-10
Pro-Forma Proposed Capital Additions 2024
Non-Budget Based
(\$ Millions)

	<u>2023</u>	Forecast <u>Escalation Rate</u> ¹	<u>2024</u>
Non-Budget Based Capital Additions	2,889.8	2.30%	2,956.1

¹ IHS Markit March 5, 2022

6. **Palo Verde Escalation**

Table III-11 presents escalation rates for the Palo Verde Nuclear Generating Station. As explained in SCE's direct testimony on escalation in Track 1, these O&M escalation rates are combined to create a single weighted average for Palo Verde escalation.⁵⁸

⁵⁸ Please refer to SCE-07, Volume 1, p. 90, lines 11 through p. 91, line 2.

Table III-11
Palo Verde O&M Escalation Rates

Palo Verde Labor O&M	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
% Change		2.89%	3.48%	3.19%	3.49%	3.43%	2.86%
Inflation Index	1.000	1.029	1.065	1.099	1.137	1.176	1.210
Palo Verde Non-Labor O&M	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
% Change		0.14%	0.51%	4.84%	3.23%	3.24%	0.00%
Inflation Index	1.000	1.001	1.007	1.055	1.089	1.125	1.125

¹ IHS Markit March 5, 2022

C. New Meter Connections Forecast

The new meter connections forecast methodology, described in this Section C, underpins the New Service Connections (NSC) capital expenditure forecast in SCE-02 Chapter XIV. The Track 1 Final Decision authorized budget-based 2022 and 2023 NSCs based on Residential and Commercial NSC forecasts.⁵⁹ As discussed in the Introduction & Procedural History Section above, the Amended Scoping Memo provides SCE the option to revisit forecasts for areas for which the Commission granted budget-based forecasts in 2022 and 2023. Residential and Commercial NSC falls within this scope.⁶⁰

The forecast number of housing starts drives the new meter connections forecast. Housing starts and new meter connections forecasts were litigated in Track 1. In the Track 1 proceeding, SCE argued for the continued use of housing start forecasts based on forward-looking third-party expert input on housing and other macroeconomic trends, and that a hindsight-based methodology should be rejected.⁶¹ SCE stands by its Track 1 position: a principled, evidence-based housing start forecast should be the key input for the NSC capital forecasts.

In this Track 4 filing, however, SCE is electing not to produce an alternative housing start and meter connections forecasts for 2024. Instead, for this bridge-funding year SCE proposes the Commission simply continue the methodologies for Residential and Commercial NSCs adopted in the Track 1 Final Decision. SCE will investigate alternative fundamental drivers to better forecast

⁵⁹ D.21-08-036, p. 548.

⁶⁰ The Track 1 Final Decision did not authorize budget-based forecasts for Agriculture and Streetlights NSC forecasts; those costs are escalated as part of the PTYR escalation.

⁶¹ SCE-18 Vol. 01, pp. 33-34.

commercial/industrial meter sets in the future⁶² and is currently undertaking modeling improvement efforts that were not completed in time to be incorporated into Track 4. Accordingly, SCE is proposing to maintain the Track 1 Final Decision's Residential and Commercial methodologies and will revisit the methodology in its 2025 GRC filing.⁶³

D. Operation and Maintenance Expense Forecast Development

SCE has updated wildfire and vegetation management O&M forecasts as discussed in Exhibit SCE-02. Due to the dynamic nature of the RO model, changes in forecast O&M labor results in changes to various GRC activity forecasts (*e.g.*, benefit programs, A&G/P&B capitalization, etc.). These downstream forecast changes are reflected in SCE's 2024 revenue requirement request.⁶⁴

E. Rate Base

1. Overview

This chapter presents SCE's forecast rate base for 2024, as shown in Table III-12.⁶⁵ Rate Base consists of the depreciated asset value of SCE's property that is providing service to its customers.

⁶² D.21-08-036 at pp. 146-147.

⁶³ NSC capital forecasts are included in SCE-02 Chapter XIV.

⁶⁴ Please refer to WP SCE Tr. 4-01 – Results of Operations, p. 170 for additional information.

⁶⁵ Please refer to WP SCE Tr. 4-01 – Rate Base, pp. 217-229 for additional information.

Table III-12
Summary of Electric Rate Base
Weighted Average Balances⁶⁶
(Nominal \$000)

2024 Rate Base		CPUC		
Line	Item	Generation	Distribution	CPUC Total
1.	Gross Plant	6,147,667	47,425,529	53,573,195
2.	Reserve	(3,612,704)	(12,380,986)	(15,993,690)
3.	Customer Advances	-	(191,501)	(191,501)
4.	Material and Supplies	33,806	219,031	252,838
5.	Mountainview Emission Credits	3,519	-	3,519
6.	Working Cash	8,224	326,201	334,425
7.	Deferred Taxes	(300,990)	(3,249,278)	(3,550,267)
8.	Deferred Taxes - Vacation Accrual	1,199	7,765	8,964
9.	Unfunded Pension Reserves	(5,890)	(38,161)	(44,051)
10.	Rate Base	2,274,832	32,118,601	34,393,432
11.	Rate Base Adjustment	16,546	34,221	50,767
12.	CPUC	2,291,378	32,152,822	34,444,200
13.	Depreciation	224,264	2,080,395	2,304,660

The major components of Rate Base are:

- Net Plant-In-Service - Electric Gross Plant less Reserve (Accumulated Depreciation and Amortization).
- Working Capital - The average additional expenditures required from investors on a continuing basis beyond the capital expenditures in Electric Plant-In-Service.⁶⁷ SCE will not be providing an updated study or analyses for Working Capital in this proceeding. SCE did provide an update for one category of Working Capital Adjustments (Customer Deposits) which is addressed in Chapter III, Section E of this Exhibit. Please also refer to Chapter III, Section F of this Exhibit.

⁶⁶ Rate Base excludes the \$1.575 billion of capital expenditures that are barred under Assembly Bill 1054 from earning an equity return. Associated, eligible expenses will be recovered separately through a financing order.

⁶⁷ Refer to Table III-12, Lines 3-6 and 9.

- Accumulated Deferred Taxes - Rate Base is adjusted by the accumulated deferred income tax (ADIT) balance associated with differences in book treatment and tax treatment of several property- and non-property-related items: Plant, CIAC and Vacation Accrual. Please refer to Chapter III, Section F of this Exhibit.

2. Depreciation Expense

To provide service to its customers, SCE incurs expenses and makes capital expenditures. Generally Accepted Accounting Principles (GAAP) and application of the FERC Uniform System of Accounts govern whether a particular cost should be capitalized or expensed. While SCE earns a return on its capital assets by applying an authorized rate of return to its Rate Base, SCE's return of investors' capital is made through depreciation expense. Depreciation provides a mechanism for the recovery of the original cost of the capital expenditures and the future cost to retire those assets over their useful life. SCE will not be providing an updated Depreciation Study in this proceeding. Please refer to Chapter III, Section F of this Exhibit.

3. Customer Deposits

This section discusses the treatment of SCE's customer deposits (CDs). CDs are funds collected from customers for security against non-payment⁶⁸ that will be returned to those same customers or used as a credit against their bills in the event of non-payment.⁶⁹

As a result of the limitations on the collection of CDs ordered in D.20-06-003, SCE has continued to experience a decline in CDs during its 2021 GRC cycle, and is therefore revising its forecast CD balance to reflect this decline as outlined in Table III-13 utilizing a 12-month average.

⁶⁸ SCE Tariff Rule 6 (Establishment and Re-Establishment of Credit).

⁶⁹ SCE Tariff Rule 7 (Deposits).

Table III-13
Customer Deposits Revision

	2020	2021	2022	2023	2024
January	300,818,563	236,186,194	192,081,447	170,973,522	151,548,343
February	300,164,040	230,227,851	190,959,697	169,263,786	150,032,860
March	297,780,775	223,704,583	189,050,100	167,571,148	148,532,531
April	293,718,857	218,253,161	187,159,599	165,895,437	147,047,206
May	289,622,681	214,861,559	185,288,003	164,236,483	145,576,734
June	280,440,419	206,001,583	183,435,123	162,594,118	144,120,966
July	272,838,215	202,580,892	181,600,772	160,968,177	142,679,757
August	265,192,436	200,306,987	179,784,764	159,358,495	141,252,959
September	258,379,440	198,557,593	177,986,916	157,764,910	139,840,429
October	252,544,153	195,753,626	176,207,047	156,187,261	138,442,025
November	247,075,225	193,608,456	174,444,977	154,625,388	137,057,605
December	242,183,930	192,414,198	172,700,527	153,079,134	135,687,029
Avg deposit level	275,063,228	209,371,390	182,558,247	161,876,488	143,484,870
<i>* Italicized numbers are projected</i>					

4. Update for Recorded 2020 Non-Wildfire Capital Expenditures

This section discusses SCE’s proposal to true-up \$101 million of recorded 2020 non-wildfire-related capital expenditures that exceeded the Track 1 authorized amount and reflect that trued-up balance in 2024 rate base. As discussed in Chapter I of this Exhibit, truing up recorded capital expenditures is an accepted practice by the Commission in forecast-based GRC proceedings once those amounts are known,⁷⁰ and Track 4 is a forecast-based GRC proceeding.

SCE’s overall Total Company 2020 recorded capital expenditures was \$5.251 billion or approximately \$340 million over authorized. As shown below in Table III-14, of the \$340 million recorded over authorized, SCE has not included \$57 million of 2020 recorded wildfire-related expenditures as SCE’s 2020 wildfire mitigation capital expenditures are excluded from equity rate base and SCE intends to recover these just and reasonable costs through a financing order pursuant to AB 1054.⁷¹ Accordingly, it makes practical sense for SCE to forego a wildfire-related capital expenditure

⁷⁰ Refers to traditional Track 1 analogous GRC filings versus interim “tracks” that have reviewed recorded costs.

⁷¹ Section 8386.3(e) applies to the first \$1.575 billion of Commission-approved fire risk mitigation capital expenditures incurred by SCE after August 1, 2019. Section 8386.3(e) provides that such expenditures must be excluded from SCE’s equity rate base but may be financed through a financing order under Section 850.1. In SCE’s Track 1 proceeding, SCE estimated reaching this cap in the first half of 2021 and updated the Results of Operation (RO) Model as part of its Rebuttal Testimony in June 2020.

true-up at this time. SCE also has excluded approximately \$286 million of capital expenditures that are unrelated to wildfire mitigation and are addressed in other non-GRC proceedings.⁷² Additionally, SCE excludes FERC-jurisdictional capital expenditures that recorded under authorized by approximately \$103 million. The remaining \$101 million reflects the amount of CPUC 2020 expenditures recorded over authorized that SCE is truing-up. The section below identifies the areas of SCE's Track 1 showing where the most significant CPUC recorded variances from authorized amounts occurred. Appendix B provides additional detail that compares SCE's authorized 2020 capital expenditures to the actual recorded amounts and respective variance explanations for each of SCE's Track 1 non-wildfire testimony volumes.

Table III-14
Summary of SCE's 2020 Recorded Capital Expenditures
(Nominal \$000)

Capital Expenditure Category	2020 Authorized	2020 Recorded	Difference
Total Company	4,910,526	5,250,782	340,257
Less:			
FERC	746,937	643,697	(103,239)
Non-GRC	398,927	684,532	285,605
Wildfire	711,058	768,042	56,984
CPUC Total	3,053,604	3,154,511	100,907

(1) Grid Modernization, Grid Technology, and Grid Storage

In 2020, SCE recorded approximately \$129 million, or \$113 million over the authorized amount of \$16 million in the Communications GRC activity for the Field Area Network (FAN) project in SCE-02, Volume 4, Pt. 1. FAN is focused on supporting business requirements for Grid Modernization, addressing the obsolescence of the existing field communications network (NetComm), connecting an increasing number of Distribution Automation devices to SCE's back office systems, and integrating 3rd party distributed energy resources. The FAN also contributes to mitigating

⁷² Refers to non-wildfire capital expenditures addressed outside the GRC such as Grid Reliability Projects, Charge Ready, Transportation Electrification Priority Review Projects, CS Re-Platform, Distribution Storm Response (CEMA), and other minor miscellaneous non-GRC expenditures.

1 the cybersecurity risk in the existing legacy field network, which was ranked as one of the top nine risks
2 in SCE's 2018 and 2022 RAMP filings.

3 The amount recorded over 2020 authorized was driven by SCE's purchase of
4 spectrum licenses to build a private wireless network using Long-Term Evolution (LTE) technology to
5 replace the existing field communications network. The Federal Communications Commission (FCC)
6 decision to auction the Citizens Band Radio Services (CBRS) Spectrum in 2020 offered a unique
7 acquisition opportunity as the availability of affordable spectrum to pursue private LTE technology was
8 very limited. Although unanticipated at the time of SCE's Track 1 forecast, SCE's successful
9 procurement of the CBRS-licensed spectrum channels allows SCE to move forward with pursuing a
10 private LTE solution for FAN instead of the Mesh Radio solution that was previously planned.
11 The private LTE solution offers several advantages over a mesh network. Specifically, mesh networks
12 are largely proprietary, which has the effect of potentially locking SCE into a single vendor and pricing
13 structure that is more costly. In contrast, an LTE network is based on a global standard that benefits
14 from well-established, interoperable suppliers that drive competitive pricing. Further, Private LTE
15 networks benefit from a governing body (3GPP) that continues to develop additional capabilities
16 including robust cybersecurity controls and features. The mesh solutions that were considered utilize
17 unlicensed spectrum which cannot support higher bandwidth, low latency use cases for distribution
18 automation. Due to its higher bandwidth and cybersecurity capabilities, Private LTE improves SCE's
19 ability to integrate 3rd party distributed energy resources. Lastly, the Private LTE network solution will
20 provide SCE a scalable platform that can be expanded to meet other critical use cases like Open Phase
21 Detection (OPD) and Distribution Fault Anticipation (DFA) to support wildfire mitigation and grid
22 resiliency efforts.

23 SCE notes that while its recorded cost for the Communications GRC activity was
24 significantly higher than forecast and authorized for the calendar year 2020, it was driven by the upfront
25 cost of purchasing the Private LTE spectrum, and the total cost for deployment of the private LTE
26 solution (including spectrum costs) is comparable to the mesh radio solution.

1 (2) Distribution Grid

2 (a) Distribution Inspections & Maintenance and Capital-Related
3 Expense

4 In 2020, SCE recorded approximately \$387 million, or \$105
5 million over the authorized amount of \$282 million, in the Distribution Preventive and Breakdown
6 Capital Maintenance GRC activity in SCE-02, Volume 1, Pt. 2. This is attributable to recording \$104
7 million over authorized in the Distribution Preventive and Breakdown Capital Maintenance GRC
8 activity. This activity includes the costs to replace distribution equipment identified through SCE's
9 Distribution Inspection and Maintenance Program (DIMP). These replacements follow the
10 Commission's requirements under GOs 95, 128, and 165 for maintenance of distribution assets.

11 In 2020, the spending above authorized that occurred in this
12 activity was largely due to the increased volume of enhanced overhead inspections, which in turn drove
13 a higher number of remediations. Higher spend resulted from coupling of enhanced overhead
14 inspections remediations for wildfire prevention with non-wildfire work for operational and financial
15 efficiency. SCE's 2020 costs increased as a result of the additional supplemental workforce and
16 premium time required to complete the higher level of remediations.

17 (b) Distribution Infrastructure Replacement

18 In 2020, SCE also recorded approximately \$86 million, or \$53
19 million over the \$33 million authorized amount, for SCE's Worst Circuit Rehabilitation (WCR) (GRC
20 activity in SCE- Volume 1, Pt. 1.) The WCR program mitigates safety and reliability risks associated
21 with mainline cable failures and improves the reliability of WCRs on SCE's system. The primary reason
22 SCE recorded above the authorized amount was due to WCR projects that started in the prior year 2019
23 and completed in 2020. SCE also experienced higher unit costs in 2020 due to increased contractor labor
24 and material costs to complete the WCR work.

25 A second driver to the cost variance in Distribution Infrastructure
26 Replacement work in 2020 occurred in the GRC activity 4kV Cutovers that recorded approximately \$63
27 million, or \$32 million over the \$31 million authorized. The 4kV Cutover Program is the conversion, or

1 cutover, of all circuits fed from the selected substation from the lower-voltage class to a higher-voltage
2 class. The 4kV Cutover Program addresses equipment obsolescence, safety, and reliability. The primary
3 reason SCE recorded above the authorized amount was similarly related to completing rollover work
4 from 2019. In addition, SCE completed a higher volume of 4kV work related to grid modernization and
5 load growth. Similar to the WCR program, SCE recorded higher unit costs due to increased contractor
6 labor and material costs (including new civil infrastructure for the assets).

7 Finally, a third contributing factor to SCE recording above
8 authorized in the Distribution Infrastructure Replacement area was attributable to SCE's Underground
9 Structure Replacements Program in SCE-02, Volume 1 Pt. 1, which also encompasses structure
10 replacements, vault shoring (*i.e.*, building a structure within the vault to support the original structure
11 without replacement), and the Cover Pressure Relief and Restraint (CPRR) that seeks to prevent primary
12 distribution underground electrical equipment failures that could lead to a vault or manhole explosion
13 event. In 2020, SCE recorded approximately \$49 million, or \$27 million over the authorized amount of
14 \$22 million in the Underground Structure Replacements activity. This was a result of higher-than-
15 anticipated costs to remedy issues associated with inspections that identified necessary improvements or
16 required upgrades. SCE's recorded unit costs increased for this program as well due to increased
17 contractor labor and material costs to replace more traditional structures (*e.g.*, full replacement with new
18 switches, cables and transformers) instead of installing a vault casing (*e.g.*, an emptied/shell structure).

19 (3) Poles

20 SCE's spending above authorized in areas such as those described in sub-
21 sections 1 and 2 above was also offset by areas that recorded significantly below the GRC-authorized
22 amounts in areas such as the Distribution Deteriorated Pole Replacement and Distribution Pole Loading
23 Program Pole Replacement activities in SCE-02, Volume 5. In 2020, SCE recorded approximately \$279
24 million; *i.e.*, \$116 million below the authorized amount of \$396 million. For both programs, this
25 spending below authorized was driven by the identification of fewer pole replacements arising from the
26 lower volume of inspections than forecast. Completion of work was also heavily delayed due to Covid-
27 19-related impacts (including stay-at-home orders, outage restrictions, and resource constraints).

1 During 2020, inspections also resulted in a lower failure rate compared to previous years, resulting in a
2 lower volume of poles that needed to be either replaced or repaired.

3 (4) Load Growth

4 Another example of an area SCE recorded below the GRC-authorized
5 amount was in the GRC activities Distribution Substation Plan (DSP) Substations and DSP Circuits in
6 SCE-02, Volume 4, Pt. 2. These two activities combined recorded approximately \$115 million, or \$72
7 million below the authorized amount of \$187 million.

8 The DSP Substations projects include capacity additions or upgrades to
9 facilities at existing substations and within the existing perimeter of the substation property, additions or
10 upgrades that require perimeter expansion of the substation property, and new substations. In 2020, SCE
11 recorded less than authorized due to approval and construction driven delays pushing work to 2021.
12 For example, construction of the Garnet project was delayed until second quarter of 2021 due to a gas
13 pipeline relocation by SoCalGas and transformer delivery delays. The Lancaster project was deferred to
14 2021 because the distribution cutovers work was delayed, which in turn delayed work on the switchrack
15 and the Distribution Substation Emergency Replacement Program (DSERP) circuit breakers.

16 As part of the DSP Program, new circuits are required to provide new
17 capacity outside the substation fence in areas where multiple distribution circuits in the same
18 geographical region are expected to exceed capacity; to serve new residential or commercial
19 developments in areas with no existing electrical infrastructure; and to relieve existing circuits which are
20 projected to exceed capacity in geographically isolated areas with limited usable circuit ties to transfer
21 load. In 2020, SCE spent below authorized due to project reviews and delays, pushing work into 2021.
22 Permitting challenges was another factor that resulted in the delay of work into 2021.

23 **F. Propose to Maintain Rates from 2021 Track 1 Final Decision**

24 The following areas were addressed in SCE's Track 1 application and will maintain the same
25 attrition mechanism applied in D.21-08-036 for attrition year 2024.

1 **1. CPUC-Jurisdictional Revenue Requirement**

2 SCE will continue to utilize the Commission-approved calculation methodology to
3 allocate total company costs between CPUC- and FERC-jurisdictional, as adopted in D.21-08-036.

4 **2. Sales Forecast**

5 SCE will not be providing an updated Sales Forecast in this proceeding. An updated
6 Sales Forecast will be addressed in the upcoming ERRA Forecast proceeding. SCE will continue to rely
7 on the factors adopted in D.21-08-036.

8 **3. Present Rate Revenue**

9 The GRC-related present rate revenues (PRR) in current rate levels were established in
10 Advice 4639-E, which implemented SCE's 2022 PTYR revenue requirement in accordance with the
11 post-test year methodology adopted in D.21-08-036. However, when SCE implements Track 4, the GRC
12 PRR in rate levels at that time will be SCE's 2023 PTYR revenue requirement. In accordance with
13 D.21-08-036, SCE is required to submit its 2023 PTYR advice letter to establish and implement the
14 2023 PTYR revenue requirement no later than December 1, 2022. Therefore, because SCE has not yet
15 submitted its 2023 PTYR advice letter, SCE is using the 2023 PTYR revenue requirement calculated
16 using the 2022 PTYR modeling as the GRC-related PRR for the purposes of this filing, as shown in
17 Table III-15, below.

Table III-15
GRC-Related Present Rate Revenues
(Nominal \$000)

Line No.	GRC Rev Req	2022 PTYR	Est. 2023 PTYR (GRC PRR)
1.	AGBRR (Gen)	\$ 703,910	\$ 715,503
2.	AP&ESBRR (NSG)	\$ 62,641	\$ 61,482
3.	ADBRR (Dist)	\$ 6,492,669	\$ 6,890,505
4.	TOTAL	\$ 7,259,220	\$ 7,667,490

18 **4. Other Operating Revenue**

19 SCE will not be providing an updated forecast for Other Operating Revenue. SCE will
20 continue to rely on the factors adopted in D.21-08-036.

1 **5. Overhead Allocation**

2 SCE will not be providing an updated Overhead Allocation rate calculation (*e.g.*,
3 capitalized A&G and capitalized P&B) in this proceeding. SCE will continue to rely on the factors
4 adopted in D.21-08-036.

5 **6. Capital-Related Expense**

6 SCE will continue to utilize the Commission-approved capital expense ratios and
7 corresponding O&M forecast as adopted in D.21-08-036.

8 **7. Working Capital**

9 SCE will not be providing an updated study or analyses for the following Working
10 Capital categories in this proceeding: Materials and Supplies Inventory, Mountainview Emission Credits
11 Inventory, Working Cash, and Working Capital Adjustments (Customer Advances and Unfunded
12 Pension Reserve). SCE will continue to rely on the factors adopted in D.21-08-036. SCE did provide an
13 update for one category of Working Capital Adjustments (Customer Deposits), which is addressed in
14 Chapter III, Section E of this Exhibit.

15 **8. Depreciation Study**

16 SCE will not be providing an updated Depreciation Study in this proceeding. SCE will
17 continue to rely on the depreciation parameters adopted in D.21-08-036.

18 **9. Taxes**

19 SCE will not be providing an updated forecast for Income Taxes. SCE will continue to
20 rely on the factors and rates adopted in D.21-08-036.

21 **10. Added Facilities**

22 SCE will not be providing an updated forecast for Added Facilities. SCE will continue to
23 rely on the factors adopted in D.21-08-036.

1 IV.

2 **SAFETY AND RELIABILITY INVESTMENT INCENTIVE MECHANISM**

3 **A. Background**

4 The Safety and Reliability Investment Incentive Mechanism (SRIIM) is a mechanism that the
5 Commission has previously adopted to incentivize SCE to spend authorized dollars on programs that
6 support safety and reliability, and to maintain a workforce of field employees to support the safe and
7 reliable operation of the electric grid. SRIIM requires SCE to “spend funds on safety and reliability as
8 authorized or make refunds to ratepayers.”⁷³ SCE has implemented some form of SRIIM since the early
9 2000s.

10 SRIIM is composed of two components:

- 11 1. Hiring field personnel that directly work on projects and programs related to safety and
12 reliability; and,
- 13 2. Capital investment on core safety and reliability related projects and programs.

14 SCE’s proposed SRIIM for Track 4 is consistent with the Track 1 Final Decision. In that
15 Decision, the Commission adopted SCE’s proposed modifications to the SRIIM workforce
16 classifications⁷⁴ and headcount target,⁷⁵ as well as SCE’s proposal to continue adjusting the target
17 headcount level by one-half the percentage of change in requested versus authorized T&D capital
18 programs that employ SRIIM workers.⁷⁶ However, the Commission did not adopt SCE’s proposal to
19 change the SRIIM headcount measure to a single point in time during the last two quarters of the GRC
20 cycle. Instead, the Commission directed SCE to continue using an average headcount over the last
21 quarter of the GRC cycle to measure the headcount target.⁷⁷

⁷³ D.21-08-036 at p. 57.

⁷⁴ SCE proposed removing two positions it no longer had (Distribution Apprentice Groundman and Transmission Apprentice Groundman) and adding classifications of Distribution Apparatus Technician and Distribution Apparatus Foreman. D.21-08-036 at p. 58.

⁷⁵ SCE proposed increasing the headcount target from 2,175 to 2,465 workers. D.21-08-036 at pp. 58-59.

⁷⁶ D.21-08-036 at p. 60.

⁷⁷ D.21-08-036 at pp. 60-61.

In the Track 1 Final Decision, the Commission adopted SCE’s proposed capital investment component for SRIIM, whereby any underspend in the SRIIM capital categories can be offset by one High-Priority Exceptions and Wildfire Mitigations Programs discussed in Section IV.B.2.

B. SCE’s Track 4 SRIIM Proposal

1. Workforce

a) Workforce Categories

Table IV-16 below shows the workforce categories adopted in the Track 1 Final Decision that SCE proposes to continue in Track 4:

***Table IV-16
SRIIM Headcount Classifications***

Distribution Groundman	Troubleman
Distribution Apprentice Lineman	Troubleman Trainer
Distribution Linemen	Operator Trainee
Distribution Sr. Cable Splicer	System Operator
Distribution E-Crew Foreman	Substation Operator
Transmission Groundman	Substation Apprentice Electrician
Transmission Apprentice Lineman	Substation Electrician
Transmission Lineman	Test Technician
Senior Patrolman	Supervising Test Technician
Distribution Apparatus Technician	Distribution Apparatus Foreman

b) Headcount Target

The Track 1 Final Decision authorized an increase to the SRIIM headcount target from 2,175 to 2,335 by year end 2023, after making an adjustment pursuant to the requested versus authorized Transmission and Distribution (T&D) capital mechanism.⁷⁸ Consistent with the Track 1 Final Decision, 2,335 should be the starting point for the 2024 headcount target. Also consistent with the Track 1 Final Decision, SCE is forecasting adding 80 employees per year net of attrition, which will

⁷⁸ Advice Letter 4586-E p. 13 (“For the headcount target, Section 8.3.2 indicates that SCE’s proposal “to increase the SRIIM headcount target from 2,175 to 2,465 workers” is adopted. However, consistent with the mechanism adopted in D.19-05-020 (SCE’s 2018 GRC final decision), SCE also proposed to adjust the target headcount level by one-half the percentage change in requested versus authorized transmission and distribution (T&D) capital. This is also authorized in the 2021 GRC Track 1 Final Decision. Therefore, the headcount target reflected in the modified SRIIM tariff is set at 2,335 workers.”).

1 increase the headcount target at the end of 2024 from the adjusted authorized headcount of 2,335 to
2 2,415. Continuing the same headcount target is based on the significant increased workforce as approved
3 in Track 1, matching the need for the capital work plan being requested for 2024. Once the capital for
4 2024 is approved, SCE is requesting to apply the same T&D capital headcount adjustment mechanism
5 for the 2024 period. The Commission has adopted this mechanism in multiple GRCs, including in Track
6 1.⁷⁹

7 (1) Challenges Meeting SRIIM Headcount Target in 2021-2023

8 SCE continues to believe it will meet its adjusted headcount target of
9 2,335 in 2023, as well as its proposed headcount target of 2,415 in 2024. However, those targets are now
10 much more ambitious than they appeared when SCE filed its 2021 GRC Track 1 Application due to the
11 impacts of two events that were unforeseen at that time: the COVID-19 pandemic and the challenging
12 labor market for line workers. These events make it unrealistic that SCE will be able to exceed its
13 proposed headcount target in 2024.

14 (a) COVID-19 Pandemic

15 In 2020 and 2021, COVID-19 significantly impacted SCE's ability
16 to hire and train SRIIM-eligible employees. In fact, 2020 and 2021 new hire SRIIM additions were
17 lower than each of the previous five years due to COVID-19 impacts. Specifically, SCE introduced
18 social distancing, limits on indoor and in-person training, and other safety protocols required to respond
19 to COVID-19, which inhibited our ability to adequately train new employees.

20 Due to COVID-19 restrictions and mandatory shutdowns, SCE had
21 to quickly implement safety protocols to ensure our employees could work safely and feel safe while
22 working. During the pandemic, SCE's training programs had to be stopped and classes were delayed or
23 operated at limited capacity. For instance, SCE lost a total of 35 weeks⁸⁰ of in-person training due to
24 COVID-19 restrictions. Also, due to the indoor training capacity restrictions and COVID-19 exposure,

⁷⁹ D.21-08-036, p. 60.

⁸⁰ T&D suspended in-person training over the following three significant timeframes: March-July 2020, January-February 2021, and April-June 2021.

1 in-person apprentice step progression assessments and core classes had to be paused or postponed on
2 several occasions. In addition, SCE imposed a six-foot physical distancing requirement in indoor
3 training facilities, further impacting SCE's normal output and ability to use all campuses and
4 classrooms. As a result, in order to prevent further training backlogs, SCE erected seven 2,000-square-
5 foot outdoor tents on multiple campuses, all of which have been used since October of 2021 to allow for
6 physically-distanced, in-person training to continue during COVID-19. These tents have increased our
7 training capacity, but they have not allowed us to make up for the months we were unable to hire at
8 expected levels.

9 In addition, full-time training instructor vacancies have increased
10 due to COVID-related company-wide hiring restrictions and resource constraints in certain work
11 locations. As a result, SCE's contracting agency, Powerline Trade, has been unable to backfill vacant
12 instructors. Also, SCE's training instructor attrition rate is high and always in flux. Since August 2020,
13 SCE has faced a shortage of instructors in Transmission training where instructional staff has been at
14 approximately 50% staffing levels. In addition, since September 2021, Distribution training instructional
15 staff has been at approximately 75% staffing levels. SCE's training program is a critical process that
16 allows us to grow our workforce to meet the SRIIM headcount target.

17 (b) The Challenging Line Worker Labor Market

18 SCE continues to face limited new-hire linemen availability due to
19 the challenging labor market for line workers in its service area. Additionally, in the last year, SCE has
20 experienced higher-than-normal attrition. In fact, voluntary attrition was significantly higher in 2021
21 than the previous six years.⁸¹ While we intended to grow our SRIIM workforce in 2021 by adding a net
22 80 SRIIM employees to maintain our progression toward meeting the 2023 headcount target, the
23 exceptional attrition caused SCE to instead lose about 30 SRIIM employees. As a consequence, SCE
24 essentially lost a year of growth in adding to our headcount.

⁸¹ See WP SCE Tr. 4-01 – SRIIM Attrition, p. 231.

1 In addition, there is a tight labor market throughout the U.S. for
2 linemen and the demand for linemen has grown recently due to efforts to modernize and harden our
3 national grid and increase electrification. This is particularly true in California due to the State's
4 ambitious clean energy goals.⁸² SCE competes with the other electric utilities for linemen resources in
5 California. As a result, the competition for line workers has increased and provided more opportunities
6 for those with high voltage electric construction skills. For instance, on January 4, 2021, there were 61
7 line workers available in the weekly union hiring hall and by January 10, 2022, there were only 21 line
8 workers available. As such, although SCE continues to recruit to attract new line workers, the current
9 market is limiting this SRIIM pipeline to hiring experienced line workers. As a result of this challenging
10 labor market, SCE must rely on its apprentice program as the only viable method at this time to safely
11 and cost effectively increase headcount. When SCE hires new apprentices, they are generally recruited
12 from SCE's existing groundmen. This in turn opens new groundmen positions, which SCE hires
13 externally, or backfills from non-SRIIM positions, thus increasing the overall SRIIM headcount.
14 Furthermore, hiring entry-level groundmen is an important way to increase the workforce and provide a
15 path to train future lineman. However, for SCE to ensure the safety of our employees and reliability for
16 our customers, SCE must limit the number of entry-level groundmen staffed at each work location.
17 SCE needs to maintain a reasonable ratio of linemen-to-apprentices to ensure that proper training and
18 safety practices are learned and adhered to, benefitting linemen as well as our customers.⁸³

19 (2) Despite Challenges, SCE is Significantly Increasing Training and Hiring
20 in 2022 and Beyond

21 SCE is increasing new SRIIM-position hiring and associated training to
22 meet the 2023 headcount target. In order for SCE to meet the target, SCE is planning to train five
23 additional Groundman/External Lineman cohorts (70 additional students) in 2022 and eight additional
24 Groundman/External Lineman cohorts (114 additional students) in 2023. Just hiring new groundmen is

⁸² <https://www.energy.ca.gov/news/2021-03/california-releases-report-charting-path-100-percent-clean-electricity>.

⁸³ SCE's standard practice is to use a ratio of 2:1 Journeymen to apprentice.

not sufficient to increase the SRIIM positions, as increased hiring capacity will also be needed for apprentices to allow groundmen to progress into apprentices' positions and eventually become journey linemen. SCE expects a 50% to 150% increase in the volume of apprentices through 2024 and beyond. Hence, in order for SCE to meet the increased volume of apprentices, class sizes for Distribution Apprentices will increase from 12 to 16 students per class.

SCE will implement aggressive plans within the next few years to ramp up hiring and training to meet the SRIIM headcount target. However, these plans assume that SCE's training will be able to rely heavily on field adjunct instructors at volumes higher than have been traditionally seen, ranging from an increase of 18 to 40 field adjunct instructors from 2022-2024 in addition to approximately 40 to 50 field adjunct instructors required to meet the baseline training requirements, before taking into account the increased training needs. These instructors are journeymen linemen that also perform line work, and this will need to be balanced against the need to meet the training requirement. In addition, the training plans assume that COVID-19-related issues will not result in further limiting the training capacity. The COVID-19 landscape remains uncertain, increasing the risk that SCE will not be able to train the required volume of workers to meet the headcount target.

(3) Measurement

Given the unforeseen restrictions due to the global COVID-19 pandemic as well as the challenging labor market, SCE proposes to maintain the current measurement mechanism, which is to measure the headcount target at the average of the last quarter of the 2021 GRC cycle (*i.e.*, 2024).

2. Capital Investments

SCE recommends the Commission continue the capital investment component of the SRIIM. The Commission adopted the SRIIM to motivate improvements to reliability through investment in the electric grid. It subsequently expanded the mechanism to also include safety spending to help ensure SCE spends toward authorized amounts for select safety and reliability programs. As previously mentioned, SCE is principally focused on safety and reliability, and therefore inherently motivated to invest in programs that improve the safety and reliability of SCE's electric system. This complements

the Commission’s actions over the past few years to establish formal proceedings and mechanisms to further focus on safety and reliability.

In the Track 1 Final Decision, the Commission adopted SCE’s proposed capital investment component for SRIIM, whereby any underspend in the SRIIM capital categories can be offset by one or more of the following conditions:

1. Spending in excess of 110 percent of the authorized amount for “High Priority” programs (Storms, Claims, and Customer Driven/Requested Work); and
2. Spending above Commission-authorized amounts in wildfire mitigation programs that use the same types of resources as those performing SRIIM work.⁸⁴

Any recorded expenditures below authorized in the SRIIM capital categories can be offset by recorded amounts over-authorized in the Commission-authorized High Priority and Wildfire Mitigation Program capital expenditures and capital additions identified in Table IV-17. SCE proposes to keep the same mechanism for 2024.

Table IV-17
Authorized High-Priority Exceptions and Wildfire Mitigation Programs

High-Priority Exceptions	Wildfire Mitigation Programs
Claims	Wildfire Covered Conductor Program (WCCP)
Customer Driven Requests	Wildfire Enhanced Overhead Inspections (EOI)
Distribution Transformers	
New Service Connections - Residential & Commercial	
New Service Connections - Other	
Storms	

⁸⁴ Ex. SCE-2, Vol. 1, Pt. 2 at p. 64.

Appendix A

Witness Qualifications

SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF BRENT N. FIELDER

Q. Please state your name and business address for the record.

A. My name is Brent N. Fielder, and my business address is 2244 Walnut Grove Avenue, Rosemead, California 91770.

Q. Briefly describe your present responsibilities at the Southern California Edison Company (SCE).

A. I am the Director of OU Business Partner Finance in SCE's Operational Finance Department. I am responsible for the overall management of financial analysis and support provided to the operating units at SCE.

Q. Briefly describe your educational and professional background.

A. I have a Bachelor of Arts Degree in Business Economics, with an emphasis in Accounting from the University of California, Santa Barbara. I also have a Master of Business Administration from University of Southern California. Since my employment with Southern California Edison in 2004, I have held positions within the Finance, Enterprise Resource Planning and Regulatory Affairs departments. My areas of responsibility have included Sarbanes-Oxley compliance, design and implementation of the Company's enterprise resource planning system, rate base and depreciation forecasting, financial planning, regulatory accounting and regulatory case management. In 2009, I was promoted to Manager of Regulatory Analysis within the Finance organization. There it was my responsibility to oversee the forecasting of plant additions, rate base and depreciation expense in support of the Company's regulatory proceedings. I sponsored testimony as the rate base witness in SCE's 2012 GRC and testified at the Commission. Since then, I have held leadership roles in financial planning and regulatory accounting until 2018 when I joined Regulatory Affairs as the Principal Manager of the General Rate Case (GRC) responsible for the overall management of the GRC, from the development of the company's application and testimony, through the litigation process, and continuing through the implementation of a final decision. In 2020, I was promoted to my current role as the Director of OU Business Partner Finance.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor portions of *SCE-01: Direct Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.

- 1 Q. Was this material prepared by you or under your supervision?
- 2 A. Yes, it was.
- 3 Q. Insofar as this material is factual in nature, do you believe it to be correct?
- 4 A. Yes, I do.
- 5 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best
- 6 judgment?
- 7 A. Yes, it does.
- 8 Q. Does this conclude your qualifications and prepared testimony?
- 9 A. Yes, it does.

**SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF TERRY OHANIAN**

Q. Please state your name and business address for the record.

A. My name is Terry Ohanian and my business address is 3 Innovation Way, Pomona, California 91768.

Q. Briefly describe your present responsibilities at the Southern California Edison Company.

A. I was recently appointed as Director of Vegetation and Land Management with responsibility for SCE and contract personnel supporting Vegetation Management and Land Management activities throughout our service territory. Prior to my current position, I was the Director of the Southeast Distribution Construction and Maintenance group within the Transmission and Distribution organizational unit of Southern California Edison (SCE). I was responsible for planning, maintenance and construction out of 14 district offices representing approximately half of the total distribution electrical line construction and maintenance activity at SCE.

Q. Briefly describe your educational and professional background.

A. I hold a Master of Business Administration degree from the University of Southern California and a Bachelor's degree in Electrical Engineering also from the University of Southern California. Prior to my current role, I was the principal manager of Distributions Programs and Strategy overseeing the distribution resource and performance managers throughout SCE territory. In this role, I was also responsible for a portion of the distribution project management function associated with infrastructure replacement and load growth. I have also held positions in Operational Finance at SCE and management positions at a construction management company specializing in facilities construction.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor the portions of *SCE-01: Direct Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.

Q. Was this material prepared by you or under your supervision?

A. Yes, it was.

Q. Insofar as this material is factual in nature, do you believe it to be correct?

A. Yes, I do.

- 1 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best
2 judgment?
- 3 A. Yes, it does.
- 4 Q. Does this conclude your qualifications and prepared testimony?
- 5 A. Yes, it does.

**SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF ERIN PULGAR**

Q. Please state your name and business address for the record.

A. My name is Erin Pulgar and my business address is my business address is 8631 Rush Street, Rosemead, California 91770.

Q. Briefly describe your present responsibilities at the Southern California Edison Company.

A. I am the Principal Manager of Cost Recovery within the State Regulatory Operations organizational unit of Southern California Edison (SCE). As such, I am primarily responsible for managing and overseeing SCE's CPUC-related cost recovery activities.

Q. Briefly describe your educational and professional background.

A. I hold a Bachelor's degree in Public Relations and Political Science from the University of Southern California. I have over ten years of experience working at SCE. Prior to my current role in Cost Recovery, I managed SCE's 2018 GRC Phase 2 and TOU Rate Design Window proceedings. I've also worked in SCE's Regulatory Tariffs group and in the Revenue Services Organization, where I was responsible for operational compliance with SCE's billing-related tariffs. Before joining SCE, I worked six years for AeroVironment, Inc. as a program manager responsible for implementing engineering projects related to electric vehicle charging and other energy-related areas. I have previously testified before the California Public Utilities Commission.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor the portions of *SCE-01: Direct Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.

Q. Was this material prepared by you or under your supervision?

A. Yes, it was.

Q. Insofar as this material is factual in nature, do you believe it to be correct?

A. Yes, I do.

Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best judgment?

A. Yes, it does.

Q. Does this conclude your qualifications and prepared testimony?

1 A. Yes, it does.

SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF JONATHAN RUMBLE

Q. Please state your name and business address for the record.

A. My name is Jonathan Rumble, and my business address is 2244 Walnut Grove Avenue, Rosemead, CA 91770.

Q. Briefly describe your present responsibilities at the Southern California Edison Company.

A. I am the Principal Manager of Regulatory Economics and Regulatory Finance in the Treasurers organization.

Q. Briefly describe your educational and professional background.

A. I hold a Masters degree in Business Administration from the University of California – Los Angeles and Bachelors degrees in Economics and Government from Skidmore College – Saratoga Springs, NY. Prior to my current position I was Principal Manager, Integrated Resource Planning in the Strategy, Planning and Operational Performance organization responsible for developing and advancing corporate strategic planning efforts around the decarbonization of the California electric system in a reliable and cost-effective manner. I have also served as a senior financial analyst at Edison International where I was responsible for the consolidated 10-year financial forecast for Edison International and subsidiaries. Prior to joining Edison in 2003, I worked for Navigant Consulting, Inc. in New York, NY, where I led teams of financial consultants.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor the portions of *SCE-01: Direct Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.

Q. Was this material prepared by you or under your supervision?

A. Yes, it was.

Q. Insofar as this material is factual in nature, do you believe it to be correct?

A. Yes, I do.

Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best judgment?

A. Yes, it does.

- 1 Q. Does this conclude your qualifications and prepared testimony?
- 2 A. Yes, it does.

SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF HONGYAN SHENG

Q. Please state your name and business address for the record.

A. My name is Hongyan Sheng, and my business address is 2244 Walnut Grove Avenue, Rosemead, California 91770.

Q. Briefly describe your present responsibilities at the Southern California Edison Company.

A. I am the Principal Manager of the Demand and DER Forecasting Group within the Resource & Environmental Planning & Strategy Division in Edison's Strategy and Regulatory Affairs Business Organization. My primary responsibilities include supervising the preparation of corporate's long-term sales forecast update, managing the integration of the impacts from Demand-Side Management Programs, electric vehicle and transportation electrification development, and future regulatory and policy changes into the long-term demand forecast, support the regulatory proceedings such as the Generate Rate Case (GRC), Integrated Energy Policy Report (IEPR), Integrated Resource Planning (IRP), Distributed Resource Planning (DRP), Resource Adequacy (RA), and Energy Resource Recovery Account (ERRA).

Q. Briefly describe your educational and professional background.

A. My educational background includes a Master of Arts Degree in Mathematical Behavioral Science (1997) and a Ph.D degree in Economics (1999) from University of California, Irvine. I received the Chartered Financial Analyst Designation in 2004. I have over 20 years of experience in various aspects of long-term resource and strategic planning, power procurement, market operations, and risk management. I assumed my current responsibilities in May 2016. Prior to my current position, I was the manager of Long-term Demand Forecasting Group.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor the portions of *SCE-01: Direct Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.

Q. Was this material prepared by you or under your supervision?

A. Yes, it was.

Q. Insofar as this material is factual in nature, do you believe it to be correct?

A. Yes, I do.

- 1 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best
2 judgment?
- 3 A. Yes, it does.
- 4 Q. Does this conclude your qualifications and prepared testimony?
- 5 A. Yes, it does.

**SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF DOUGLAS A. SNOW**

Q. Please state your name and business address for the record.

A. My name is Douglas A. Snow, and my business address is 8631 Rush Street, Rosemead, California 91770.

Q. Briefly describe your present responsibilities at the Southern California Edison Company (SCE).

A. I am the Director of General Rate Case in SCE's State Regulatory Operations Department. As such, I am responsible for the overall management of the General Rate Case (GRC), from the development of the company's application and testimony, through the litigation process, and continuing through the implementation of a final decision.

Q. Briefly describe your educational and professional background.

A. I graduated from Texas A&M University in May of 1982 with a Bachelor of Science Degree in Industrial Engineering. In June of 1982, I went to work for Southwestern Public Service Company (SPS) in west Texas. While there, I was a supervisory engineer, responsible for revenue requirement calculations and rate design for both retail and resale customers. I filed testimony on behalf of SPS before the Texas Public Utility Commission and the Federal Energy Regulatory Commission. In November of 1993, I began to work for SCE as a financial analyst in the FERC Pricing section in the RP&A Department. While working in the FERC section, I was responsible for the rate design for SCE's requirements sales for resale, Wheeling Access Charges, and wholesale Distribution Access Charges. In March 1998, I became a supervisor in the Revenue Requirements division of RP&A, responsible for supervising a group of analysts that oversee the forecasting and recording entries associated with all CPUC regulatory mechanisms. In December 2001, I was promoted to the position of manager in the Revenue Requirements division of RP&A. In August 2006, I was promoted to Manager of CPUC Revenue Requirements, and in March 2013, I became the Director of CPUC Revenue Requirements and Tariffs taking on the additional responsibilities for managing SCE's tariffs, and advice letters. In March of 2018, I became the Director of the GRC. I have previously testified before the California Public Utilities Commission.

Q. What is the purpose of your testimony in this proceeding?

1 A. The purpose of my testimony in this proceeding is to sponsor the portions of *SCE-01: Direct*
2 *Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.
3 Q. Was this material prepared by you or under your supervision?
4 A. Yes, it was.
5 Q. Insofar as this material is factual in nature, do you believe it to be correct?
6 A. Yes, I do.
7 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best
8 judgment?
9 A. Yes, it does.
10 Q. Does this conclude your qualifications and prepared testimony?
11 A. Yes, it does.

**SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF DOUGLAS A. TESSLER**

Q. Please state your name and business address for the record.

A. My name is Douglas A. Tessler, and my business address is 2244 Walnut Grove Avenue, Rosemead, California 91770.

Q. Briefly describe your present responsibilities at the Southern California Edison Company.

A. I am the Senior Manager of Regulatory Finance in the Financial Planning & Analysis section of the Treasurer's Department. I am primary responsible for development of the Standardized Operations and Maintenance (O&M) and Capital Expenditure workpapers for all GRC and non-GRC CPUC Revenue Requirements. I am also responsible for maintaining the Results of Operations (RO) model used to calculate the CPUC revenue requirement.

Q. Briefly describe your educational and professional background.

A. I received a Bachelor of Science Degree in Accounting from California State Polytechnic University, Pomona in 1999 and Master of Science Degree in Business Administration from California State University, Fullerton in 2006. I am also a Certified Public Accountant (inactive). I began my career at Southern California Edison in 1997 as an Accounting Assistant in the Property Accounting area of the Controller's Department. From 1999 to 2005, I worked in various accounting positions within the Controller's Department. In 2005, I moved to the Audit Services Department where I worked as a Corporate Auditor. In 2008, I transferred to the Investor Relations Department at Edison International (the parent and holding company of Southern California Edison) where I worked as a Senior Financial Analyst. In 2010, I began working in the Revenue Requirements & Forecasting group in State Regulatory Operations as a project manager where I assumed my current position in 2015. In early 2018, the CPUC Revenue Requirements function was transferred from State Regulatory Operations to Treasurers.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor portions of *SCE-01: Direct Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.

Q. Was this material prepared by you or under your supervision?

A. Yes, it was.

Q. Insofar as this material is factual in nature, do you believe it to be correct?

- 1 A. Yes, I do.
- 2 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best
3 judgment?
- 4 A. Yes, it does.
- 5 Q. Does this conclude your qualifications and prepared testimony?
- 6 A. Yes, it does.

**SOUTHERN CALIFORNIA EDISON COMPANY
QUALIFICATIONS AND PREPARED TESTIMONY
OF ALAN VARVIS**

Q. Please state your name and business address for the record.

A. My name is Alan Varvis. I am the Principal Manager of Capital Asset Analytics in the Treasurers Department at Southern California Edison Company ("SCE"). My business address is 2244 Walnut Grove Avenue, Rosemead, California 91770.

Q. Briefly describe your present responsibilities at the Southern California Edison Company.

A. In my current position as Principal Manager of Capital Asset Analytics, I am responsible for the forecasting and budgeting related to plant-in-service, book depreciation, and regulatory cost recovery.

Q. Briefly describe your educational and professional background.

A. I received a Bachelor of Science degree in Business Administration, with an emphasis in Accounting and a Masters of Business Administration from California State Polytechnic University, Pomona. I have been certified as a Certified Depreciation Professional (CDP) by the Society of Depreciation Professionals. I joined Southern California Edison in the Transmission and Substation Division in 1993 as a business analyst. I was promoted to Supervisor of Material & Accounting in 1995 where my responsibilities included supervising the processing and handling of work orders related to transmission line and substation capital equipment replacements. In 1996, I accepted a supervisor position in the Power Grid Business Unit where my primary role was to provide budgeting and regulatory finance support. In 2003, I received a promotion to a manager position and, from 2003-2015, held a variety of manager roles in the areas of budgeting, regulatory finance, reporting, and financial system functions supporting the Transmission & Distribution Business Unit. In 2015, I accepted a position in my current role as Principal Manager of Capital Asset Analytics.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor portions of *SCE-01: Direct Testimony in Support of GRC Track 4 Request*, as identified in the Table of Contents thereto.

Q. Was this material prepared by you or under your supervision?

A. Yes, it was.

Q. Insofar as this material is factual in nature, do you believe it to be correct?

1 A. Yes, I do.

2 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best
3 judgment?

4 A. Yes, it does.

5 Q. Does this conclude your qualifications and prepared testimony?

6 A. Yes, it does.

Appendix B

2020 Variance Explanations

Non-Wildfire 2020 Capital authorized to recorded variance explanations
2020 Direct Capital Expenditures (Total Company, Nominal \$000)

- Capital expenditures shown above are direct costs; Corporate Overheads have been removed.
- Excludes all contributions except Distribution and Transmission Joint Pole Capital Credits
- Excludes wildfire and other capital expenditures recovered outside the GRC.

Exhibit/Volume Number	Volume Title	2020 Authorized	2020 Recorded	Variance Over/(Under)	Variance Explanation
SCE-02, Vol. 1 Pt. 1 Total	Distribution Infrastructure Replacement	154,691	268,393	113,701	<p>In 2020 SCE recorded \$268.393 million in activities under Distribution Infrastructure Replacement (Track 1 SCE-02 Volume 1 Part 1), which is \$113.701 million (74%) above authorized of \$154.691 million. As the Commission has approved the bundling of these activities into the Safety and Reliability Investment Incentive Mechanism (SRIM), the Commission has effectively determined that trade-offs between these activities are acceptable as they support safety and reliability.</p> <p>The largest driver of this variance was due to Worst Circuit Rehabilitation (WCR) with a variance of \$52.449 million, which was primarily attributable to WCR projects that started in the prior year 2019 and completed in 2020. SCE also experienced higher unit costs in 2020 primarily due to the increased contractor labor and material costs to complete the WCR work.</p> <p>The second major contributing factor to spending over authorized was 4 kV Cutovers with a variance of \$32.055 million. The primary reason SCE recorded above the authorized amount was similarly related to completing rollover work from 2019. In addition, SCE completed a higher volume of 4kV work related to grid modernization and load growth. Similar to the WCR program, SCE recorded higher unit costs due to increased contractor labor and material costs (including new civil infrastructure for the assets).</p> <p>A third contributing factor was SCE's Underground Structure Replacements program which recorded \$27.298 million over the authorized amount. This was a result of higher-than-anticipated costs to remedy issues associated with inspections that identified necessary improvements or required upgrades. SCE's recorded unit costs increased for this program as well due to increased contractor labor and material costs to replace more traditional structures (e.g., full replacement with new switches, cables and transformers) instead of installing a vault casing (e.g., an emptied/shell structure).</p>
SCE-02, Vol. 1 Pt. 2 Total	Distribution Inspections & Maintenance and Capital Related	492,359	585,726	93,367	<p>In 2020 SCE recorded \$585.726 million in activities under Distribution Inspections & Maintenance and Capital-Related Expense (Track 1 SCE-02 Volume 1 Part 2), which is \$93.367 million (19%) above authorized of \$492.359 million. The driver of this variance was Distribution Preventative and Breakdown Capital Maintenance by \$104.629 million, which was primarily due to the increased volume of enhanced overhead inspections, which in turn drove a higher number of remediations. Higher spend resulted from coupling of enhanced overhead inspections remediations for wildfire prevention with non-wildfire work for operational and financial efficiency. SCE's 2020 costs increased as a result of the additional supplemental workforce and premium time required to complete the higher level of remediations.</p>
SCE-02, Vol. 1 Pt. 3 Total	Meter Engineering	45,680	51,224	5,544	<p>Meter Engineering activities are primarily driven by customer population growth, customer metering load requirements, meter failure and communication issues, introduction of new meter technology, and customer participation in time-of-use programs. The recorded amount for Meter Activities was \$5.544 million over the authorized amount of \$45.680 million, which was primarily driven by accelerated delivery of Socket-Based Routers (SBRs).</p>
SCE-02, Vol. 2 Total	Transmission	154,603	158,918	4,316	<p>Activities contained within Transmission (SCE-02 Volume 2) recorded a total of 3% over the authorized amount, which is reasonably close to the adopted amount of \$159 million for this volume. The variance was driven primarily by a \$12.237 million variance in Transmission Line Rating Remediation (TLRR) primarily driven by a capex overstatement in 2020 as well as recording over the authorized level for TLRR exempt and licensing projects, as well as (\$11.975) million variance in Transmission Capital Maintenance. Transmission Capital Maintenance includes the costs to remove, replace, and retire assets on a planned or reactive basis. Planned transmission capital maintenance is driven by regular equipment maintenance cycles; maintenance work identified and prioritized through overhead and underground inspection programs; and maintenance identified through observations by field personnel and other activities. In 2020, SCE recorded less than authorized due to delays and a strategy change associated with SCE's Tower Corrosion related to an accounting change to reflect that assessments which do not result in tower remediations to be classified as O&M, and not capital. Telecommunication Inspection and Maintenance had a variance of \$3.315 million. SCE used 2018 recorded costs as the basis for its forecast as SCE expected the level of work performed in 2018 to continue into 2021. However in 2020 there was a higher volume of capital maintenance to remove, replace and retire aging telecommunication assets than was forecasted.</p>
SCE-02, Vol. 3 Total	Substation	324,071	357,245	33,175	<p>Activities contained within Substation (SCE-02 Volume 3) had a variance of \$33.175 million (10%), driven primarily by a \$26.405 million variance in Preventive Maintenance. Following the State and the CPUC's emphasis to mitigate future wildfires caused by wires down, SCE completed increased high fire work in higher volume than previously forecast, including the installation of higher cost fire resistant equipment. There was a (\$16.322) million variance in Substation Transformer Bank Replacement due to warranties credit from critical spares, material & approved delays, and COVID impacts to labor that delayed construction. There was a \$11.339 million variance in Substation Capital Breakdown Maintenance due to higher than average circuit breaker breakdown replacements, and a \$5.115 million variance in Circuit Breaker Replacement due to more reactive replacements than planned. Monitoring Bulk Power System had a variance of \$9.241 million, due to increased telecommunications infrastructure required in Transmission Network and Facilities, as well as Data and Voice Network Replacements.</p>
SCE-02, Vol. 4 Pt. 1 Total	Grid Modernization, Grid Technology, Energy Storage	147,417	251,263	103,846	<p>Activities contained within Grid Modernization, Grid Technology, Energy Storage (SCE-02 Volume 4 Part 1) had a variance of \$103.846 million (70%). The was driven by recording \$113.3M over the authorized amount of \$16 million in the Communications GRC activity for the Field Area Network (FAN) project. The FAN is focused on supporting business requirements for Grid Modernization, addressing the obsolescence of the existing field communications network (NetComm), connecting an increasing number of Distribution Automation devices to SCE's back office systems, and integrating 3rd party distributed energy resources. The FAN also contributes to mitigating the cybersecurity risk in the existing legacy field network, which was ranked as one of the top nine risks in SCE's 2018 and 2022 RAMP filings.</p> <p>The amount recorded over 2020 authorized was driven by SCE's purchase of Spectrum licenses to build a private wireless network using Long-Term Evolution (LTE) technology to replace the existing field communications network. The Federal Communications Commission (FCC) decision to auction the Citizens Band Radio Services (CBRS) Spectrum in 2020 offered a unique acquisition opportunity as the availability of affordable spectrum to pursue private LTE technology was very limited. Although unanticipated at the time of SCE's Track 1 forecast, SCE's successful procurement of the CBRS-licensed spectrum channels allows SCE to move forward with pursuing a private LTE solution for FAN instead of the Mesh Radio solution that was previously planned. The private LTE solution offers several advantages over a mesh network. Specifically, mesh networks are largely proprietary, which has the effect of potentially locking SCE into a single vendor and pricing structure that is more costly. In contrast, an LTE network is based on a global standard that benefits from well-established, interoperable suppliers that drive competitive pricing. Further, Private LTE networks benefit from a governing body (3GPP) that continues to develop additional capabilities including robust cybersecurity controls and features. The mesh solutions that were considered utilize unlicensed spectrum which cannot support higher bandwidth, low latency use cases for distribution automation. Due to its higher bandwidth and cybersecurity capabilities, Private LTE improves SCE's ability to integrate 3rd party distributed energy resources. Lastly, the Private LTE network solution will provide SCE a scalable platform that can be expanded to meet other critical use cases like Open Phase Detection (OPD) and Distribution Fault Anticipation (DFA) to support wildfire mitigation and grid resiliency efforts. SCE notes that while its recorded cost for the Communications GRC activity was significantly higher than forecast and authorized for the calendar year 2020, it was driven by the upfront cost of purchasing the Private LTE spectrum, and the total cost for deployment of the private LTE solution (including spectrum costs) is comparable to the mesh radio solution.</p> <p>The 2020 variance for Grid Management System (GMS) was driven by the following factors: Incremental investments were made in 2020 that were necessary to meet Grid Cybersecurity standards for secured internet connectivity to grid systems and GMS integration with SCE enterprise systems. The Design Phase of the project identified additional hardware to host GMS applications, which were procured in 2020. Finally, the vendor software maintenance costs in 2020 were higher than originally estimated for the GMS Data Historian solution.</p> <p>SCE's Energy Storage Initiative was authorized \$19.635 million and recorded \$8.068 million. The variance of (\$11,567) is attributed to various project delays within the portfolio. Mercury 1, Mercury 2, and Gemini 1 were delayed due to additional time needed to implement new fire code requirements and design changes for site development.</p>
SCE-02, Vol. 4 Pt. 2 Total	Load Growth, Transmission Projects, and Engineering	979,853	787,512	(192,341)	<p>Activities contained within Load Growth, Transmission Projects, and Engineering (SCE-02 Volume 4 part 2) had a variance of (\$192.341) million (20%), driven primarily by a (\$103,121) variance in Grid Reliability Projects, which are planned on the portion of SCE's system under CAISO's operational control. They are developed as part of CAISO's Transmission Planning Process (TPP) supporting reliability and compliance with NERC, WECC, and CAISO system performance standards and criteria. In 2020, SCE recorded amount was significantly less than the authorized amount due to construction and permitting delays pushing work to 2021. For example, The Eldorado Lugo Mohave Series Capacitor project was delayed by Public Advocates Office's (PAO) protest resulting in the Commission requiring an amended Certificate of Public Convenience and Necessity application to be filed and deferring construction start date to Q4 2020. A Final Decision approving the project was not received until the Commission's August 27, 2020 Business Meeting. The Cerritos Channel Relocation also had foundation-related negotiations that delayed the start of construction. SCE's underspend in the Grid Reliability Projects was also attributed to a delay in delivery of three circuit breakers.</p> <p>In addition, there was a (\$46.665) million variance in Distribution Substation Plan (DSP) Circuits. As part of the DSP Program, new circuits are required to provide new capacity outside the substation fence in areas where multiple distribution circuits in the same geographical region are expected to exceed capacity; to serve new residential or commercial developments in areas with no existing electrical infrastructure; and to relieve existing circuits which are projected to exceed capacity in geographically isolated areas with limited usable circuit ties to transfer load. In 2020, SCE spent below authorized due to project reviews and delays, pushing work into 2021. Permitting challenges was another factor that resulted in the delay of work into 2021.</p> <p>A third driver to the underspend in this volume occurred in Distribution Substation Plan Substations, which recorded (\$25.286) million below the authorized amount. The DSP Substations projects include capacity additions or upgrades to facilities at existing substations and within the existing perimeter of the substation property, additions or upgrades that require perimeter expansion of the substation property, and new substations. In 2020, SCE recorded less than authorized due to approval and construction driven delays pushing work to 2021. For example, construction of the Garnet project was delayed until second quarter of 2021 due to a gas pipeline relocation by SoCalGas and transformer delivery delays. The Lancaster project was deferred to 2021 because the distribution cutovers work was delayed, which in turn delayed work on the switchrack and the Distribution Substation Emergency Replacement Program (DSERP) circuit breakers.</p> <p>Finally, SCE recorded less than authorized by (\$20.839) million variance in Transmission Substation Plan (TSP). The Transmission Substation Plan (TSP) consists of the Subtransmission Lines Plan, the A-Bank Plan and the Sub transmission VAR Plan. The Sub transmission Lines Plan provides adequate 66 kV or 115 kV line capacity in each of SCE's sub transmission networks to serve forecast peak loads at B-Substations. The A-bank Plan focuses on maintaining SCE's transmission substation capacity. The Sub transmission VAR Plan focuses on maintaining SCE's system reactive power needs. In 2020, SCE experienced various project delays, deferrals and project cancellations in TSP as SCE continued to work with the Commission for final approval of Alberhill project. The Elizabeth Lake-Pitchgen project was cancelled and Johanna, Lindsay and La Cienega-Beverly- Culver projects were deferred. In addition, SCE determined that the Springville and Strathmore projects could be combined resulting in lower overall spend to complete the projects.</p> <p>Distribution Plant Betterment has a variance of \$22.947 million, due to increased mitigation work related to voltage issues, automation, and equipment protection.</p>

Exhibit/Volume Number	Volume Title	2020 Authorized	2020 Recorded	Variance Over/(Under)	Variance Explanation
SCE-02, Vol. 4 Pt. 3 Total	New Service Connections and Customer Requested System Modification	469,721	388,743	(80,977)	New Service Connections and Customer Requested System Modifications (Track 1 SCE-02 Volume 4 Part 3) had a variance of (\$80.977) million (17%), driven overall by demand for customer driven/requested work being lower than forecast. This impacted Transmission/Substation Added Facilities - Customer Financed (\$34.708) million, WDAT/TO/Gen-Tie - Customer Funded (\$15.282) million, Rule 20 B/C Conversions (\$5.862) million, and Rule 20A Conversions (\$4.664) million. There also was a variance for Residential New Service Connections (\$12.612) million due to lower contract and deeded facility costs, and a variance for Streetlights New Service Connections (\$5.967) million, which is closely linked formulaically to Residential New Service Connections. This was offset by recording \$10.252 million over the authorized amount for Commercial New Service Connections due to demand for customer driven/requested work being higher than forecast.
SCE-02, Vol. 5 Total	Poles	396,202	332,067	(64,135)	Poles (SCE-02 Volume 5) had a variance of (\$64.135) million (16%). There was also a variance of (\$57.427) million in Distribution Pole Loading Program Pole Replacement. The Commission has adopted a Pole Balancing Account, so these programs should be reviewed as a whole to reflect that adopted structure. For both programs, this spending below authorized was driven by the identification of fewer pole replacements arising from the lower volume of inspections than forecast as a result of data refinement efforts that identified less required inspections. Completion of work was also heavily delayed due to Covid-19-related impacts (including stay-at-home orders, outage restrictions, and resource constraints). During 2020, inspections also resulted in a lower failure rate compared to previous years, resulting in a lower volume of poles that needed to be either replaced or repaired.
SCE-03, Vol. 1 Total	Billing & Payments	-	628	628	SCE did not anticipate any expenditures and was therefore not authorized capital funding in the Billing & Payments activity (SCE-03 Vol. 1). SCE recorded a relatively minor amount of \$0.628 million software licenses related to unanticipated robotics work.
SCE-03, Vol. 5 Total	Customer Care Services	397	1,030	633	SCE recorded only \$0.63 million above authorized for Customer Care Services (SCE-03 Vol. 05), which was necessary to support unanticipated upgrades required for SCE's Interactive Voice Responsive (IVR) system.
SCE-04, Vol. 1 Total	Business Continuation	42,967	42,299	(668)	Business Continuation (SCE-04 Vol. 01) recorded a variance of (\$0.668) million below the authorized amount of \$42.967 million, a 2% delta from the authorized amount and therefore in line with expectations.
SCE-04, Vol. 2 Total	Emergency Management	47,366	67,224	19,857	Emergency Management (SCE-04 Volume 02) had a variance of \$19.857 million (42%) driven by Distribution Storm Response Capital variance of \$21.614 million. SCE uses a five year average of storm costs to forecast, and in 2020 we experienced more storm expenditures compared to a five year average. This significant number of additional storms and fires were not declared emergencies, so these costs were not eligible for CEMA recovery.
SCE-04, Vol. 3 Total	Cybersecurity	65,543	62,345	(3,199)	Cybersecurity (SCE-04 Vol. 03) recorded 5% less than the authorized amount of \$65.543 million, which was reasonably in line with expectations.
SCE-04, Vol. 4 Total	Physical Security	65,607	37,521	(28,086)	In 2020, Physical Security (SCE-04 Vol. 04) recorded \$37.521 million, or \$28.086 million below the authorized amount of \$65.607 million. The majority of this variance occurred in the Protection of Grid Infrastructure Assets activity. This activity captures expenditures for SCE's ongoing effort to improve the physical protection of SCE employees and assets at electric facilities and to deter and protect against theft, security breaches, and other security incidents. The activity includes costs for the Tier Program, which is a program that improves the protection of critical assets, buildings and people around electrical facilities. Tier 2 consists of substations exceeding 500kv that have 5 or more network connections. In 2020, SCE's underrun was driven by delays in certain Tier 2 projects that shifted work into 2021 due to competing work on SCE's NERC CIP 014 (Tier1) projects and COVID-19 related impacts.
SCE-05, Vol. 1 Total	Generation	84,486	72,054	(12,432)	The 2020 recorded amount below the authorized level related to Hydro - Prime Movers (by \$5.085 million) and Hydro - Relicensing (\$10.504 million below authorized) was due to the work stoppage following the outbreak of the Creek fire in October 2020. The majority of SCE's work at Big Creek typically occurs in the summer and fall months, and none of the planned fall work was able to move forward as SCE worked to recover from the fire. Approximately 90% of the 2020 underspend related to Mountainview (\$3,278 recorded below authorized) was due to the early completion of the Spare Transformer Rewind project in 2019 rather than 2020 as planned.
SCE-05, Vol. 2 Total	Energy Procurement	982	696	(286)	Energy Procurement (SCE-05 Vol. 02) recorded \$286,000 under authorized, which is generally in line with the authorized amount.
SCE-06, Vol. 1 Pt. 1 Total	Enterprise Technology	103,013	106,095	3,082	Enterprise Technology (SCE-06 Vol. 01 Part 1) had a variance of approximately 3% above the authorized amount of \$103.013 million, which reasonably is in line with expectations.
SCE-06, Vol. 1 Pt. 2 Total	OU Capital Software	93,470	98,035	4,565	OU Capital Software (SCE-06 Vol. 01 Part 2) had a variance of approximately 5% above the authorized \$93.470 million and therefore reasonably in line with expectations.
SCE-06, Vol. 2 Total	Enterprise Planning & Governance	5,011	5,412	401	Enterprise Planning & Governance (SCE-06 Vol. 02) had a variance of \$0.401 million, which is a 8% delta from the authorized \$5.011 million and therefore reasonably in line with expectations.
SCE-06, Vol. 4 Total	Environmental Services, Audit, Ethics & Compliance, and Safety Programs	539	2,169	1,630	SCE recorded \$1.804 million in 2020 for Safety Culture Transformation. While no capital was authorized for this activity (\$2.276 million in O&M was authorized), SCE recorded these capital costs to this activity as they share similar capital attributes.
SCE-06, Vol. 5 Total	Enterprise Operations	110,235	100,341	(9,894)	Enterprise Operations (SCE-06 Volume 05) had a variance of (\$9.894) million (9%). One of the primary drivers to SCE recording below the authorized amount occurred in the GRC activity CRE Project Management by \$6.009 million. CRE Project Management includes project management costs for large capital projects such as infrastructure upgrades, facility repurpose, and substation reliability upgrades. In 2020, this activity's underspend was primarily due to permitting with city agencies being delayed and Safety Stand-Downs on several projects. SCE also recorded (\$2.477) million variance in Facility Asset Management, which captures expenditures for periodic updates to building systems that are either past their useful life (e.g., HVAC, roof), or modifications due to regulatory or compliance requirements (e.g. fire systems). In 2020, SCE spent below authorized due to delays related to the COVID-19 pandemic, which caused site access issues and material sourcing delays. In addition, the Creek Fire caused delays in several planned projects. Acquire and Dispose of Land Rights had a variance of (\$1.306) million due in part to delays in the review performed by the Bureau of Land Management (BLM) for a multiyear negotiation to convert SCE transmission and distribution agreements for controlled lands into Master Special Use Permits (MSUP).

Appendix C

Acronym Dictionary

ACRONYM	DEFINITION
3GPP	Third Generation Partnership Project
A&G	Administrative & General
AB	Assembly Bill
ABRR	Authorized Base Revenue Requirements
ADIT	accumulated deferred income tax
ADS	Aerial Detection Surveys / Atmospheric Data Solutions
AFN	Access and Functional Needs
AI	Artificial Intelligence
AirOps	Air Operations
ALJ	Administrative Law Judge
AOC	Area of Concern
API	Application Programming Interface
ASC	Arc Suppression Coil
BPE	Business Planning Element
BRRBA	Base Revenue Requirement Balancing Account
BVLOS	Beyond Visual Line of Sight
CAL FIRE	California Department of Forestry and Fire Protection
CARE	California Alternate Rates for Energy
CB	Circuit Breaker
CBA	CARE Balancing Account
CBO	Community-Based Organization
CBRS	Citizens Band Radio Service
CC	Covered Conductor
CC++	denotes covered conductor and ++ denotes additional mitigations, such as asset inspections. CC++ is a suite of mitigations that has CC as a grid hardening activity plus other activities
CCBB	Critical Care Battery Backup
CCV	Community Crew Vehicles
CD	Customer Deposits
CDP	Centralized Data Platform
CEMA	Catastrophic Event Memorandum Account
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFO	Contact From Object
CIAC	Contribution In Aid of Construction
CIP	Communication Infrastructure Provider
CMI	Customer Minutes of Interruption
CMS	Consolidated Mobile Solutions
COVID-19	Coronavirus Disease 2019
CPRR	Cover Pressure Relief and Restraint
CPUC	California Public Utilities Commission
CRC	Community Resource Center
CRMA	Catalina Repower Memorandum Account
DER	Distributed Energy Resources
DER-DGRPMA	DER-Driven Grid Reinforcement Program Memorandum Account
DFA	Distribution Fault Anticipation

DIMP	Distribution Inspection and Maintenance Program
DOTS	Distribution Overhead Targeted Scoping
DRI	Drought Relief Initiative (replaced by Dead and Dying Tree Removal Program)
DSERP	Distribution Substation Emergency Replacement Program
DSP	Distribution Substation Plan
ECMWF	European Center for Median-Range Weather Forecast
EDFI	Enhanced Dry Fuels Initiative
EFD	Early Fault Detection
EIX	Edison International
EOI	Enhanced Overhead Inspections
EONS	Emergency Outage Notification System
EPRI	Electric Power Research Institute
ERAM	Electric Revenue Adjustment Mechanism
ERRA	Energy Resources Recovery Account
ESA	Environmental Sensitive Area
ESD	Environmental Services Department
ESI	Electric System Inspector
ESOC	Edison Security Operations Center
FAA	Federal Aviation Administration
FAN	Field Area Network
FC	Fast Curve
FCC	Federal Communications Commission
FERA	Family Electric Rate Assistance
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
FHPMA	Fire Hazard Prevention Memorandum Account
FIC	Frequently Impacted Circuit
FICM	Fault Induced Conductor Motion
FIPA	Fire Incident Preliminary Analysis
FPI	Fire Potential Index
FRMMA	Fire Risk Mitigation Memorandum Account
FRP	Fire Resistant Pole
GAAP	Generally Accepted Accounting Principles
GCP	Google Cloud Platform
GFN	Ground Fault Neutralizer
GHG	Greenhouse Gas
GIS	Geographical Information System
GMS	Grid Management System
GO	General Order
GRC	General Rate Case
GSOB	Goldspotted Oak Borer
GSRP	Grid Safety and Resiliency Program
GSRPBA	Grid Safety and Resiliency Program Balancing Account
GUI	Graphic User Interface
HCS	High Consequence Segment

HD	High Definition
HERMES	Hazard Event Restriction and Management Emergency System
HFRA	High Fire Risk Area
HFRI	High Fire Risk Informed
HFTD	High Fire Threat District
HHZ	High Hazard Zone
HPCC	High Performance Computing Cluster
HTMP	Hazard Tree Management Program
IBEW	International Brotherhood of Electrical Workers
IBM	International Business Machine
ICS	Incident Command System
IED	Intelligent Electronic Device
IEEE	Institute of Electrical and Electronics Engineers
IGHS	Integrated Grid Hardening Strategy
IMT	Incident Management Team
IOU	Investor-Owned Utility
IR	Infrared
ISA	International Society of Arboriculture
IT	Information Technology
IVM	Integrated Vegetation Management
IVR	Integrated Voice Response
LED	Light Emitting Diode
LFM	Live Fuel Moisture
LFO	Live Field Observation
LiDAR	Light Detection and Ranging Data
LPA	Local Public Affairs
LTE	Long Term Evolution
MBL	Medical Baseline
MCL	Monitored Circuit List
MCRR	Multicultural Communications Resource Repository
MEVC	Mobile Electric Vehicle Chargers
ML	Machine Learning
MOU	Memorandum of Understanding
MPBA	Medical Programs Balancing Account
MTBA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NGWMS	Next Generation Weather Modeling System
NSC	New Service Connections
NSGBA	New System Generation Balancing Account
NWP	Nationwide Permit
O&M	Operation and Maintenance
OC	Orange County
OCFA	Orange County Fire Authority
OCM	Organizational Change Management
OCMA	Officer Compensation Memorandum Account
OCP	Overhead Conductor Program

ODI	Overhead Detail Inspection
OEIS	Office of Energy Infrastructure and Safety / Energy Safety
OH	Overhead
OPD	Open Phase Detection
P&B	Price to Book
PABA	Portfolio Allocation Balancing Account
PBOPBA	Post-Employment Benefit Other than Pensions Balancing Account
PCBA	Pensions Cost Balancing Account
PCIA	Power Charge Indifference Adjustment
PG&E	Pacific Gas and Electric Company
PLDPBA	Pole Loading and Deteriorated Pole Programs Balancing Account
PMO	Project Management Organization
POC	Period of Concern
POI	Probability of Ignition
PPPAM	Public Purpose Programs Adjustment Mechanism
PRC	California Public Resources Code
PRR	Present Rate Revenues
PSPS	Public Safety Power Shut Off
PSS	Professional Safety Solutions
PTY	Post-Test Year
PTYR	Post-Test Year Ratemaking
QEW	Qualified Electrical Worker
QRF	Quick Reaction Force
RAMP	Risk Assessment Mitigation Phase
RAR	Remote-Controlled Automatic Recloser
RCC	Residual Current Compensator
RCP	Rate Case Plan
RCS	Remote-Controlled Switch
REFCL	Rapid Earth Fault Current Limiter
REFCL++	The ++ denotes additional mitigations, such as asset inspections. REFCL++ is a suite of mitigations that has REFCL as a grid hardening activity plus other activities.
RFI	Request for Information
RFP	Request for Proposals
RFQ	Request for Qualifications
RMBA	Risk Management Balancing Account
RO	Results of Operation
RRIMA	Residential Rate Implementation Memorandum Account
RSE	Risk Spend Efficiency
Rule20A-BA	Rule 20A Balancing Account
S&P	Standard & Poor's
SA	Situational Awareness
SaaS	Software as-a-Service
SAP	System Application and Product Data Processing
SB	Senate Bill
SCE	Southern California Edison Company

SCMPMA	Service Center Modernization Projects Memorandum Account
SGI	Special Government Interest
SME	Subject Matter Expert
SOMS	Self Organizing Maps
SOW	Statement of Work
SPD	Safety Policy Division
SRA	State Responsibility Area
SRA	Severe Risk Area
SRIIM	Safety and Reliability Investment Incentive Mechanism
SRNEFMA	Seismic Retrofit for Non-Electric Facilities Memorandum Account
STIPMA	Short-Term Incentive Program Memorandum Account
SUP	Special Use Permit
SWER	Single Wire Earth Return
SVP	Senior Vice President
SWRCB	State Water Resources Control Board
T&D	Transmission and Distribution
T&E	Time and Equipment
TAMA 2018	2018 Tax Accounting Memorandum Account
TCCI	Tree-Caused Circuit Interruption
TFR	Temporary Flight Restriction
TMNBCBA	Tree Mortality Non-Bypassable Charge Balancing Account
TS&O	Transmission, Substation, and Operations
TTY	Tele Typewriter
TUG	Targeted Undergrounding
TURN	The Utility Reform Network
UAS	Unmanned Aerial Systems
UCSD	University of California, San Diego
UG	Underground(ing)
UNR	University of Nevada, Reno
USFS	United States Forest Service
USRBA	Underground Structures Replacement Balancing Account
USZ	Utility Strike Zone
UV	Ultraviolet
VCFD	Ventura County Fire Department
VMBA	Vegetation Management Balancing Account
VOC	Voice of the Customer
WCCP	Wildfire Covered Conductor Program
WCR	Worst Circuit Rehabilitation
WEMA	Wildfire Expense Memorandum Account
WF	Wildfire
WisDM	Wildfire Safety Data Management
WMP	Wildfire Mitigation Plan
WMPMA	2019 Wildfire Mitigation Plan Memorandum Account
WPR	Worst Performing Circuit
WRMBA	Wildfire Risk Mitigation Balancing Account
WRRM	Wildfire Risk Reduction Model
WSD	Wildfire Safety Division

WUI	Wildland-Urban Interface
ZFMA	Z-Factor Memorandum Account