BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

Application of Southern California Edison Company (U 338-E) Regarding 2022 Risk Assessment Mitigation Phase.	Application 22-05-013
NOT CONSOLIDATED	
Application of Southern California Edison Company (U 338-E) for Authority to Increase its Authorized Revenues for Electric Service in 2025, among other things, and to Reflect that Increase in Rates.	Application 23-05-010
NOT CONSOLIDATED	
Application of Southern California Edison Company (U 338-E) for Authority to Increase its Authorized Revenues for Electric Service in 2021, among other things, and to Reflect that Increase in Rates.	Application 19-08-013

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) RISK SPENDING ACCOUNTABILITY REPORT FOR 2022

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Dated: **July 28, 2023**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

Application of Southern California Edison Company (U 338-E) Regarding 2022 Risk Assessment Mitigation Phase.	Application 22-05-013
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SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) RISK SPENDING ACCOUNTABILITY REPORT FOR 2022

Southern California Edison Company (SCE) submits its 2022 Risk Spending Accountability Report (RSAR) in compliance with the Phase Two Decision Adopting Risk Spending Accountability Report Requirements and Safety Performance Metrics For Investor-Owned Utilities And Adopting A Safety Model Approach For Small And Multi-Jurisdictional Utilities, Decision (D.) 19-04-020 and D. 22-10-002, respectively (collectively, the Decisions). This 2022 RSAR covers spend authorized in SCE's Test Year 2021 General Rate Case (GRC) cycle for activities that address safety, reliability, and/or maintenance, consistent with Public Utilities Code Section 591.

In compliance with the Decisions, SCE is incorporating new requirements in this annual RSAR. Consistent with Ordering Paragraph 8 of D.19-04-020, SCE is filing and serving the RSAR on the service lists for proceedings Application (A.)22-05-013 (SCE's 2022 RAMP), A.19-08-013 (SCE's 2021 GRC),

and A.23-05-010 (SCE's 2025 GRC), as well as on the California Public Utilities Commission's Safety Policy Division, Safety Enforcement Division, and Public Advocates Office. SCE is also providing the 2022 RSAR to the Energy Division Tariff Unit by emailing the report to edtariffunit@cpuc.ca.gov. SCE's 2022 RSAR is provided as Attachment A.

Respectfully submitted,

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July 28, 2023

Attachment A

Southern California Edison Company's Risk Spending Accountability Report for 2022

Southern California Edison Company's
Risk Spending Accountability Report for 2022

July 28, 2023

Southern California Edison Company's
Risk Spending Accountability Report for 2022

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I.

INTRODUCTION

Southern California Edison (SCE) appreciates the opportunity to present the data contained in SCE's Risk Spending Accountability Report (RSAR) for calendar year 2022 and looks forward to further dialogue with the Energy Division (Energy Division or ED) of the California Public Utilities Commission (Commission or CPUC) and other interested parties regarding the content found in this report. SCE's RSAR is organized into thirteen chapters and one appendix.[1] The Background chapter (Chapter II) summarizes the regulatory background giving rise to the RSAR, including decisions and guidance from the Energy Division regarding the contents and format of this report. Chapter III presents recorded aggregate operations and maintenance (O&M) expenses and capital expenditures for 2022 relative to what was authorized in SCE's Test Year 2021 General Rate Case (2021 GRC)[2] for the applicable safety, reliability and maintenance activities along with an overarching discussion of variance drivers.

In Chapter IV, SCE provides important context for its variance analyses for 2022 authorized funding compared to recorded funding. Authorized funding is based on forecast ratemaking over a multi-year GRC cycle and the Commission's general adoption of non-budget-based Post-Test Year Ratemaking attrition mechanisms. Chapter V discusses SCE's compliance with new requirements from Decision (D.)22-10-002 and walks through the presentation of the 2022 RSAR data.

Chapter VI describes the process by which activities impacting safety, reliability and maintenance were chosen for this report. Consistent with direction from the Energy Division, Chapter VII explains the process used to derive authorized dollars for GRC activities and Risk Assessment Mitigation Phase (RAMP) controls and mitigations. Chapter VIII addresses Energy Division's review of our 2021 RSAR.

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1 Decision (D.)22-10-002 requires that SCE annually file and serve its RSAR on April 30. On February 1, 2023 the CPUC granted SCE's extension request to file the 2022 RSAR by July 28, 2023.

2 Application (A.)19-08-013.

Chapters IX through XII describe operation and maintenance (O&M) expenses and capital expenditures for Spending Accountability Report (SAR)-eligible activities, and variance calculations and explanations for the Distribution, Transmission, Generation and Other categories.[3] The variance explanations are provided for: (a) expense activities with a difference of at least $10 million, or a percentage difference of at least 20% subject to a minimum difference of $5 million; and (b) capital expenditures with a difference of at least $20 million, or a percentage difference of at least 20% subject to a minimum difference of $10 million. In addition, SCE included explanations of variances in recorded versus authorized units, where appropriate, in accordance with D.19-04-020.[4]

Finally, Chapter XIII summarizes SCE spending in 2022 on safety, reliability, and maintenance activities specific to balancing and memorandum accounts.

The materials in the appendix include the following:

- Appendix A maps Risk Assessment Mitigation Phase control and mitigation activities to GRC activities.

During 2022, SCE continued to focus on delivering safe, reliable and increasingly clean electricity to its customers and their communities. SCE prioritized overall authorized spending and prudently varied from what was authorized when circumstances changed, needs emerged, or new and better solutions later appeared.

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[3] For those activities meeting the materiality thresholds, the Energy Division also directed that SCE provide: (a) a description of the programs; (b) location in GRC testimony where the program is described; (c) a list of projects that were canceled or deferred within each program; and (d) projects not presented in the rate case but that were taken up anyway. *See* Energy Division letter dated February 14, 2020, Attachment at p. 2.

[4] *See* D.19-04-020, Attachment 2, p. 7 ("We direct the IOUs to provide narrative explanations of activities for those risk mitigation programs for which work unit data is available and where the deviation between authorized work units and performed work units is equal to or greater than 20 percent. The IOUs shall describe deviations of 20 percent or more both in the quantity of work units performed and in the type of work units performed.").

II.

BACKGROUND

In D.14-12-025, the Commission revised the Rate Case Plan to incorporate a risk-based decision-making framework encompassing two new procedures – the RAMP and Safety Model Assessment Proceeding (S-MAP) – to support developing and implementing risk-based methodologies in rate case filings. In addition, the Commission required the filing of risk spending accountability reports to "assist in the goal of improving utility accountability for the ratepayer money spent on risk mitigation efforts."[5] The Commission's Energy Division was assigned responsibility for developing the requirements and reviewing the filed reports.

Throughout 2018, the Energy Division conducted a series of workshops to refine the scope and nature of the reports. Among other things, the Energy Division expanded the scope of the reports beyond spending on items associated with risk mitigation. The reports would also include all maintenance items, consistent with the statutory requirements specified in Public Utilities Code Section 591. On January 3, 2019, Energy Division Director Edward Randolph sent a letter to SCE requesting an interim Spending Accountability Report for specified activities[6] covering years 2018 to 2020 ("January 3, 2019 Letter").[7] [8] In addition to showing authorized versus actual spending for the record year (expressed in terms of dollars and percentages), the

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[5] D.14-12-025, p. 43.

[6] Specifically, the Energy Division required SCE to include "programs authorized or in effect during each record year that were identified as impacting safety or reliability within SCE's Risk Informed Planning Process and Risk Evaluation Methodology filed as part of the 2018 GRC [see Exhibit SCE-01 and associated workpapers, served in A.16-09-001], as well as programs associated with a maintenance activity."

[7] On February 14, 2020, the Energy Division notified SCE of their recommendation that SCE submit the RSAR covering calendar year 2019 no later than March 31, 2020. On February 27, 2020, SCE submitted a request to file on the original due date of May 31, 2020. On April 10, 2020, Energy Division issued a schedule for its review of Risk Spending Accountability Reports in 2020. In that document, Energy Division confirmed that SCE could file its 2019 RSAR by May 31, 2021. See Energy Division Annual Risk Spending Accountability Report 2020 Review Schedule (issued April 10, 2020), fn. 3.

[8] In 2020, SCE received three letters from the Energy Division concerning its review of SCE's 2016-2017, 2018 and 2019 RSARs. In all, the Energy Division found that SCE had met the applicable requirements for RSARs.

Energy Division asked SCE to include a derivation of authorized amounts,[9] and to discuss (where applicable) related balancing or memorandum accounts.[10]

In 2019, through D.19-04-020, Ordering Paragraph 10, the Commission adopted a new RSAR reporting framework. This new framework applied to SCE's RSAR's regarding our Test Year 2021 GRC, which was filed on August 30, 2019. The most notable modifications to the RSAR framework in D.19-04-020 compared to the guidance originally provided by the Energy Division in the January 3, 2019 Letter are: 1) the separation of risk mitigation programs identified in RAMP and other programs related to safety, reliability and maintenance in the GRC; and 2) the reporting on authorized activities and actual activities performed, for each program, using "work units" as the unit of reporting where applicable. Attachment 2 to D.19-04-020 provides example tables for reporting authorized and recorded spending and work units. In October 2022, the S-MAP Track 3 Decision, D.22-10-022, adopted additional RSAR requirements that take effect for either this current 2022 RSAR or SCE's first RSAR following the approval of our next GRC Application for Test Year 2025.[11] Additional detail on SCE's compliance with these new requirements is included in Section V.

Unit costs in various programs can span multiple years (e.g., planning costs incurred 2021 for work completed in 2022) such that taking the annual expenditures and dividing by the total units does not provide an accurate unit cost. SCE was unable to incorporate the first item above – the separation of risk mitigation programs – until we received a decision on our 2021 GRC application that included the integration of our 2018 RAMP. In compliance with D.19-04-020 and D.20-10-002, the tables in Sections IX to XII below provide the link from GRC activities to RAMP risk mitigation programs, as well as the comparison of authorized to actual units where applicable.[12]

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[9] *See* Section VII below.
[10] *See* Section XIII below.
[11] D.22-10-022, Ordering Paragraph 1, p. 55.
[12] Please refer to Appendix A for the RAMP control and mitigation activity mapping to GRC activities.

With respect to unit costs, SCE followed the most recent guidance provided by Energy Division, which was provided regarding the Sempra utilities' 2020 RSAR. In response to San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company's (SoCalGas) request for clarification on applying the variance selection criteria, Energy Division provided the following guidance in an email dated February 14, 2020: "We have reviewed pages 41-43 of D.19-04-020 and believe that you should apply the selection criteria and explanations for all GRC programs as well as the risk mitigation programs, where work unit data is available. That is to say that you will only need to provide greater details for the unitized risk mitigation programs."[13] SCE followed this guidance and applied the variance criteria thresholds at the GRC activity level, except for GRC activities that comprised a RAMP activity with work units. For example, SCE's Underground Structure Replacement Distribution capital GRC activity is comprised of a RAMP component (Covered Pressure Relief Restraint or CPRR), and a non-RAMP component (vault replacements and shoring). Since both of these components are forecasted using work units, SCE applied the variance threshold criteria to the RAMP and non-RAMP components.

SCE diligently sought to incorporate work units into this RSAR and continues to refine this approach for future reports. Authorized and recorded work units are provided for activities where there were clearly defined work units in the 2021 GRC. Work units were not created for activities which were not clearly presented in that format in our 2021 GRC.[14] There are a number of specific projects that are not unit-based. For example, for several GRC activities in Load Growth, where SCE's forecast is based on multiple independent projects of varying scopes and forecasts, these activities are not translatable into units. Unit costs in various infrastructure replacement programs can span multiple years (e.g., planning costs incurred in 2021 for work

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[13] *See* Risk Spending Accountability Report of San Diego Gas & Electric Company and Southern California Gas Company for 2020, p. 9.

[14] If the total activity forecast was not entirely comprised of units * unit cost we did not consider that activity to be unit-based (for instance if 75% of an activity's authorized spending is units * unit cost and 25% is based on historical spend or some other forecast methodology, then units were not included).

completed in 2022) such that taking the annual expenditures and dividing by the total units does not provide an accurate unit cost. Further, SCE uses historical averages and last year recorded (LYR) in many of our GRC activity forecasts. Both of these methodologies have been accepted and approved by the CPUC;[15] they are not unit-based and work units cannot be directly imputed from the forecasts.

III.

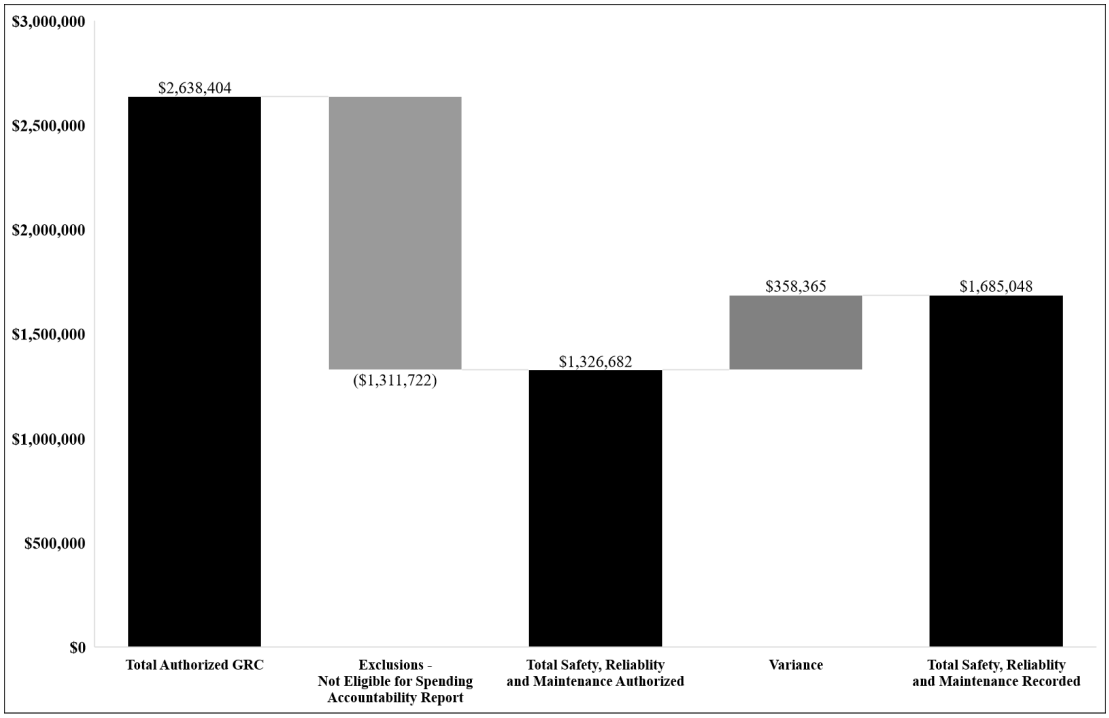
OVERVIEW OF AGGREGATE SPENDING VERSUS AUTHORIZED IN SELECT SAFETY, RELIABILITY AND MAINTENANCE PROGRAMS

A. O&M

Figure III-1 below depicts the total GRC authorized and recorded expenses for SAR-eligible O&M activities in 2022.

[15] For instance, in D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have significant fluctuations from year to year, or expenses are influenced by external forces beyond the utility's control, an average of recorded-expenses is appropriate. Also in D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate.

Figure III-1
2022 O&M GRC Authorized vs. Recorded - ($000s)



For 2022, recorded O&M expenses were approximately $358 million more than the 2022 GRC authorized funding for the SAR-eligible activities, as shown in Table III-1 below. This represents a variance of 27%. While SCE experienced a greater spending variance in Distribution wildfire risk mitigation related activities, SCE spent within five percent of authorized for Transmission, Generation and Other activities. Further explanations for these categories are provided below.

Table III-1
O&M RSAR Authorized v. Recorded Variances by Function- ($000s)

RSAR Category	2022 Recorded	2022 Authorized	Variance (Rec. – Auth.)	% Variance ((Rec. - Auth.)/Auth.)
Distribution	$847,981	$484,692	$363,288	75%
Generation	$160,886	$166,774	($5,888)	-4%
Other	$554,371	$557,074	($2,703)	0%
Transmission	$121,811	$118,142	$3,668	3%
Grand Total	**$1,685,048**	**$1,326,682**	**$358,365**	**27%**

Within the Distribution category, SCE prudently spent more than authorized by approximately $363 million, or 75%. The majority of the overspend is attributable to Distribution Routine Vegetation Management. Similar to SCE's experience in 2021, in 2022, SCE's recorded costs for this GRC activity were significantly impacted by the California Legislature's implementation of SB 247, which specifies the qualifications for electrical line clearance tree trimmers performing work to comply with the vegetation management requirements in an electrical corporation's wildfire mitigation plan. The law also requires that all qualified line clearance tree trimmers be paid no less than a specified prevailing wage rate. Because the 2021 GRC was filed in 2019, prior to SB 247's enactment, SCE submitted its 2021 forecast based on its best understanding at the time and could not have foreseen or factored into its vegetation management forecasts the full monetary impact of SB 247 – the extent of which was not yet known. SCE's request to increase its forecast based on update testimony, which would have increased the 2021 forecast to be more in line with actual forecast costs in light of the new legislation, was denied on procedural grounds. Thus, the authorized amount for 2021 and the post-test years did not include the substantial impact of SB 247 on the cost of tree trimming across SCE's system. Costs for services supporting compliance mitigation such as customer coordination and traffic control, as well as environmental support work, inspections, and quality control, continue to contribute to recorded costs for both Distribution and Transmission Routine Vegetation Management GRC activities. Finally, emergent mitigation and structure brushing costs also contributed to Distribution Routine Vegetation Management.

SCE also experienced an overall increase in Enhanced Overhead Inspections (EOI), which as primarily due to SCE's strategy of moving to an increasingly targeted scope in 2020 and 2021 utilizing a refined risk-based approach. In 2020, SCE introduced a new inspection scoping element as part of the Inspection Redesign initiative, known as the Areas of Concern (AOCs). AOCs are specific geographic areas with environmental and asset conditions that significantly increase wildfire risk, such as an abundance of dry fuel and exposure to high winds. In 2021 and continuing into 2022, SCE expanded on the AOC mitigation efforts by including

both summer and fall AOC-specific inspection regimens. SCE now incorporates and coordinates AOC inspections with our overall holistic asset inspection cadence. The increase over authorized was driven by this shift in inspection strategy, which increased the overall volume of inspections. SCE also experienced an increase in contractor rates to perform inspections.

Within the Transmission category, SCE spent more than authorized by approximately $4 million, or 3%. Similar to Distribution, the main driver of the additional spend was transmission routine vegetation management. The same cost drivers that are discussed above for distribution routine vegetation management apply to transmission and are not repeated here.

Within the Generation category, SCE spent less than authorized by approximately $6 million, or 4%. SCE did not trigger any variance explanations for Generation expense activities.

Within the Other category, SCE spent less than authorized by approximately $3 million, or 0.2%. SCE overspent authorized in Public Safety Power Shutoff (PSPS) Customer Support and PSPS Execution GRC activities. The 2022 recorded amount for PSPS Customer Support exceeded the 2022 GRC authorized amount primarily due to the Critical Care Backup Battery (CCBB) Program, which was not included in the 2021 GRC request. The CCBB Program addresses the needs of SCE's income-qualified Medical Baseline (MBL) customers residing in HFRA by fully funding the cost of a battery-powered portable backup solution to operate medical equipment during PSPS events. Similar to 2021, SCE spent more than authorized for PSPS Execution due to approximately $18 million in aerial suppression costs. These costs were not forecasted or included in SCE's 2021 GRC but are crucial to our wildfire mitigation efforts. Additional detail on these activities can be found below in Table XII-39.

SCE underspent authorized levels in Safety Activities – T&D and Training Seat-Time - Transmission and Distribution, due to longstanding COVID-19 impacts. This reduced the number of in-person meetings and events resulting in scheduling changes, class deferrals, project delays and/or continued use of virtual delivery, reducing in-person seat time costs. However, the COVID-19 impacts were progressively relaxed over 2022 compared to 2021 and SCE believes this trend will continue in 2023, minimizing the underspend compared to authorized.

Table III-2 below shows the recorded and authorized O&M expenses by SCE's 2018 RAMP risks.

Table III-2
O&M Spending Variances by SCE 2018 RAMP Risk- ($000s)

SCE 2018 RAMP Risk	2022 Recorded	2022 Authorized	Variance (Rec. – Auth.)	% Variance ((Rec. - Auth.)/Auth.)
Wildfire	$101,852	$60,221	$41,631	69%
Cyber Attack	$23,046	$29,989	($6,943)	-23%
Physical Security	$21,602	$25,720	($4,118)	-16%
Employee, Contractor and Public Safety	$3,884	$9,124	($5,240)	-57%
Building Safety	$4,942	$7,059	($2,117)	-30%
Contact with Energized Equipment	$5,530	$6,960	($1,429)	-21%
Climate Change	$3,998	$3,652	$346	9%
Total	**$164,855**	**$142,725**	**$22,130**	**16%**

B. Capital

Figure III-2 below depicts the total GRC authorized and recorded expenditures for SAR-eligible Capital activities.

Figure III-2
2022 Capital GRC Authorized vs. Recorded - ($000s)

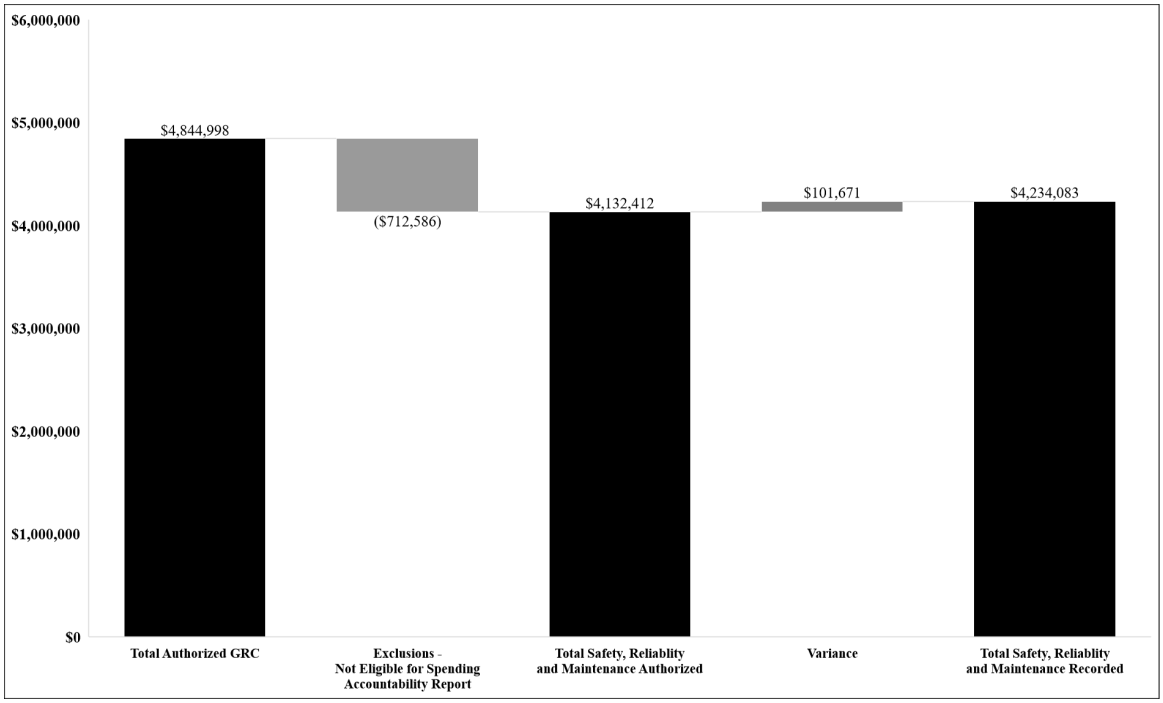


Table III-3 below shows the authorized to recorded comparison of SCE's 2021 GRC capital activities supporting safety, reliability and maintenance and an aggregate additional spend of approximately $102 million, or 2%. The additional spend in Distribution was offset by lower spending than authorized in Transmission, Generation and Other. Further explanations for these categories are provided below.

Table III-3
Capital Spending Accountability Report Variances by Function- ($000s)

RSAR Category	2022 Recorded	2022 Authorized	Variance (Rec. - Auth.)	% Variance ((Rec. - Auth.)/Auth.)
Distribution	$2,653,854	$2,223,950	$429,904	19%
Generation	$114,206	$94,298	$19,908	21%
Other	$670,387	$736,262	($65,875)	-9%
Transmission	$795,636	$1,077,902	($282,266)	-26%
Grand Total	**$4,234,083**	**$4,132,412**	**$101,671**	**2%**

Within the Distribution category, SCE spent more than the amounts adopted in the Track 1 GRC decision. The majority of this spend was driven by SCE's necessary efforts to mitigate wildfire risk. For the purposes of this RSAR, and in order to ensure transparency, SCE did not

remove the amounts over authorized for wildfire activities, even though they are captured in memorandum and balancing accounts subject to future reasonableness review. For example, in 2022 SCE spent more than the imputed amount initially adopted in the Track 1 GRC decision for Wildfire Covered Conductor Program (WCCP) by $229 million.[16] SCE installed more miles of covered conductor than the imputed miles from the Track 1 Final Decision and experienced increased unit costs. The unit costs, driven by work in certain SCE regions, such as North Coast and Rurals, were higher than initially anticipated, driven by higher contractor rates in mountainous areas compared to other flat-terrain areas. A similar situation applied to the San Jacinto and Rurals regions where SCE encountered areas that were more challenging to complete covered conductor work in due to factors such as terrain, narrow roads, and limited space for staging. In general, assets/equipment located in mountainous and remote areas required helicopter sets or special vehicles to reach, which added costs associated with the additional environment review, additional permits, and potential monitors with construction crews on scheduled days of work. The necessary adjustments to work activities as a result of these constraints resulted in increased unit costs.

Additionally, SCE spent above authorized for EOIs and Remediations by $95 million. In 2022, SCE completed repairs and replacements identified through risk-informed and compliance-based inspections, including ground-based, aerial, and infrared, and prioritized those

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[16] In the Track 1 Final Decision, the Commission authorized a scope of 4,500 miles of covered conductor and its associated capital-related revenue requirement for the WCCP for the period 2019-2023 (with the ability to seek cost recovery after a reasonableness review for costs above 110 percent of the authorized revenue requirement threshold). *See, e.g.*, D.21-08-036 at Conclusion of Law (CoL) 74. SCE completed approximately 2,500 miles of covered conductor through the end of 2021 and forecasted the completion of an additional 1,250 miles of WCCP installation in both 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 percent of the Track 1 Final Decision's authorized amount, SCE will seek reasonableness review and cost recovery for those costs via a separate Application after 2023 recorded costs are finalized, consistent with D.21-08-036. For WCCP specifically, there is not a set authorized number of covered conductor miles or associated dollars for any particular year in the 2019-2023 cycle *per se*; instead, the Track 1 authorization is cumulative for the entire cycle. For purposes of this RSAR, SCE imputed the 2022 authorized units by subtracting out the recorded 2019-2021 WCCP miles and then averaging the remaining miles over the 2022-2023 period.

repairs based on regulatory compliance due dates. When scheduling and performing compliance-driven remediation work, SCE also considers work bundling, outage requirements, permitting restrictions, crew availability, and specialty equipment needs.

SCE continues bundling work at the structure and circuit segment levels to the extent feasible for economic efficiency and to minimize the impact of remediation work on customers, as well as to reduce the volume of repeat outages, road closures and traffic restrictions. In certain cases, this resulted in future-year scope being accelerated in advance of the established compliance due date (e.g., pole replacement being accelerated from a future year to align with a crossarm replacement due in the current year). Additionally, there were several earlier-year due notifications that were not completed due to prior-year operating constraints such as resource availability, permitting delays, and weather deferrals. These constraints contributed to SCE's increased spending compared to the authorized expenditure levels.

Within the Transmission category, SCE spent less than authorized by approximately $282 million or 26%. SCE notes that a portion of this lower spend was associated with Federal Energy Regulatory Commission (FERC) jurisdictional projects and programs. SCE underspent authorized in Grid Reliability Projects in 2022 due to continued delays with the Riverside Transmission Reliability Project (RTRP). Based on an underground feasibility report, Riverside City Council decided to pursue an alternative proposal for the entire project to be underground as opposed to partial undergrounding, which was reflected in the spend initially approved by the CPUC. SCE also spent under authorized for the Transmission Line Rating Remediation (TLRR) program**.** In order to meet the 2025 deadline commitment made to the North American Electric Reliability Corporation (NERC), Western Electric Coordinating Council (WECC), and the CPUC in October 2014, the TLRR portfolio focused on planned construction activities in years 2021-2024. While SCE experienced several project delays and deferrals for TLRR projects in 2022, SCE remains a committed partner to making progress on all projects within the TLRR Portfolio. Lastly, SCE underspent authorized in the GRC activity Transmission Substation Plan (TSP). The key driver and majority of underspend in 2022 is related to the Alberhill A Bank

project. In February 2021, SCE provided an updated filing for this project, which included a revised cost-to-benefit analysis. Subsequently, the CPUC issued a Staff Report in December 2021, which requested a revised application from SCE with ASP Open Air as the preferred alternative. As a result, SCE engaged the CPUC regarding this in August 2022 and SCE submitted a revised application on June 2, 2023. Based on this, the operating date for this project has been deferred to June 2029.

Within the Generation category, SCE spent more than authorized by $20 million or 21% due to the decommissioning of San Gorgonio. In the 2021 GRC Track 1 Final Decision, the CPUC approved $0.408 million annually for SCE to address ongoing safety, regulatory, and other requirements for the San Gorgonio project. The CPUC authorized amount was consistent with recorded 2019 capital expenditures but did not cover physical decommissioning activities at San Gorgonio because the timeline for decommissioning activities was unclear at the time. Pursuant to contractual obligations, FERC license responsibilities, and proposed U.S. Forest Service (USFS) requirements, SCE was required to repair and maintain the water conveyance system as part of the decommissioning process. However, at the time of filing SCE's 2021 GRC Application (submitted in August 2019) and the subsequent 2021 GRC decision, ongoing water rights disputes between the USFS and local Participating Entities continually delayed the FERC license surrender process and prevented SCE from beginning physical decommissioning activities at San Gorgonio.

Shortly after the 2021 GRC Track 1 decision, these water rights disputes were resolved and the FERC licenses were issued, allowing SCE to move forward with decommissioning activities. However, before these activities commenced, the 2020 Apple Fire burned through the San Gorgonio watershed and caused significant damage to the water conveyance system, rendering it inoperable, and therefore stopping the delivery of water to the Participating Entities. As part of the decommissioning process, SCE repaired the water conveyance system and has appropriately recorded these repair costs as a decommissioning expenditure.

In 2021, SCE obtained approval from FERC and other appropriate agencies to reconstruct a section of the water conveyance system from the South Fork Diversion to Raywood Flat (referred to as Flowline No. 1 Phase 1). The reconstruction of this section of flowline restored a portion of the water delivery through the system. SCE's recorded costs of $32.8 million in 2022 are thus higher than the authorized amount of $0.4M because the approval from FERC and other resource agencies granted authorization for SCE to proceed with the necessary decommissioning work, which was exacerbated by fire and other weather conditions.

Within the Other category, SCE spent less than authorized by approximately $66 million or 9%. Similar to the under-authorized spend in 2021, the underrun in 2022 for Communications is due to SCE's decision in mid-2020 to select Private LTE (PLTE) technology as the solution for the new Field Area Network (FAN) instead of the Mesh Radio Network (MRN) technology. At the time of the filing of the 2021 GRC, SCE's evaluation of PLTE as a solution for the FAN was still ongoing. SCE's evaluation of PLTE continued until July 2020. As such, SCE proceeded with using the data based on the MRN plan that was available at the time of the GRC filing, in August 2019. The MRN plan assumed costs for equipment and field deployment in 2022 which did not materialize due to SCE's decision in 2020 to pursue a PLTE solution instead. Consequently, the FAN scope for 2022 was focused on PLTE platform selection through RFP and equipment delivery for the PLTE core and did not include installation or field deployment. This resulted in significantly lower capital costs in 2022 for FAN. SCE also spent under authorized in Corporate Real Estate (CRE) project management. This was driven by delays in various projects including General Office (GO1) workplace upgrades, Alhambra Master Plan project, Material Supply Warehouse project and the Westminster Test Facility. Additional detail on the variance can be found below in Table XII-44.

Table III-4 below shows the recorded and authorized capital expenditures by SCE's 2018 RAMP risks.

Table III-4
Capital Spending Report Variances by SCE 2018 RAMP Risk- ($000s)

SCE 2018 RAMP Risk	2022 Recorded	2022 Authorized	Variance (Rec. – Auth.)	% Variance ((Rec. - Auth.)/Auth.)
Wildfire	$845,357	$585,584	$259,773	44%
Cyber Attack	$95,851	$110,110	($14,259)	-13%
Physical Security	$53,760	$48,980	$4,780	10%
Employee, Contractor and Public Safety	$2,622	$2,512	$110	4%
Building Safety	$14,557	$7,369	$7,188	98%
Contact with Energized Equipment	$74,101	$72,641	$1,461	2%
Hydro Asset Failure	$13,759	$12,587	$1,172	9%
Underground Equipment Failure	$25,998	$24,587	$1,411	6%
Grand Total	**$1,126,006**	**$864,369**	**$261,636**	**30%**

IV.

SCE'S REPORT PLACED IN CONTEXT

As this RSAR compares SCE's recorded spending for selected activities with Commission authorized amounts, it is essential that the report be analyzed in the proper context. The Commission continues to recognize that a utility's actual spending can differ from Commission-authorized spending, and that utilities have the flexibility to apply their judgment in managing the business.[17] The Commission has stated that "[u]nder GRC ratemaking, the utilities are given an authorized revenue requirement to manage various parts of their utility business."[18] In a consistent line of decisions, the Commission has confirmed that GRC forecasts represent reasonable estimates of what the utility expects to spend in a given area.[19]

This discretion has traditionally been afforded to utilities by the Commission, and has been re-confirmed, including when the Commission issued its decision making the change from a three-year GRC cycle to a four-year one. The Commission observed that:

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[17] See, e.g., Re California-American Water Co., D.02-07-011, (mimeo), pp. 6-7, 2002 Cal. PUC LEXIS 423, 220 P.U.R. 4th 556.

[18] CPUC Resolution E-4464 (May 10, 2012), at p. 3.

[19] *See, e.g.*, D.08-09-026, Section 6.2 ("A GRC is used to set rates based on reasonable estimates of the costs the utility will incur in providing service. It is not generally intended to set a specific budget. Actual costs for the test year, including plant additions, may vary.")

> [A] longer GRC cycle will facilitate the Commission's adjustment to an emerging reality of modern utility regulation, one that implies a fundamental change in the role of GRC proceedings. In earlier days, the theoretical and real-world purposes of a GRC were essentially the same: the Commission authorized the revenue requirement necessary to allow the utility to recover the reasonable costs of providing safe and reliable service, and to have an opportunity to earn a fair return on its investments. This focus on basic utility service was a workable approach during a time of less rapid technological change, relatively stable costs, and growing populations and demand for utility service. The core activities of the GRC process needed only to be repeated on a periodic basis to maintain fairness for all stakeholders. Over time, GRC proceedings at the Commission have become much less simple and straightforward. For example, in our review of the "regulatory compact" earlier in this decision**, we noted that a utility's response to rapidly unfolding events that affect utility service … may require a utility to fund its response by quickly re-directing Commission-authorized GRC funding from its originally-intended purpose to a wholly different purpose. …. The Commission has always acknowledged that utilities may need to reprioritize spending between GRCs. Now, given the evolving reality we described above, that necessity may even be growing**.[20]

In other words, recognizing that utilities may need to re-prioritize funds and spend more or less in a particular area of their business, the Commission affords them substantial flexibility to decide how much to spend in any particular area."[21] Moreover, the Commission has specifically recognized that "new programs or projects may come up, others may be cancelled, and there maybe reprioritization. This process is expected and is necessary for the utility to manage its operations in a safe and reliable manner."[22] In providing guidance on spending accountability reports, the Energy Division has similarly confirmed that "a utility is allowed the flexibility to reprioritize the authorized funds in order to ensure safe and reliable operations."[23]

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[20] D.20-01-002 at pp. 35-38 (emphasis added).
[21] CPUC Resolution E-4464 (May 10, 2012), at p. 7.
[22] D.11-05-018, at p. 27.
[23] Energy Division, Safety-Related Spending Accountability Report for Southern California Edison (May 2017), available at http:www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Safety/SCESafety-RelatedSpending.pdf.

The starting point for this 2022 RSAR was the Commission's examination of SCE's forecasts in its 2021 GRC. SCE's 2021 GRC Application encompassed Test Year 2021, and attrition years 2022 and 2023. The April 17, 2020 Amended Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judges (Amended Scoping Memo) in the proceeding subsequently established Track 4, which is pending, to consider funding for a third post-test year, 2024.[24] SCE followed the schedule established by the Commission and presented its forecasts for years 2021 through 2023 in 2019. The Commission issued its final decision authorizing funding for these years on August 20, 2021.[25] Thus, by the time SCE received the Commission's guidance on what SCE was authorized to spend in connection with its forecasts, those forecasts were nearly three years old. In the intervening years, conditions changed, new opportunities to improve operations and gain efficiencies were found, and additional needs emerged. In addition, SCE continued to prudently execute on wildfire mitigation work to address emergent risks consistent with its approved Wildfire Mitigation Plans, with the understanding that spending above authorized in wildfire mitigation-specific memorandum and balancing accounts will generally be subject to further reasonableness review.

Additionally, SCE's activities throughout 2022 were still impacted by the COVID-19 pandemic; however, SCE was generally better able to adapt to the realities of the pandemic in 2022 and is seeing some of the impact of COVID-19 pandemic on our recorded costs subsiding. These conditions and their impacts on SCE's operations and capital projects could not have been reasonably foreseen at the time SCE's 2021 GRC application was submitted.

In addition, this RSAR addresses an attrition year in SCE's 2021 GRC cycle. As explained in Section VII, below, the authorized spending for 2022 was established based on the post-test year ratemaking (PTYR) mechanism authorized by the Commission in D.21-08-036, and did not include a detailed examination and decision regarding the individual forecasts for all GRC activities. Hence, for certain GRC activities with capital projects with specific forecasts of

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[24] *See* Amended Scoping Memo, p. 1.
[25] D.21-08-036.

expenditures during that attrition year, variances could result from the escalation percentage even where the actual expenditures align with SCE's itemized forecast. To the extent that this caused the need for a variance explanation SCE noted this in our response.

V.

SCE'S 2022 RSAR PRESENTATION AND DEMONSTRATION OF COMPLIANCE WITH D.22-10-002

Decision D.22-10-002 provided additional reporting requirements and table formats that are applicable to SCE's 2022 RSAR. Table V-5 below lists the new requirements from D.22-10-002 and how SCE addressed those in this filing.

Table V-5
D.22-10-002 RSAR Requirements

Requirement	SCE Demonstration of Compliance
The IOUs shall use a single, standardized table structure for programs including canceled, deferred, or expanded programs.	SCE used the guidance in Appendix B of D.22-10-002, however due to the large amount of information required, SCE split the table up into logical sections in the written report. SCE has included letter column headings (A, B, C, etc.) in each table below that correspond to the headings in the Excel spreadsheet provided with this filing. SCE hopes that will provide parties with an easy way to track the data in each table to the full data set for each GRC activity.
The IOUs shall use hyperlinks to provide excerpted attachments, exhibits, and chapters with every RSAR, and shall identify the page numbers of references cited. The IOUs shall include a column to the standardized table structure for the purpose of providing this information.	SCE has included hyperlinks to our Test Year 2021 GRC workpapers in the accompanying excel file. SCE did not include the direct hyperlinks in the written report but did include the workpaper title and page references.
The IOUs shall provide RSAR spreadsheets to the same distribution list as the RSAR when they file the PDF.	SCE provided RSAR spreadsheets when we filed this RSAR.
The IOUs shall provide an overview of how they defined program completion status.	Additional detail on this is discussed below.
When the program lacks authorized units: (i) the IOUs shall cite workpaper activity descriptions to explain how much work was accomplished and the degree to which the goals described in GRC testimony were met. If the authorized amount deviates from the GRC workpaper, IOUs shall provide a description of the change from the workpaper; and (ii) IOUs shall explain why	For programs that did not have authorized work units SCE included a brief description of why the program lacked work unit information. For activities that did not have authorized work units and triggered a variance explanation SCE endeavored to reference sub-activities or work streams from our workpapers in the variance explanations.

Requirement	SCE Demonstration of Compliance
programs lack work unit information for each program in the RSAR when units are not provided.	
When an IOU indicates a variance is the result of a forecast error, the IOU shall list the assumptions used to make forecasts and identify the assumption(s) that resulted in the forecast error.	To the extent this occurred, SCE included this in our variance explanations.
When a spending variance explanation for a program cites to another program or activity as a reason for the variance, the IOU shall disclose: (a) the name of the other program or activity (as it would be cited in the RSAR); (b) the actual costs associated with the other program or activity ("associated costs") or why actual costs associated with the other program or activity may not be provided; and (c) the authorized spending, actual spending (including or excluding associated costs), the difference in dollars (actual less authorized), and work units, regardless of RSAR thresholds for the other program or activity.	To the extent this occurred, SCE included this in our variance explanations.
IOUs shall mark programs with less than five percent of authorized expenditures as either canceled or deferred. Alternatively, the IOU shall explain why the program was not marked as canceled or deferred as a separate column.	To the extent this occurred, SCE included this in our variance explanations or Status Completion Statements.
Where a positive variance is due to new activities that are in-scope to the program description (also known as emergent activities), the IOU shall explain what caused the new activity.	To the extent this occurred, SCE included this in our variance explanations.
Where an IOU incurs a positive variance because the program's scope was expanded to include new mandates, the IOU shall explain the new mandate and cite any new regulations or orders.	To the extent this occurred, SCE included this in our variance explanations
Since authorized GRC spending does not always align with RSAR program activities, variances are often explained as inaccurate forecasts or recorded elsewhere. In such cases, the IOUs shall provide enough information to explain the cause of the variance.	To the extent this occurred, SCE included this in our variance explanations
IOUs shall track programs over a full GRC cycle in the RSAR. Each program shall include the cumulative GRC imputed costs, imputed costs to date, actual costs by year, cost to date, and variance to date. IOUs shall provide a statement regarding the anticipated completion status for each line item as to whether the program is anticipated to be completed during the GRC cycle. For the last year of the GRC cycle, the completion status will summarize the entire GRC cycle and discuss any deferred or cancelled scope. If a program's variance threshold is exceeded, the IOU shall include a statement regarding the anticipated completion status. For programs that	This RSAR covers SCE's Test Year 2021 and Post Test Year 2022 authorized and recorded costs and work units. SCE followed the guideline in Appendix B of D.22-10-002 for the presentation of the requested information. For activities that triggered a variance explanation, SCE included a status completion statement that included any cancelled, deferred and/or emergent work that contributed to the variance. Since this was not the last year of our GRC cycle, SCE did not summarize the entire GRC cycle and discuss any deferred or cancelled scope for each GRC activity.

Requirement	SCE Demonstration of Compliance
include multiple projects, the IOU's statement on the anticipated completion status in the standardized table may reflect an aggregate of the projects that constitute the program. In that case, the IOU shall disclose the completion statuses of the individual projects creating the variance in the variance explanation or add the individual projects that comprise the program as separate rows.	

This was the first RSAR that included the new requirements listed above. For GRC activities that have a known finite life, SCE provided that information in the Project Life and Project year columns. If the activities did not have a defined life, or the end date is unknown, SCE marked these as "On-Going" and "Annual". SCE had to use our best judgement when completing the Forecast Scope, Schedule and Cost. For instance, even though SCE may be underspending or executing on a GRC activity in 2022 or to date, we may have elected to indicate the activity is still On-Target if the variance is a result of the PTYR mechanism (not budget-based) or if we are executing the work in our queue but we just have less work than we initially forecasted.

For the "Status" column, D.22-10-002, Appendix A defines the options as "Proceeding as Planned", "Deferred", "Canceled", "Expanded", and "Emergent". SCE is opting to use "Partially Delayed" in place of Deferred.[26] Since many GRC activities are comprised of many individual projects or sub-activities where only a fraction of the work may be delayed, deferred or cancelled, SCE feels Partially Delayed better captures the status of the GRC activity. If there are no changes to the program or no variance explanation is required, SCE selected Proceeding as Planned. However, there may be instances where an activity triggered a variance explanation, but SCE still selected Proceeding as Planned. One reason for selecting that designation could be because the activity uses a historical average to forecast and therefore there would be years where we over/under spend compared to a forecast. If SCE is still executing the work in that

[26] Per D.22-10-002, an Investor-Owned Utility (IOU) may use other terms as long as they define the additional terms clearly.

activity, we consider it proceeding as planned. SCE also included a Cancelled and Completed status designation for activities that have been cancelled or completed, respectively. If an activity has an expanded scope of work that was requested in the 2021 GRC, SCE noted that as "Expanded". If an activity has a new sub-activity or work stream that was not forecasted as part of the 2021 GRC SCE noted that as "Emergent". SCE tried to provide detail in the status completion statement or variance explanation to aid parties in our selection of status.

SCE notes that this was the first year with these new columns (Forecast Scope, Forecast Schedule, Forecast Cost, Status and Completion Status). While SCE strived to follow the guidance above, there is some subjectivity to the selection of the information in these new columns. SCE exercised our best professional judgment in populating these new columns.

VI.

APPLICABLE SAFETY, RELIABILITY, AND MAINTENANCE RELATED PROGRAMS

In D.19-04-020, the Commission directed SCE to develop a list of programs that include activities relating to safety, reliability or maintenance authorized or in effect during the applicable year.

In SCE's 2018 GRC (A.16-09-001), a risk mapping of GRC activities to risk events, outcomes and impacts was developed. This mapping:

- Examined each GRC activity,
- Identified what type of risk event was targeted for mitigation, and
- Outlined potential outcomes and impact dimensions for that risk event, using a framework consistent with SCE's Safety Modeling Assessment filing (A.15-05-002) and the guidance the Commission provided in D.16-08-018.

This mapping served as the foundation for the Energy Division's report on Safety Related Spending for 2015 submitted in connection with SCE's 2018 GRC.

Consistent with our prior reports, SCE's 2022 report utilizes the same mapping.[27] First, the safety-related programs were identified by selecting any activity that scored in the Safety Impact dimension. Then, these criteria were expanded to include programs that scored in the Reliability Impact dimension. Because the mapping does not capture a Maintenance Impact dimension, SCE manually reviewed all programs that had not scored as related to Safety or Reliability and then added any program that met the criteria specified in the January 3, 2019 Letter and D.19-04-020.

VII.

DERIVATION OF AUTHORIZED DOLLARS

On August 30, 2019, SCE filed its 2021 GRC Application requesting, among other things, an increase in its base revenue requirements for the Test Year 2021 and Post-Test Years 2022 and 2023.[28]

On August 19, 2021, the Commission adopted the 2021 GRC Track 1 Decision, which, in pertinent part, authorized a PTYR mechanism for SCE for the years 2022 and 2023. The adopted PTYR mechanism adjusts SCE's Authorized Base Revenue Requirement (ABRR) on an annual basis, in between GRC Test Years, to provide SCE with additional revenues, which the Commission determined in the 2021 GRC Final Decision were necessary for SCE to continue to provide safe and reliable service.[29]

The adopted PTYR mechanism as approved via SCE's Advice Letter (AL) 4639-E includes the escalation of O&M expenses using various escalation factors for labor, non-labor, medical, and other benefit expenses in the attrition years. The 2022 authorized capital expenditures presented in this report use a PTYR mechanism (approved in D.21-08-036) that escalates non-wildfire related capital additions except Residential and Commercial New Service

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27 SCE has made minor revisions to the of list of programs relating to safety, reliability or maintenance since this initial analysis.

28 SCE's base revenue requirements include the costs of operating, maintaining, and investing in SCE's generation, distribution, transmission, and general functions, and exclude costs of fuel purchasing and power procurement.

29 2021 GRC Track 1 Decision, p. 546.

Connections (NSC) at 0% from the adopted 2021 CPUC-jurisdictional levels. For wildfire related expenditures and Residential and Commercial NSCs, SCE used budget-based forecasts, consistent with D.21-08-036. For the most part, this report does not include activities whose costs are recovered outside the GRC (e.g. Charge Ready, fuel and purchased power, and Energy Efficiency programs). However, this report does include FERC-jurisdictional capital and O&M which are reviewed in the GRC.

SCE included authorized dollars and work units for RAMP controls and mitigations associated with our 2018 RAMP report in the respective O&M and/or Capital GRC activity. In some cases, a RAMP control and/or mitigation may be identical to the GRC activity, however in other instances there may be multiple RAMP controls and/or mitigations that make up a GRC activity. Further, there a GRC activity may be partially comprised of RAMP controls/mitigations and non-RAMP-related spending.[30]

VIII.

ADDRESSING ENERGY DIVISION FEEDBACK FROM 2021 RSAR

In Energy Division's review of SCE's 2021 RSAR, they provided several recommendations to address in our 2022 RSAR. For the recommendations related to a GRC activity that required a variance explanation in this RSAR, SCE addressed the recommendation in that explanation.[31] However, there were certain recommendations that applied to a GRC activity that did not require a variance explanation in the 2022 RSAR or the recommendation did not directly relate to the current variance explanation. SCE addresses those recommendations below in Table VIII-6.

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[30] Refer to Appendix A for a mapping of Risk Assessment Mitigation Phase control and mitigation activities to GRC activities.

[31] Please refer to the following variance explanations that include a recommendation from Energy Division's review of our 2022 RSAR: Transmission Capital Maintenance, Substation Transformer Bank Replacement, Transmission Line Rating Remediation (TLRR), Grid Modernization Cybersecurity, Infrared Inspection Program, Distribution Routine Vegetation Management and Substation Switchrack Rebuild.

Table VIII-6
Energy Division Recommendations for SCE's 2022 RSAR

Recommendation	SCE Response
Distribution Substation Plan (DSP) Circuits: SCE should identify if further delays due to COVID will cause a backlog of work and any resulting safety concerns.	As shown below in Table IX-13, SCE's 2022 recorded costs increased compared to 2021 and were closer to authorized as we were able to catch up on some of the backlog of work. While COVID may still result in some delays, SCE does believe these impacts are subsiding. At this point SCE does not anticipate any resulting safety concerns from these delays.
Underground Structure Replacements: SCE focused on underground structure and vault replacements that had the most need. In addition, some of this work was completed ahead of schedule. This, combined with higher unit costs led to the over expenditure. SCE states that this does not necessarily correlate to the cost of projects in the future, but SCE should evaluate these costs to assess the need for modified forecasting.	When SCE is developing the underground structure replacement forecast, SCE utilizes historical project costs to develop forecasted average unit costs. The actual work completed, and recorded costs will by nature vary by year to year with the use of an average unit cost.
Protection of Grid Infrastructure Assets SCE should address how this work will be accomplished or identify the projects as delayed. In addition, SCE should provide additional discussion about how this category is affected by NERC CIP 014 and wildfire work.	As shown below in Table X-23, SCE's 2022 recorded costs were above authorized as we were able to catch up on some of the deferred Tier Program project deferrals. SCE did note that these projects under the Tier Program were deferred in our 2021 RSAR variance response.
Enhanced Overhead Inspections and Remediations Energy Division noted that the report is unclear regarding how work sites are prioritized when different work types are bundled together. It is also not clear to ED staff how these different work types are captured in the appropriate categories in the RSAR. In future RSARs, SCE should elaborate on how bundled work locations are prioritized and how the different work types performed are accounted for correctly.	As SCE noted to Energy Division in data request responses to our last RSAR, SCE currently performs remediation work pursuant to GO 95 Rule 18, which outlines the timing in which different types of safety hazards or nonconformances must be remediated. To the extent inspections identify new remediation work, that work is scheduled and performed in compliance with these timelines, just as is existing remediation work. SCE captures the work types for any remediation that is a result of the enhanced overhead inspections in this GRC activity.
Wildfire Covered Conductor Program In the future, SCE should provide the information about lack of historical data and the difficulties in	SCE would like to provide additional detail and context for this recommendation. As SCE noted to Energy Division via discovery in our previous RSAR, SCE filed our TY 2021 GRC application in August 2019, and at the time was in the nascent stages of our wildfire mitigation

Recommendation	SCE Response
effectively forecasting this program in future RSARs to provide greater context.	efforts, including for the Wildfire Covered Conductor Program (WCCP). SCE had just filed the Grid Safety and Resiliency Program (GSRP) approximately one year earlier in Sept 2018. At the time of developing the TY 2021 GRC forecast in early- to mid-2019, SCE had not deployed significant amounts of WCCP. Therefore, for both the GSRP and the TY 2021 GRC, SCE used representative Overhead Conductor Program (OCP) project costs, as there was little historical data to inform the forecast. SCE could not have reasonably forecasted all the potential variations in costs that would occur in future installations of WCCP. Further, in SCE's GRC Track 1 Final Decision, the Commission authorized a capital-related revenue requirement associated with a scope of 4,500 miles of covered conductor for WCCP for the period 2019-2023 (with the ability to seek cost recovery after a reasonableness review for costs above 110 percent of the authorized revenue requirement threshold). To the extent the total recorded costs of the 4,500 miles estimated to be completed through YE 2023 exceed 110 percent of the Track 1 Final Decision's authorized revenue requirement amount, SCE will seek reasonableness review and cost recovery for those costs via an Application after 2023 recorded costs are finalized, consistent with D.21-08-036.
Distribution Preventative and Breakdown Capital Maintenance It remains unclear if remediation maintenance work has caught up with the increased inspection findings. SCE should elaborate on its plan to address and prioritize the remediation work in its future RSAR reporting. In addition, while ED staff encourages the continued practice of bundling work at locations, SCE should consider how to improve accounting practices to better capture the different work types performed in the appropriate categories.	As SCE noted to Energy Division in data request responses to our last RSAR, remediations do not necessarily have to occur within the same year of the inspection that triggered the required remediation. SCE generally prioritizes the remediation work according to required regulatory timeframes to mitigate impacts on safety and reliability. Remediations -- excluding Enhanced Dry Fuels Initiative (EDFI) -- identified by any inspection are subject to the requirements of General Order 95, Rule 18, which in part requires notifications in high fire areas that represent an elevated ignition risk to be recorded and scheduled to be completed in 6- to 12-month timeframes. It is unclear what improvements in accounting practices Energy Division is contemplating. SCE captures all work types for any remediation that records to this GRC activity.

IX.

DISTRIBUTION CATEGORY

A. Expensed Programs

1. GRC Activity and Unit Description Table

For the Distribution expense activities that are SAR-eligible, Table IX-7 below provides the 2021 GRC activity description, testimony and workpaper citation and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table IX-7
Distribution Expense Category Activity Description and Background Information

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Circuit Breaker Inspections and Maintenance	Includes the cost of labor, materials used, and expenses incurred in performing the inspection and maintenance of circuit breakers at distribution and transmission substations.	SCE-02 Vol: 3	WPSCE02V3 pp. 51 - 57	N/A	N/A
Dead, Dying and Diseased Tree Removal	Costs incurred to proactively remove dead, dying, and diseased trees that could fall on or contact SCE's electrical facilities.	SCE-02 Vol: 6	WPSCE02V06A pp.161 - 167	N/A	N/A
Distribution Apparatus Inspection and Maintenance	This activity includes the costs associated with the inspection and testing of all overhead and underground distribution apparatus specialized equipment for things such as remote monitoring and control.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 51 - 57	N/A	N/A
Distribution Fault Anticipation	This activity includes the costs associated with rollout of Distribution Fault Anticipation devices as well as data services and analysis provided by Texas A&M.	SCE-04 Vol: 5	WPSCE04V05APt01 pp. 337 - 345	N/A	N/A
Distribution Intrusive Pole Inspections	The costs incurred for intrusive pole inspections of distribution poles. Intrusive inspections require inspectors with proper training and experience to drill into the pole's exterior to identify and measure the extent of internal decay which is typically undetectable with external observation alone. Inspectors also does a visual inspection of the exterior of the pole to check for damage.	SCE-02 Vol: 5	WPSCE02V05 pp. 31 - 32	N/A	N/A
Distribution Overhead Detail Inspections	Overhead Detail Inspections include costs for inspecting SCE's overhead distribution electrical system under GO 165 and SCE's DIMP. Activity includes the cost of labor, materials used and expenses incurred in performing overhead detail inspections. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 10 - 18	N/A	N/A
Distribution Pole Loading Assessments	The costs incurred in performing pole loading assessments on distribution poles, including pole loading calculations. Through assessments, poles that do not meet GO 95	SCE-02 Vol: 5	WPSCE02V5, pp. 4-9	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	loading, temperature and safety factor requirements or, in areas with known local conditions such as high winds and SCE's loading, will be identified for repair or replacement.				
Distribution Pole Loading Repairs	The costs incurred to make repairs to distribution poles as part of the Pole Loading Program. Repairs involve the design and installation or modification of guy wires.	SCE-02 Vol: 5	WPSCE02V5, pp. 220-225	N/A	N/A
Distribution Preventive and Breakdown O&M Maintenance	Distribution maintenance is performed on either a planned basis or an unplanned basis. Planned maintenance work is comprised of repairs to SCE's equipment and structures recorded as Priority 2 items, primarily driven from inspection activities. These repairs can be performed by inspectors or qualified electrical workers. Planned work is referred to as preventive maintenance.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp.28 - 37	N/A	N/A
Distribution Request for Attachment Inspections	Includes cost for Pre Inspections and Final Inspections of distribution renter attachments to poles.	SCE-02 Vol: 5	WPSCE02V5, pp. 266-271	N/A	N/A
Distribution Routine Vegetation Management	Costs incurred for pre-inspections, trimming and removal of trees, expanded clearance distances, back-end quality assurance/checks; pole-brushing work, supplemental patrols, and substation-associated vegetation management work.	SCE-02 Vol: 6	WPSCE02V06A pp. 121 - 140	N/A	N/A
Distribution Underground Detail Inspections	This activity includes costs for inspecting SCE's underground distribution electrical system under GO 165 and SCE's DIMP. Activity includes the cost of labor, materials used and expenses incurred in performing underground detail inspections. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp.19 - 27	N/A	N/A
Enhanced Overhead Inspections and Remediations	This activity includes the costs associated with performing Enhanced Overhead Inspections and remediation of findings across SCE's High Fire Risk Area. This includes Transmission EOI inspections, Distribution EOI Inspections, aerial inspections, Transmission and	SCE-04 Vol: 5	WPSCEO4VO5APt01 pp. 370 - 389	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	Distribution EOI repairs, the long span mitigation, vertical switches and EOI PMO costs.				
Fire Hazard Prevention	SCE expanded its efforts to mitigate vegetation-related wildfire risks by implementing a Hazard Tree Management Program (HTMP). HTMP assesses the site and structural condition of trees that could fall into or otherwise impact electrical facilities and potentially lead to ignitions and outages.	SCE-02 Vol: 6	WPSCE02V 06A p. 97	N/A	N/A
Fusing Mitigation	This activity includes the costs associated with the installation of branch line fusing as well as substation class fusing within SCE's High Fire Risk Area.	SCE-04 Vol: 5	WPSCE04V05APt01 pp. 319 - 330	Wildfire	Fusing Mitigation
HFRA Sectionalizing Devices	This activity includes the costs associated with the installation of Remote Automatic Reclosers (RARs), Remote-Controlled Switches (RCSs), and replacement of relay hardware in order to sectionalize circuits that traverse High Fire Risk Area boundaries.	SCE-04 Vol: 5	WPSCE04V05APt01 pp. 285 - 298	Wildfire	Remote-Controlled Automatic Reclosers and Fast Curve Settings
Infrared Inspection Program	This activity includes the costs associated with performing infrared inspections on High Fire Risk Area (HFRA) distribution circuits as well as infrared and corona inspections on transmission lines in HFRA.	SCE-04 Vol: 5	WPSCE04V05APt01 pp. 406 - 416	Wildfire	Infrared Inspections
Load Side Support	Load Side Support is SCE's program to address power quality problems such as voltage sags, transients, voltage imbalance, and harmonics that can affect transmission and distribution systems, generators, and customer equipment. Power Quality Specialists in T&D perform investigations at all levels from generation and transmission, to end-use equipment within customer facilities. Power Quality Specialists identify the cause of power quality problems and recommend solutions to customers and/or system owners.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4P2ChIII-IVBkC pp.296 - 302	N/A	N/A
Meter System Maintenance Design	Advanced Metering Operations analyzes meter and communication data to identify failed devices, issue repair orders, optimize communication performance, update firmware, and mitigate system problems. These monitoring	SCE-02 Vol: 1 Pt. 3	WPSCE02V1P3 pp. 31 - 27	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	activities help ensure customer usage data is accurate and processed for use by other SCE operational units.				
Monitoring and Operating Substations	Includes the cost of labor, materials, and expenses incurred in operating distribution and transmission substations and switching stations. Includes labor incurred for activities such as: supervising station operation; inspecting station equipment; keeping station logs and records and preparing reports on station operation; and operating switching and other station equipment. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.	SCE-02 Vol: 3	WPSCE02V3 pp. 9 - 15	N/A	N/A
Other Substation Equipment Inspections and Maintenance	Includes cost of labor and materials used and expenses incurred in inspecting and maintaining substation equipment not specifically provided for in any other final cost center (FCC). Such items include cable trench covers; steel and wood pole racks; disconnect switches; auxiliary current transformers; potential transformers including bushings; lightning arrestors; potential devices and coupling capacitors; current transformers including bushings; supervisory and telemetering equipment; insulators; oil line tanks; cooling towers; direct current (DC) grounds; and mobile units.	SCE-02 Vol: 3	WPSCE02V3 pp. 79 - 85	N/A	N/A
Patrolling and Locating Trouble	Includes the costs incurred by troublemen when patrolling distribution lines to locate trouble at the request of SCE's system operators or as the result of a customer reported problem. Activities include patrolling, switching, locating the cause of the reported problem, and inspecting SCE equipment installed on customer's property, and repairs to the system to correct reported problem. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 45 - 50	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Relay Inspections and Maintenance	Includes the cost of labor, materials used, and expenses incurred in performing the inspection and maintenance of protection relay systems at distribution and transmission substations.	SCE-02 Vol: 3	WPSCE02V3 pp. 65 - 71	N/A	N/A
Streetlight Operations, Inspections, and Maintenance	Includes the cost of labor, materials used, and expenses incurred in: the operation of street lighting and signal system equipment. Labor costs include activities for: supervising street lighting and signal systems operation; replacing lamps and incidental cleaning of glassware and fixtures; routine patrolling for lamp outages, extraneous nuisances or encroachments; testing lines and equipment; maintenance of street lighting and signal system assets; and streetlight mapping. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 63 - 68	N/A	N/A
Substation - Inspections and Maintenance	Includes the cost of labor, materials used, and expenses incurred in operating transmission substations and switching stations. Includes labor incurred for activities such as: supervising station operation; adjusting station equipment where such adjustment primarily affects performance; inspecting, testing and calibrating station equipment for the purpose of checking its performance; keeping station log and records and preparing reports on station operation; and operating switching and other station equipment. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense. These costs are incurred by SCE's Power Production Department.	SCE-02 Vol: 3	WPSCE02V3 pp. 100 - 106	N/A	N/A
Substation O&M Breakdown Maintenance	Substation Construction & Maintenance - Includes the costs to perform unplanned breakdown maintenance, include the repair and replacement of SCE equipment and structures that are damaged or fail in service. Breakdown maintenance is typically performed in response to damage	SCE-02 Vol: 3	WPSCE02V3 pp. 93 - 99	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	caused by equipment failures, degradation, rodents, birds, or other means. Unplanned maintenance does not include costs related to failures that occur during a storm or from a claim.				
Wildfire Covered Conductor Program	Activity includes the costs associated with installation of covered conductor, installation of fire-resistant poles, and mitigation of tree attachments in SCE's High Fire Risk Area.	SCE-04 Vol: 5	WPSCE04V05APt01 pp. 263 - 269	Wildfire	Wildfire Covered Conductor Program
Wildfire Vegetation Management	Costs incurred for the Hazard Tree Removal program, which proactively assesses dead, dying, and diseased trees that could fall on or contact SCE’s electrical facilities and remediates trees as appropriate to mitigate fire risks.	SCE-02 Vol: 6	WPSCE02V06A pp. 170 - 188	Wildfire	Expanded Vegetation Management

2. GRC Activities Dollar and Unit Variance Calculations

Table IX-8 and Table IX-9 below provide the authorized and recorded costs, and variance and percentage change values for each distribution expense activity in terms of dollars and units. The table also indicates whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table IX-8
Distribution Expense Category Activity Dollar Variance Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Circuit Breaker Inspections and Maintenance	N/A	N/A	Yes	On-Going	Annual	$5,178	$5,338	$10,516	$5,606	$7,071	$12,677	$428	$1,733	$2,161	8%	32%	21%	No	No
Dead, Dying and Diseased Tree Removal	N/A	N/A	Yes	On-Going	Annual	$35,569	$36,829	$72,398	$16,165	$29,003	$45,168	($19,404)	($7,826)	($27,230)	-55%	-21%	-38%	No	**Yes**
Distribution Apparatus Inspection and Maintenance	N/A	N/A	Yes	On-Going	Annual	$6,177	$6,370	$12,547	$5,259	$5,213	$10,472	($918)	($1,157)	($2,075)	-15%	-18%	-17%	No	No
Distribution Fault Anticipation	N/A	N/A	Yes	Complete	Complete	$0	$0	$0	$135	$513	$648	$135	$513	$648	-	-	-	No	No
Distribution Intrusive Pole Inspections	N/A	N/A	Yes	On-Going	Annual	$5,457	$5,649	$11,106	$5,563	$5,806	$11,369	$106	$157	$263	2%	3%	2%	No	No
Distribution Overhead Detail Inspections	N/A	N/A	Yes	On-Going	Annual	$5,198	$5,365	$10,563	$13,279	$12,094	$25,373	$8,081	$6,729	$14,810	155%	125%	140%	No	**Yes**
Distribution Pole Loading Assessments	N/A	N/A	Yes	Seven Years (2014 - 2021)	Completed in 2022	$1,031	$1,067	$2,098	$3,999	$594	$4,593	$2,968	($473)	$2,495	288%	-44%	119%	No	No
Distribution Pole Loading Repairs	N/A	N/A	Yes	Eight Years (2014 - 2022)	Anticipated Completion in 2023	$804	$831	$1,635	$5,343	$1,250	$6,593	$4,539	$419	$4,958	565%	50%	303%	No	No
Distribution Preventive and Breakdown O&M Maintenance	N/A	N/A	Yes	On-Going	Annual	$111,930	$115,682	$227,612	$108,181	$132,017	$240,198	($3,749)	$16,334	$12,585	-3%	14%	6%	**Yes**	No
Distribution Request for Attachment Inspections	N/A	N/A	Yes	On-Going	Annual	$3,111	$3,218	$6,329	$1,195	$1,959	$3,154	($1,916)	($1,260)	($3,176)	-62%	-39%	-50%	No	No
Distribution Routine Vegetation Management	N/A	N/A	Yes	On-Going	Annual	$108,070	$111,918	$219,988	$357,724	$402,596	$760,320	$249,654	$290,678	$540,332	231%	260%	246%	**Yes**	**Yes**
Distribution Underground Detail Inspections	N/A	N/A	Yes	On-Going	Annual	$6,669	$6,878	$13,547	$7,549	$8,476	$16,025	$880	$1,598	$2,478	13%	23%	18%	No	No
Enhanced Overhead Inspections and Remediations	N/A	N/A	Yes	On-Going	Annual	$61,592	$63,686	$125,278	$117,237	$115,418	$232,655	$55,645	$51,732	$107,377	90%	81%	86%	**Yes**	**Yes**
Fire Hazard Prevention	N/A	N/A	Yes	On-Going	Annual	$0	$0	$0	$349	$79	$428	$349	$79	$428	-	-	-	No	No
Fusing Mitigation	Wildfire	Fusing Mitigation	Yes	Complete	Complete	$1,154	$1,192	$2,346	$36	$2	$38	($1,118)	($1,189)	($2,307)	-97%	-100%	-98%	No	No
HFRA Sectionalizing Devices	Wildfire	Remote-Controlled Automatic Reclosers and	Yes	On-Going	Annual	$0	$0	$0	$14	$1,027	$1,041	$14	$1,027	$1,041	-	-	-	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
		Fast Curve Settings																	
Infrared Inspection Program	N/A	Non-RAMP	No	On-Going	Annual	$3,495	$3,593	$7,088	$94	$76	$170	($3,401)	($3,517)	($6,918)	-97%	-98%	-98%	No	No
Infrared Inspection Program	Wildfire	Infrared Inspections	No	On-Going	Annual	$344	$354	$698	$464	$467	$931	$120	$113	$233	35%	32%	33%	No	No
Infrared Inspection Program	N/A	Total	Yes	On-Going	Annual	$3,840	$3,947	$7,787	$558	$543	$1,101	($3,282)	($3,404)	($6,686)	-85%	-86%	-86%	No	No
Load Side Support	N/A	N/A	Yes	On-Going	Annual	$1,362	$1,406	$2,768	$727	$1,060	$1,787	($635)	($346)	($981)	-47%	-25%	-35%	No	No
Meter System Maintenance Design	N/A	N/A	Yes	On-Going	Annual	$3,489	$3,510	$6,999	$3,336	$2,846	$6,182	($153)	($664)	($817)	-4%	-19%	-12%	No	No
Monitoring and Operating Substations	N/A	N/A	Yes	On-Going	Annual	$44,863	$46,248	$91,111	$43,237	$46,410	$89,647	($1,626)	$162	($1,464)	-4%	0%	-2%	No	No
Other Substation Equipment Inspections and Maintenance	N/A	N/A	Yes	On-Going	Annual	$1,377	$1,419	$2,796	$1,399	$1,478	$2,877	$22	$58	$80	2%	4%	3%	No	No
Patrolling and Locating Trouble	N/A	N/A	Yes	On-Going	Annual	$23,644	$24,386	$48,030	$27,315	$30,290	$57,605	$3,671	$5,905	$9,576	16%	24%	20%	No	**Yes**
Relay Inspections and Maintenance	N/A	N/A	Yes	On-Going	Annual	$3,318	$3,420	$6,738	$2,703	$2,184	$4,887	($615)	($1,236)	($1,851)	-19%	-36%	-27%	No	No
Streetlight Operations, Inspections, and Maintenance	N/A	N/A	Yes	On-Going	Annual	$6,968	$7,195	$14,163	$4,171	$5,665	$9,836	($2,797)	($1,530)	($4,327)	-40%	-21%	-31%	No	No
Substation - Inspections and Maintenance	N/A	N/A	Yes	On-Going	Annual	$1,320	$1,360	$2,680	$959	$962	$1,921	($361)	($397)	($758)	-27%	-29%	-28%	No	No
Substation O&M Breakdown Maintenance	N/A	N/A	Yes	On-Going	Annual	$2,591	$2,670	$5,261	$2,709	$2,844	$5,553	$118	$173	$291	5%	6%	6%	No	No
Wildfire Covered Conductor Program	N/A	N/A	Yes	On-Going	Annual	$0	$0	$0	$545	$1,411	$1,956	$545	$1,411	$1,956	-	-	-	No	No
Wildfire Vegetation Management	Wildfire	Expanded Vegetation Management	Yes	On-Going	Annual	$24,238	$25,107	$49,345	$32,432	$29,170	$61,602	$8,194	$4,063	$12,257	34%	16%	25%	No	No

Table IX-9
Distribution Expense Category Activity Unit Variance Calculations

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Circuit Breaker Inspections and Maintenance	N/A	N/A	SCE forecasted this work activity using Last Year Recorded and does not have a work unit that is applicable.													No
Dead, Dying and Diseased Tree Removal	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Distribution Apparatus Inspection and Maintenance	N/A	N/A	SCE used LYR as the forecast basis since the number of inspection and the number and type of maintenance items can verify from year-to-year													No
Distribution Fault Anticipation	N/A	N/A	HFRA Circuits with DFA devices installed	-	-	-	130	25	155	130	25	155	-	-	-	No
Distribution Intrusive Pole Inspections	N/A	N/A	# of Intrusive Pole Inspections	129,240	129,240	258,480	133,972	131,455	265,427	4,732	2,215	6,947	4%	2%	3%	No
Distribution Overhead Detail Inspections	N/A	N/A	There are multiple work activities and non-labor costs that make up this activity making one unit infeasible.													No
Distribution Pole Loading Assessments	N/A	N/A	# of Poles Assessments	23,000	0	23,000	17,961	317	18,278	(5,039)	317	(4,722)	-22%	-	-21%	No
Distribution Pole Loading Repairs	N/A	N/A	# of Repairs	1,620	136	1,756	1,966	351	2,317	346	215	561	21%	158%	32%	**Yes**
Distribution Preventive and Breakdown O&M Maintenance	N/A	N/A	Distribution Preventive and Breakdown O&M Maintenance costs vary year-to-year based on the required number of preventive and breakdown maintenance items that need to be repaired in each year. The complexity of each repair also contributes to the variance in year-to-year costs. Given this, SCE used recorded data with an adder for new requirements to forecast this activity.													No
Distribution Request for Attachment Inspections	N/A	N/A	The forecast for this activity is based on a mix of work quantities and SCE labor to support this overall activity.													No
Distribution Routine Vegetation Management	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Distribution Underground Detail Inspections	N/A	N/A	Inspection Count	167,451	167,451	334,902	173,822	172,265	346,087	6,371	4,814	11,185	4%	3%	3%	No
Enhanced Overhead Inspections and Remediations	N/A	N/A	Unable to identify a single unit due to multiple activities in this workpaper that support capital projects.													No
Fire Hazard Prevention	N/A	N/A	This is a not forecasted on a unit basis.													No
Fusing Mitigation	Wildfire	Fusing Mitigation	# of Current Limiting Fuses (SCE did not get authorization for this in the TY 2021 GRC)													No
HFRA Sectionalizing Devices	Wildfire	Remote-Controlled Automatic Reclosers and Fast Curve Settings	# of RARs, RCSs and CBs replaced (refer to capital for authorized and installed units)													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Infrared Inspection Program	N/A	Non-RAMP	Transmission Infrared and Corona Scanned Miles	3,240	3,240	6,480	1,050	1,075	2,125	(2,190)	(2,165)	(4,355)	-68%	-67%	-67%	N/A
Infrared Inspection Program	Wildfire	Infrared Inspections	Distribution Infrared Miles Inspected	4,340	4,340	8,680	4,410	4,408	8,818	70	68	138	2%	2%	2%	No
Infrared Inspection Program	N/A	Total	Total Distribution and Transmission Miles Inspected	7,580	7,580	15,160	5,460	5,483	10,943	(2,120)	(2,097)	(4,217)	-28%	-28%	-28%	**Yes**
Load Side Support	N/A	N/A	SCE forecasted using a historical average since it is appropriate when the recorded amounts "are influenced by weather or other external forces beyond control of the utility" D.89-12-057. Therefore, this is not unit based.													No
Meter System Maintenance Design	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Monitoring and Operating Substations	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Other Substation Equipment Inspections and Maintenance	N/A	N/A	Each asset within this category has different inspection/maintenance requirements, which vary year to year. As a result SCE used LYR as a basis as it represents the most recent year from the combined inspection, maintenance, and repair costs for misc. equip, and is reflective of the costs SCE will incur for those activities going forward.													No
Patrolling and Locating Trouble	N/A	N/A	The number, type, complexity, and duration of activities can vary from year-to-year and are not possible to be forecast. SCE used LYR as its forecast basis given the uncertainty of activities.													No
Relay Inspections and Maintenance	N/A	N/A	Since the cost for maintenance can vary based on information gathered during field inspections and the type of repair required, we apply an averaging methodology for the activity forecast.													No
Streetlight Operations, Inspections, and Maintenance	N/A	N/A	Streetlight Inspections are performed on an annual basis for urban areas and every two years in rural areas in compliance with GO 95, however other maintenance and repair work associated with this activity is not unit based and depends on the results of the inspections.													No
Substation - Inspections and Maintenance	N/A	N/A	Cost can vary depending on the type of repair activity and equipment in scope therefore SCE uses a five year average and not units to forecast.													No
Substation O&M Breakdown Maintenance	N/A	N/A	Due to fluctuating recorded costs in this activity to varying inspection cycle of equipment and maintenance requirement of the composition of equip. from year to year, SCE uses a five-year avg. and not units to forecast.													No
Wildfire Covered Conductor Program	N/A	N/A	There was no associated O&M unit forecast for this activity, please refer to capital for authorized and installed units. .													No
Wildfire Vegetation Management	Wildfire	Expanded Vegetation Management	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No

3. Variance Explanations

Table IX-10 below provides the variance explanations for those GRC activities meeting the established thresholds.[32]

[32] Column W indicates if the dollar variance was exceeded, Column X indicates if the dollar variance subject to a percentage was exceeded and Column AL indicates if the unit variance was exceeded.

Table IX-10
Distribution Expense Category Activity Variance Explanations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Dead, Dying and Diseased Tree Removal	No	**Yes**	No	SCE's Dead, Dying, and Diseased Tree Removal Program resulted in a lower spend than authorized in 2022 as a result of a lower volume of findings than anticipated. This forecast was based on the Last Recorded Year of 2018 in our 2021 GRC Track 1 application. In 2018, SCE removed approximately 24,000 trees as part of this program. In 2022, unit costs were higher due to wage inflation, the impact of Senate Bill 247, and higher use of time and expense billing for specific districts where the work required cranes and extensive removal times for safety reasons. However, SCE removed approximately 9,000 Dead, Dying and Diseased trees in 2022, which is considerably less than our completed removals in 2018. The lower volume was impacted primarily by the Creek and Sequoia fires that occurred in the end of 2020, which resulted in mitigation of much of the anticipated volume for Dead and Dying in 2021 and 2022, and whose costs recorded to the CEMA. It should be noted that total recorded costs also include inspection costs; however, removal costs are more impactful than inspection costs for this program. In review of our 2021 RSAR, Energy Division noted that SCE cited new environmental processes slowing its ability to complete certain planned removals. Regarding the new environmental processes, SCE should cite the new rules and provide a high-level explanation for how they impact this work. In 2021, SCE improved our environmental controls by implementing an enhanced environmentally sensitive area (ESA) layer. Work in these areas requires an environmental review prior to initiating the work.
Distribution Overhead Detail Inspections	No	**Yes**	No	In 2022, SCE used contractors, which are generally more costly compared to SCE resources, to perform some of the required inspections; this is in comparison to a forecast that estimated that the substantial majority of Overhead Detail Inspections (ODIs) would be performed by SCE employees. This can lead to higher costs. The variance was reasonable, as SCE resources were re-prioritized to focus on High Fire inspection activities. Additionally, in 2020 after SCE had developed and filed Test Year 2021 GRC forecasts, SCE implemented Inspect App software, which included up to 144 additional survey questions for each inspection. Due to a more comprehensive inspection and additional survey questions, this led to longer inspections times which in turn has led to higher costs**.**

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Distribution Pole Loading Repairs	No	No	Yes	SCE assessments identify potential repairs which are reviewed during the planning process. SCE made improvements in the assessments phase to more accurately identify the need for repairs, which resulted in fewer repairs "falling out[33]" during the planning phase. In 2021 and 2022 the fallout rate was around half of what it has historically, been which led to a higher number of repairs.
Distribution Preventive and Breakdown O&M Maintenance	**Yes**	No	No	The overrun for this activity is primarily due to guy anchor repairs that were not forecast in the 2021 GRC. Guy anchor repair costs settled to the breakdown maintenance budget and had a total of $19.6 million dollars in spend for 2022.
Distribution Routine Vegetation Management	**Yes**	**Yes**	No	Similar to SCE's experience in 2021, in 2022, SCE's recorded costs for this GRC activity were significantly impacted by the California Legislature's implementation of SB 247, which set a higher pay rate for tree trimmers in California. Because the 2021 GRC was filed in 2019, prior to SB 247's enactment, SCE submitted its 2021 forecast based on its best understanding at the time and could not have foreseen or factored into its vegetation management forecasts the full monetary impact of SB 247 – the extent of which was not yet known. SCE's update testimony, which would have increased the 2021 forecast, was denied on procedural grounds. Thus, the authorized amount for 2021 and the post-test years did not include the substantial impact of SB 247 on the cost of tree trimming. SB 247 rates impacted both HFRA and non-HFRA work, as tree trimmers were deployed across grids irrespective of classification. In 2022, SCE's vegetation management performed mitigation on approximately 840,000 trees, exceeding the mitigation volume of approximately 770,000 trees mitigated in 2021. The mitigation volume comprises both trims and removals, whose costs form the majority of total costs for Distribution and Transmission Routine Vegetation Management GRC activities. Costs for services supporting compliance mitigation such as customer coordination and traffic control, as well as environmental support work, inspections, and quality control, continue to contribute to recorded costs for both Distribution and Transmission Routine Vegetation

[33] Falling out refers to falling out of scope. When a contractor verifies if a pole was loaded correctly, they may discover a safety factor can be updated to show the pole passed inspection or updated to show a replacement would be needed as opposed to a repair. Additionally, some poles with repairs may have failed through another program and have a replacement already scheduled (fails intrusive inspections, visual reject from ODI, etc). In these instances, a repair would fall out of scope.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				Management GRC activities. Finally, emergent mitigation and structure brushing costs also contributed to Distribution Routine Vegetation Management.
Enhanced Overhead Inspections and Remediations	**Yes**	**Yes**	No	In 2019, SCE inspected most of its structures in the HFRA within a few months prior to the start of the traditional wildfire season. Following these inspections, SCE launched the Inspection Redesign initiative to examine and further improve upon the inspection program in the HFRA. The new inspection strategy combined the inspection criteria for wildfire risk-focused inspections (formerly EOIs, distribution Overhead Detail Inspections (ODI), transmission and generation) into the overall new high fire risk-informed inspection program. In 2020, SCE introduced a new inspection scoping element as part of the Inspection Redesign initiative, known as the Areas of Concern (AOCs). AOCs are specific geographic areas with environmental and asset conditions that significantly increase wildfire risk, such as an abundance of dry fuel and exposure to high winds. In 2021 and continuing into 2022, SCE expanded on the AOC mitigation efforts by including both summer and fall AOC-specific inspection regimens. SCE now incorporates and coordinates AOC inspections with our overall holistic asset inspection cadence. The increase over authorized was driven by this shift in inspection strategy, which increased the overall volume of inspections. SCE also experienced an increase in contractor rates to perform inspections.
Infrared Inspection Program	No	No	**Yes**	The variance for this activity is driven by the Transmission IR and Corona inspections. SCE executed at the authorized scope and dollars for the distribution IR inspections that were associated with our 2018 RAMP report (RAMP line in the RSAR report). When SCE filed its 2021 GRC in September 2019, SCE believed at the time that it would be possible (and most cost effective) to conduct Transmission Aerial Inspections in conjunction with Corona and Infrared Scanning, and thus the forecast for both activities was combined in the Transmission IR & Corona Scans GRC activity (non-RAMP line in the RSAR report). However, as SCE's wildfire mitigation strategies evolved between 2019 and 2020, it became clear that coordinating these two activities together would be impractical given the operational realities of both, and not cost effective. Thus, the activities were separated, and both analyzed using a risk/cost basis and each program developed independently, as detailed in SCE's subsequent Wildfire Mitigation Plan filings. After conducting Corona & IR Scans on the entirety of its HFRA Transmission system in 2019, SCE settled on a 1,000 mile/year basis for this program.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				In reviewing SCE's 2021 RSAR, Energy Division requested additional clarity on the transmission infrared inspections. As noted above in Table IX-9, SCE completed 1,075 miles of Transmission IR and Corona scans and 4,408 miles of Distribution IR scans in 2022.
Patrolling and Locating Trouble	No	**Yes**	No	In 2022 SCE experienced higher premium time costs due to converting all overtime to double time per SCE's negotiated contract with IBEW Local #47 Union employees. Patrolling records primarily as troublemen labor and activities such as: switching for substations, clearing metallic balloons, conducting annual patrols, patrolling circuit after relay & re-close circuit breaker, handling downed wire activities, addressing requests from SCE personnel (FAO, Claims, or other) to investigate/patrol and multiple other tasks. Patrolling costs are driven by the number of trouble calls and by the magnitude and complexity of each call received. Due to the unpredictability associated with this activity, costs can overrun or underrun when compared to authorized totals.

4. Activity Status

Table IX-11 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

Table IX-11
Distribution Expense Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Circuit Breaker Inspections and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Dead, Dying and Diseased Tree Removal	On-Going	Annual	Under	On-Target	Under	Proceeding as Planned	SCE is generally proceeding as planned. Please refer to the variance explanation for rationale in overall lower spending as a result of lower tree removals.
Distribution Apparatus Inspection and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Fault Anticipation	Complete	Complete	On Target	On-Target	On Target	Completed	SCE does not currently have any additional scope for this program planned.
Distribution Intrusive Pole Inspections	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Overhead Detail Inspections	On-Going	Annual	On-Target	On-Target	Over	Proceeding as Planned	The Scope and Schedule are proceeding as planned; however, costs are over target. Refer to the variance explanation for additional detail.
Distribution Pole Loading Assessments	Seven Years (2014 - 2021)	Completed in 2022	On-Target	On-Target	On-Target	Completed	SCE completed this program in 2022. There may be some costs that record in 2023 but the work has been completed in 2022.
Distribution Pole Loading Repairs	Eight Years (2014 - 2022)	Anticipated Completion in 2023	On-Target	Over	Over	Partially Delayed	SCE experienced a slight delay in finishing the pole loading repairs program but is anticipating completion in 2023.
Distribution Preventive and Breakdown O&M Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	Overall SCE is generally proceeding as planned. SCE may experience higher or lower costs in any given year since some of this work is reactive from breakdowns. Additional details on what is driving the variances can be found in the variance explanations.

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Distribution Request for Attachment Inspections	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Routine Vegetation Management	On-Going	Annual	On-Target	On-Target	Over	Proceeding as Planned	SCE is generally proceeding as planned; however, costs are above the TY 2021 GRC forecast for 2022. Refer to variance explanation for the rationale for increased costs.
Distribution Underground Detail Inspections	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Enhanced Overhead Inspections and Remediations	On-Going	Annual	Over	On-Target	Over	Emergent	While SCE is generally proceeding as planned and executing the work in this activity, there is emergent work that is contributing to the overspend. Please refer to the variance explanation for details on the emergent scope and costs associated with Enhanced Overhead Inspections and Remediations.
Fire Hazard Prevention	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Fusing Mitigation	Completed	Completed	On Target	On Target	On Target	Proceeding as Planned	N/A
HFRA Sectionalizing Devices	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Infrared Inspection Program	On-Going	Annual	Under	Under	Under	Proceeding as Planned	As noted in our variance explanations, SCE has revisited our strategy on the transmission infrared and corona scans and is executing to that level.
Load Side Support	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Meter System Maintenance Design	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Monitoring and Operating Substations	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Other Substation Equipment Inspections and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Patrolling and Locating Trouble	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Relay Inspections and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Streetlight Operations, Inspections, and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Substation - Inspections and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Substation O&M Breakdown Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Wildfire Covered Conductor Program	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Wildfire Vegetation Management	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

B. Capital Expenditure Programs

1. GRC Activity and Unit Description Table

For the Distribution capital activities that are SAR-eligible, Table IX-12 provides the 2021 GRC testimony citation and activity description and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table IX-12
Distribution Capital Expenditure Category Activity Description

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
4 kV Cutovers	The 4 kV Cutover Program is the conversion, or cutover, of all circuits fed from the selected substation from the lower voltage class to a higher voltage class. The 4 kV Cutover Program is a part of the larger 4 kV Substation Elimination Program, which has the purpose of addressing equipment obsolescence, safety, and reliability.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 89 - 90	N/A	N/A
4 kV Cutovers - Load Growth Driven	The 4 kV Cutovers – Load Growth Driven Program addresses overloads on 4 kV circuits and substations due to load growth in areas that these circuits and substations serve. To maintain safe and reliable service to the customers that are currently served from islanded 4 kV systems, SCE plans to cutover sections of circuit or full circuits that do not have adequate operational flexibility.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4P2ChIIBkA pp. 332-336	N/A	N/A
4 kV Substation Eliminations	4 kV Substation Eliminations include substation equipment removal, soil remediation, and removal of associated buildings. 4 kV Substation Eliminations is a part of the larger 4 kV Substation Elimination Program which has the purpose of addressing equipment obsolescence, safety, and reliability.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 91 - 100	N/A	N/A
Automatic Reclosers Replacement Program	Automatic Reclosers Replacement Program includes costs associated with replacing automatic reclosers (ARs). ARs are used in distribution circuits to interrupt the supply of electricity to that portion of the circuit downstream of its location. They act similar to circuit breakers but are installed in a distribution circuit rather than a substation.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 85 - 88	N/A	N/A
Automation	Automation includes costs for incorporating automation equipment, technologies, and operations into our electric system which allows SCE to (1) provide system operators the flexibility to safely	SCE-02 Vol: 4 Pt. 1	WPSCE02V4Pt1ChIIBkA pp. 169 – 175	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	isolate faults, (2) safely restore additional customers more quickly following a fault, (3) reduce the number of customer outages, (4) measure load and DER behavior, and (5) manage groups of DERs. The Distribution Automation Programs will help to enable system operators to overcome masked load and DER variability concerns to safely manage a system with many DERs.				
Cable Life Extension (CLE) Program	The Cable Life Extension (CLE) Program, in concert with the Cable-in-Conduit (CIC) Replacement Program, addresses the risks of radial cable failures. The CLE program performs two types of life-extension activities for CIC conductor: (1) testing and (2) injection.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 45 - 55	Underground Equipment Failure	Cable Replacement Programs (CIC)
Cable-in-Conduit (CIC) Replacement Program	The Cable-in-Conduit (CIC) Replacement Program proactively replaces segments of SCE's Cable-in-Conduit population that are approaching the end of their service life. The objective of the program is to reduce the number of in-service failures of CIC cable and thus drive down the number of unplanned outages for SCE customers.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 56 - 59	Underground Equipment Failure	Cable Replacement Programs (CIC)
Capacitor Bank Replacement Program	The Capacitor Bank Replacement Program replaces or removes failed and obsolete distribution capacitor banks and their associated capacitor switches. Capacitor banks are flagged within field inspection in order to be targeted for replacement as a part of cyclic inspections or found in field. Each capacitor bank is composed of three capacitor units, fuses, a rack, and mounting hardware.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 77 - 80	N/A	N/A
DER-Driven Grid Reinforcement	Capital expenditures in DER Hosting Capacity Reinforcement include the subset of projects that SCE has identified for reliability and technology pilot purposes. SCE's load growth planning process and its related DER studies have identified Grid Reinforcement projects driven by immediate capacity and other planning criteria needs.	SCE-02 Vol: 4 Pt. 1	WPSCE02V4P1ChIIBkA. P. 208	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Distribution Circuit Upgrades	The Distribution Circuit Upgrades Program covers forecast expenditures for work outside of the substation required to relieve heavily loaded distribution circuits and substations expected to exceed distribution planning criteria limits. This includes all work required on distribution circuits to solve distribution needs. This work enables distribution circuits to carry more electric current and/or make necessary transfers between distribution circuits and substations to mitigate situations where equipment is forecast to exceed capacity limits. Typical work includes installing new switches, upgrading cable or conductor, or installing new conductor to create circuit ties to facilitate load transfers between substations and circuits.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4PT2ChIIBkA pp. 30-33	N/A	N/A
Distribution Claim	Distribution Claim includes the costs incurred by SCE to repair damage to the distribution system caused by another party. In cases where SCE is able to identify the party responsible for the damage, SCE pursues recovery of the costs to repair the damage.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 58 - 61	N/A	N/A
Distribution Deteriorated Pole Replacement	The costs incurred for intrusive pole inspections of distribution and transmission poles. Intrusive inspections require inspectors with proper training and experience to drill into the pole's exterior to identify and measure the extent of internal decay which is typically undetectable with external observation alone. Additionally, the inspector does a visual inspection of the exterior of the pole to check for damage.	SCE-02 Vol: 5	WPSCE02V5, pp. 147-148; 210	N/A	N/A
Distribution Fault Anticipation	This activity includes the costs associated with the rollout of Distribution Fault Anticipation devices as well as data services and analysis provided by Texas A&M.	SCE-04 Vol: 5	WPSCE-04Vol.05A, pp. 331 - 336	N/A	N/A
Distribution Plant Betterment	Distribution Plant Betterment is an activity that performs system improvements and projects to address local needs that are not covered by the	SCE-02 Vol: 4 Pt. 2	WPSCE02V4PT2ChIIBkbkB pp. 338-342	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	Distribution Circuit Upgrades (DCU) Program. This activity can include projects to address changes in load profiles that drive local low voltage problems, new protection devices and switches needed for safety and reliability, new developments that require a single-phase circuit voltage where none exists, new street or freeway improvements that impact SCE's electric infrastructure, and more.				
Distribution Pole Loading Program Pole Replacement	The costs incurred for intrusive pole inspections of distribution poles. Intrusive inspections require inspectors with proper training and experience to drill into the pole's exterior to identify and measure the extent of internal decay which is typically undetectable with external observation alone. Additionally, the inspector does a visual inspection of the exterior of the pole to check for damage.	SCE-02 Vol: 5	WPSCE02V5, pp. 149-150	N/A	N/A
Distribution Preventive and Breakdown Capital Maintenance	The maintenance activity captures the labor, equipment, and other material costs to remove and replace failed distribution equipment.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 38 - 43	N/A	N/A
Distribution Storm Response Capital	Distribution Storm Response Capital includes costs related to repair and replacement performed as part of a storm response on Distribution facilities.	SCE-04 Vol: 2	WPSCE04V2 pp. 44 - 45	N/A	N/A
Distribution Substation Plan (DSP) Circuits	As part of the DSP Program, new distribution 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 projected to exceed capacity in geographically isolated areas with limited usable circuit ties to transfer load.	SCE-04 Vol: 2	WPSCE02V4PT2ChIIBkA pp. 34-41	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Distribution Substation Plan Substations	SCE identifies required substation projects through the Distribution Substation Planning process when lower cost solutions, such as distribution circuit upgrades or new circuits, do not adequately address an overload. Substation 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.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4PT2ChIIBkbkA pp. 42-141	N/A	N/A
Distribution Tools and Work Equipment	The activity, Distribution Tools and Work Equipment includes purchasing portable tools and specialized test equipment used by distribution personnel when performing work on SCE's distribution grid. These expenditures are for tools or equipment costing more than $1,000.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 83 - 86	N/A	N/A
Distribution Transformers	SCE replaces distribution transformers when they fail in service, or when we observe deterioration during inspection or other fieldwork. Deterioration includes leaks, corrosion, and damage caused by vehicle collisions or acts of nature. In addition to the material cost for the transformer, this activity includes associated costs such as waste removal, material retirement/cleanup, material testing, and transformer coatings.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 92 - 107	N/A	N/A
Distribution Volt VAR Control and Capacitor Automation Program	The Programmable Capacitor Control (PCC) Replacement Program and the associated Distribution Volt VAR Control (DVVC) algorithm are implemented at SCE to allow for Conservation Voltage Regulation (CVR) to decrease energy consumption, while maintaining reliable voltage delivery to SCE customers.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4PT2ChIIBkbkB pp. 352-359	N/A	N/A
Distribution Wood Pole Disposal	Distribution Wood Pole Disposal are the costs incurred when safely disposing poles that are removed from service.	SCE-02 Vol: 5	WPSCE02V5, pp. 214-215; 216 - 218	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Engineering and Planning Software Tools	Engineering and Planning Software Tools support SCE in calculating the amount of DERs that the distribution system can host without triggering a distribution infrastructure upgrade, and in forecasting SCE's short-term and long-term grid needs. E&P software tools include, Grid Connectivity Model, the Grid Analytics Application, the Long-term Planning Tool (LTPT) and System Modeling Toolset (SMT), Grid Interconnection Processing Tool and DRP External Portal. SCE's continued investments in these new E&P software tools will help resolve multiple limitations with SCE's legacy tools.	SCE-02 Vol: 4 Pt. 1	WPSCE02V4P1ChIIBkA pp. 121 - 144	N/A	N/A
Enhanced Overhead Inspections and Remediations	Enhanced Overhead Inspections and Remediations includes the costs associated with performing Enhanced Overhead Inspections and remediation of findings across SCE's High Fire Risk Area.	SCE-04 Vol: 5	WP SCE-04 Vol. 05A, Part 1 pp. 390 - 405	N/A	N/A
Fusing Mitigation	Fusing Mitigation includes the costs associated with the installation of branch line fusing as well as substation class fusing within SCE's High Fire Risk Area.	SCE-04 Vol: 5	WPSCE-04Vol.05A, pp. 270 - 284	Wildfire	Fusing Mitigation
HFRA Sectionalizing Devices	The activity, HFRA Sectionalizing Devices includes the costs associated with the installation of Remote Automatic Reclosers (RARs), Remote-Controlled Switches (RCSs), and replacement of relay hardware in order to sectionalize circuits that traverse High Fire Risk Area boundaries.	SCE-04 Vol: 5	WPSCE-04Vol.05A, pp. 309 - 318	Wildfire	Remote-Controlled Automatic Reclosers and Fast Curve Settings
Meter System Maintenance Design	Advanced Metering Operations analyzes meter and communication data to identify failed devices, issue repair orders, optimize communication performance, update firmware, and mitigate system problems. These monitoring activities help ensure customer usage data is accurate and processed for use by other SCE operational units.	SCE-02 Vol: 1 Pt. 3	WPSCE02V1P3 pp. 38 - 43	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
New Capacitors	The program plans installation of new capacitors on distribution circuits that have a reactive power (VAR) deficit in order to help maintain adequate power factor.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4PT2ChIIBkB pp.343-348	N/A	N/A
Overhead Conductor Program (OCP)	The Overhead Conductor Program (OCP) is SCE's program to replace small overhead conductors that do not meet present standards with larger conductors, and to install protective devices to improve protection of overhead conductor.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 81 - 84	Contact with Energized Equipment	Overhead Conductor Program (OCP)
PCB Transformer Removal	The Polychlorinated biphenyls (PCB) Transformer Removal Program replaces distribution line transformers suspected of being contaminated with PCB oil greater than 50 parts per million (ppm). PCBs are chemicals that have dangerous effects on the environment and human health.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 101 - 108	N/A	N/A
Prefabrication	Each of SCE's 34 district service centers has a prefabrication operation responsible for staging material for the construction crews, assembling prepackaged kits, and properly disposing of materials removed from jobsites.	SCE-02 Vol: 1 Pt. 2	WPSCE02V1P2 pp. 87 - 91	N/A	N/A
Preventive Maintenance	This maintenance activity captures the labor, equipment, and other material costs to remove and replace assets not identified in other replacement programs, on a programmatic basis.	SCE-02 Vol: 3	WPSCE02V3 – pp. 107 - 115	N/A	N/A
PSPS Execution	PSPS Execution includes the costs associated with activities and investments that support the active execution of Public Safety Power Shutoff (PSPS) events, which includes the IMT (organized command structure and support systems) and Line Patrols, deployed prior to a PSPS event and prior to re-energizing circuits.	SCE-04 Vol: 5	WPSCE04V5Pt2 pp. 55 - 58	Wildfire	PSPS Protocol and Support Functions
Streetlight Maintenance and LED Conversions	SCE owns and maintains over 680,000 lights in our service territory. Most streetlights on SCE's system are concrete electroliers with High Pressure Sodium Vapor (HPSV) luminaires. SCE plans to install LED	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 p. 141	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	technology that is more energy efficient and requires less maintenance as compared to HPSV luminaires.				
Substation Emergency Equipment	SCE maintains an inventory of equipment requiring a long lead-time for ordering, especially as infrastructure ages. When equipment and parts must be reactively replaced, SCE minimizes delays through its Emergency Equipment Program (EEP). This inventory enables SCE to reduce outage time at the substation and minimizes interruption caused by an unplanned major equipment failure.	SCE-02 Vol: 3	WPSCE02Vol. 03, pp. 250-259	N/A	N/A
Substation Equipment Replacement Program	The Substation Equipment Replacement Program (SERP) replaces substation equipment identified to exceed their protection ratings to interrupt fault current. SCE identifies substation circuit breakers projected to exceed short circuit duty interrupting capabilities by comparing each circuit breaker's short circuit duty rating with the potential fault current that circuit breaker will have to interrupt.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4PT2ChIIBkbkB pp. 20-22	N/A	N/A
Substation Tools and Work Equipment	As SCE upgrades equipment inside and outside of the substation, it must also purchase new tools that are necessary for testing, commissioning, inspecting and maintaining this new equipment. Substation Tools and Work Equipment also includes the costs to replace obsolete work equipment. These tool expenditures include the costs for acquiring and retiring portable tools and equipment whose cost exceeds $1,000.	SCE-02 Vol: 3	WPSCE02Vol. 03, pp. 244-245	N/A	N/A
Underground Structure Replacements	The Underground Structure Replacement program consists of three different sub-activities; structure replacements; vault shoring; and Cover Pressure Relief and Restraint (CPRR) intended to prevent primary distribution underground electrical equipment failures that could potentially lead to a vault or manhole explosion event.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 64 - 76	Underground Equipment Failure	Cover Pressure Relief and Restraint (CPRR) Program

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Underground Switch Replacements	The Underground Switch Replacement program removes old oil-filled underground distribution switches located in underground structures and replaces them with newer technology switches. The primary reason for SCE's program to remove old oil-filled switches is that failures of oil-filled switches can damage adjacent electrical equipment (e.g., cable, transformers, switches).	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 60 - 63	Underground Equipment Failure	UG Oil Switch Replacement Program
Undergrounding	Undergrounding of existing overhead power lines consists of digging a continuous trench approximately 24" wide and anywhere from 36" to 62" deep, depending on number of conduits required. Vaults and manholes will be needed at regular intervals along this trench to accommodate cable pulling and electrical connections, as well as any underground equipment being relocated from the overhead system. These structures vary in size from 7'x18'x8' for the largest vaults to 5'x10'6"x7' for the smallest standard manhole.	SCE-04 Vol: 5	WPSCE-04Vol.05A, pp. 346 - 350	N/A	N/A
Wildfire Covered Conductor Program	Wildfire Covered Conductor Program includes the costs associated with installation of covered conductors, installation of fire-resistant poles, and mitigation of tree attachments in SCE's High Fire Risk Area.	SCE-04 Vol: 5	WPSCE04V05APt01 pp. 247 - 262	Wildfire	Wildfire Covered Conductor Program
Worst Circuit Rehabilitation (WCR)	The Worst Circuit Rehabilitation (WCR) program has two primary objectives: (1) mitigate the safety and reliability risks associated with mainline cable failures; and (2) improve the reliability performance of Worst Performing Circuits (WPCs) within the SCE system.	SCE-02 Vol: 1 Pt. 1	WPSCE02V1P2 pp. 37 - 48	Underground Equipment Failure	Worst Circuit Rehabilitation (WCR)

2. GRC Activities Dollar and Unit Variance Calculations

Table IX-13 below provides the authorized, recorded, variance and percentage change values for each Distribution expenditure category activity in terms of dollars and units. The table also indicates whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table IX-13
Distribution Capital Expenditure Category Activity Dollar Variance Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
4 kV Cutovers	N/A	N/A	Yes	On-Going	Annual	$10,221	$10,221	$20,442	$26,155	$23,505	$49,660	$15,934	$13,284	$29,218	156%	130%	143%	No	**Yes**
4 kV Cutovers - Load Growth Driven	N/A	N/A	Yes	On-Going	Annual	$19,285	$19,285	$38,570	$18,800	$14,818	$33,618	($485)	($4,467)	($4,952)	-3%	-23%	-13%	No	No
4 kV Substation Eliminations	N/A	N/A	Yes	On-Going	Annual	$3,366	$3,366	$6,732	$4,490	$2,235	$6,725	$1,124	($1,131)	($7)	33%	-34%	0%	No	No
Automatic Reclosers Replacement Program	N/A	N/A	Yes	On-Going	Annual	$2,673	$2,673	$5,346	$2,239	$1,532	$3,771	($434)	($1,141)	($1,575)	-16%	-43%	-29%	No	No
Automation	N/A	N/A	Yes	On-Going	Annual	$36,908	$36,908	$73,816	$21,822	$22,736	$44,558	($15,086)	($14,172)	($29,258)	-41%	-38%	-40%	No	**Yes**
Cable Life Extension (CLE) Program	Underground Equipment Failure	Cable Replacement Programs (CIC)	Yes	On-Going	Annual	$0	$0	$0	$41	$66	$107	$41	$66	$107				No	No
Cable-in-Conduit (CIC) Replacement Program	Underground Equipment Failure	Cable Replacement Programs (CIC)	Yes	On-Going	Annual	$6,133	$6,133	$12,266	$6,823	$8,069	$14,892	$690	$1,936	$2,626	11%	32%	21%	No	No
Capacitor Bank Replacement Program	N/A	N/A	Yes	On-Going	Annual	$2,781	$2,781	$5,562	$3,073	$4,396	$7,469	$292	$1,615	$1,907	10%	58%	34%	No	No
DER-Driven Grid Reinforcement	N/A	N/A	Yes	(blank)	(blank)	$1,523	$1,523	$3,046	$405	$976	$1,381	($1,118)	($547)	($1,665)	-73%	-36%	-55%	No	No
Distribution Circuit Upgrades	N/A	N/A	Yes	On-Going	Annual	$44,271	$44,271	$88,542	$41,140	$58,939	$100,079	($3,131)	$14,667	$11,536	-7%	33%	13%	No	**Yes**
Distribution Claim	N/A	N/A	Yes	On-Going	Annual	$44,538	$44,538	$89,077	$42,879	$53,517	$96,396	($1,659)	$8,978	$7,319	-4%	20%	8%	No	No
Distribution Deteriorated Pole Replacement	N/A	N/A	Yes	On-Going	Annual	$213,969	$213,969	$427,938	$218,326	$210,776	$429,102	$4,357	($3,193)	$1,164	2%	-1%	0%	No	No
Distribution Fault Anticipation	N/A	N/A	Yes	Completed	Completed	$0	$0	$0	$8,362	$2,149	$10,511	$8,362	$2,149	$10,511				No	No
Distribution Plant Betterment	N/A	N/A	Yes	On-Going	Annual	$3,871	$3,871	$7,742	$21,226	$34,062	$55,288	$17,355	$30,191	$47,546	448%	780%	614%	**Yes**	**Yes**
Distribution Pole Loading Program Pole Replacement	N/A	N/A	Yes	Eleven Years (2014 - 2025)	Nine of Eleven	$267,436	$267,436	$534,872	$279,422	$349,308	$628,730	$11,986	$81,872	$93,858	4%	31%	18%	**Yes**	**Yes**
Distribution Preventive and Breakdown Capital Maintenance	N/A	N/A	Yes	On-Going	Annual	$293,061	$293,061	$586,122	$338,638	$336,659	$675,297	$45,577	$43,598	$89,175	16%	15%	15%	**Yes**	No
Distribution Storm Response Capital	N/A	N/A	Yes	On-Going	Annual	$42,910	$42,910	$85,820	$37,599	$37,172	$74,771	($5,311)	($5,738)	($11,049)	-12%	-13%	-13%	No	No
Distribution Substation Plan (DSP) Circuits	N/A	N/A	Yes	On-Going	Annual	$55,432	$55,432	$110,864	$33,207	$47,678	$80,885	($22,225)	($7,754)	($29,979)	-40%	-14%	-27%	No	No
Distribution Substation	N/A	N/A	Yes	On-Going	Annual	$65,867	$65,867	$131,734	$32,483	$51,800	$84,283	($33,384)	($14,067)	($47,451)	-51%	-21%	-36%	No	**Yes**

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
Plan Substations																			
Distribution Tools and Work Equipment	N/A	N/A	Yes	On-Going	Annual	$3,513	$3,513	$7,026	$1,971	$3,192	$5,163	($1,542)	($321)	($1,863)	-44%	-9%	-27%	No	No
Distribution Transformers	N/A	N/A	Yes	On-Going	Annual	$101,816	$101,816	$203,632	$97,069	$110,288	$207,357	($4,747)	$8,473	$3,726	-5%	8%	2%	No	No
Distribution Volt VAR Control and Capacitor Automation Program	N/A	N/A	Yes	On-Going	Annual	$2,595	$2,595	$5,190	$2,772	$1,865	$4,637	$177	($730)	($553)	7%	-28%	-11%	No	No
Distribution Wood Pole Disposal	N/A	N/A	Yes	On-Going	Annual	$4,788	$4,788	$9,576	$5,350	$6,494	$11,844	$562	$1,706	$2,268	12%	36%	24%	No	No
Engineering and Planning Software Tools	N/A	N/A	Yes	On-Going	Annual	$27,866	$27,866	$55,732	$24,463	$25,211	$49,674	($3,403)	($2,655)	($6,058)	-12%	-10%	-11%	No	No
Enhanced Overhead Inspections and Remediations	N/A	N/A	Yes	On-Going	Annual	$49,553	$43,572	$93,125	$135,028	$138,859	$273,887	$85,475	$95,287	$180,762	172%	219%	194%	**Yes**	**Yes**
Fusing Mitigation	Wildfire	Fusing Mitigation	Yes	Complete	Complete	$0	$0	$0	($479)	$56	($423)	($479)	$56	($423)	-	-	-	No	No
HFRA Sectionalizing Devices	Wildfire	Remote-Controlled Automatic Reclosers and Fast Curve Settings	Yes	On-Going	Annual	$5,334	$5,518	$10,852	$7,891	$17,586	$25,477	$2,557	$12,068	$14,625	48%	219%	135%	No	**Yes**
Meter System Maintenance Design	N/A	N/A	Yes	On-Going	Annual	$922	$922	$1,844	$384	$374	$758	($538)	($548)	($1,086)	-58%	-59%	-59%	No	No
New Capacitors	N/A	N/A	Yes	On-Going	Annual	$3,783	$3,783	$7,566	$3,085	$2,686	$5,771	($698)	($1,097)	($1,795)	-18%	-29%	-24%	No	No
Overhead Conductor Program (OCP)	Contact with Energized Equipment	Overhead Conductor Program (OCP)	Yes	On-Going	Annual	$72,641	$72,641	$145,282	$84,713	$74,101	$158,814	$12,072	$1,461	$13,533	17%	2%	9%	No	No
PCB Transformer Removal	N/A	N/A	Yes	On-Going	Annual	$1,990	$1,990	$3,980	$2,284	$1,498	$3,782	$294	($491)	($197)	15%	-25%	-5%	No	No
Prefabrication	N/A	N/A	Yes	On-Going	Annual	$22,935	$22,935	$45,870	$17,195	$18,665	$35,860	($5,740)	($4,271)	($10,011)	-25%	-19%	-22%	No	No
Preventive Maintenance	N/A	N/A	Yes	On-Going	Annual	$48,595	$48,595	$97,190	$61,373	$45,692	$107,065	$12,778	($2,902)	$9,876	26%	-6%	10%	No	No
PSPS Execution	Wildfire	PSPS Protocol and Support Functions	Yes	On-Going	Annual	$756	$0	$756	$3,309	$5,876	$9,185	$2,553	$5,876	$8,429	338%	-	1115%	No	No
Streetlight Maintenance and LED Conversions	N/A	N/A	Yes	On-Going	Annual	$51,549	$51,549	$103,098	$45,836	$34,734	$80,570	($5,713)	($16,816)	($22,529)	-11%	-33%	-22%	No	**Yes**
Substation Emergency Equipment	N/A	N/A	Yes	On-Going	Annual	$24,704	$24,704	$49,408	$24,119	$16,677	$40,796	($585)	($8,027)	($8,612)	-2%	-32%	-17%	No	No
Substation Equipment Replacement Program	N/A	N/A	Yes	On-Going	Annual	$37,680	$37,680	$75,360	$22,908	$12,119	$35,027	($14,772)	($25,561)	($40,333)	-39%	-68%	-54%	**Yes**	**Yes**
Substation Tools and	N/A	N/A	Yes	On-Going	Annual	$7,741	$7,741	$15,482	$5,762	$8,049	$13,811	($1,979)	$308	($1,671)	-26%	4%	-11%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Work Equipment																			
Underground Structure Replacements	N/A	Non-RAMP	No	On-Going	Annual	$5,265	$5,265	$10,530	$18,846	$13,298	$32,144	$13,581	$8,033	$21,614	258%	153%	205%	No	No
Underground Structure Replacements	N/A	Total	Yes	On-Going	Annual	$13,887	$13,887	$27,774	$26,453	$20,588	$47,041	$12,566	$6,701	$19,267	90%	48%	69%	No	No
Underground Structure Replacements	Underground Equipment Failure	Cover Pressure Relief and Restraint (CPRR) Program	No	On-Going	Annual	$8,622	$8,622	$17,244	$7,607	$7,290	$14,897	($1,015)	($1,332)	($2,347)	-12%	-15%	-14%	No	No
Underground Switch Replacements	Underground Equipment Failure	UG Oil Switch Replacement Program	Yes	On-Going	Annual	$2,705	$2,705	$5,410	$3,230	$4,524	$7,754	$525	$1,819	$2,344	19%	67%	43%	No	No
Undergrounding	N/A	N/A	Yes	On-Going	Annual	$23,047	$43,713	$66,760	$6,586	$29,704	$36,290	($16,461)	($14,008)	($30,469)	-71%	-32%	-46%	No	**Yes**
Wildfire Covered Conductor Program	Wildfire	Wildfire Covered Conductor Program	Yes	On-Going	Annual	$557,495	$580,066	$1,137,561	$919,542	$808,573	$1,728,115	$362,047	$228,507	$590,554	65%	39%	52%	**Yes**	**Yes**
Worst Circuit Rehabilitation (WCR)	Underground Equipment Failure	Worst Circuit Rehabilitation (WCR)	Yes	On-Going	Annual	$7,127	$7,127	$14,254	$18,764	$6,049	$24,813	$11,637	($1,077)	$10,560	163%	-15%	74%	No	No

Table IX-14
Distribution Capital Expenditure Category Activity Unit Variance Calculations

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
4 kV Cutovers	N/A	N/A	# of Transformers Removed	159	159	318	393	326	719	234	167	401	147%	105%	126%	**Yes**
4 kV Cutovers - Load Growth Driven	N/A	N/A	# of Transformers Removed – SCE did not provide a specific unit count in GRC testimony or workpapers for 2021.													No
4 kV Substation Eliminations	N/A	N/A	# of 4 kV Substations Removed	6	6	12	3	1	4	-3	-5	-8	-50%	-83%	-67%	**Yes**
Automatic Reclosers Replacement Program	N/A	N/A	# of Automatic Reclosers Replaced	31	31	62	12	14	26	-19	-17	-36	-61%	-55%	-58%	**Yes**
Automation	N/A	N/A	This includes multiple sub-programs that vary in unit types. Therefore, providing one unit type is not feasible.													No
Cable Life Extension (CLE) Program	Underground Equipment Failure	Cable Replacement Programs (CIC)	SCE did not request this GRC activity in our Test Year 2021 GRC.													No
Cable-in-Conduit (CIC) Replacement Program	Underground Equipment Failure	Cable Replacement Programs (CIC)	Conductor Miles Replaced	18	18	36	34	28.2	62.2	16	10.2	26.2	89%	57%	73%	**Yes**
Capacitor Bank Replacement Program	N/A	N/A	# of Capacitor Banks Replaced	70	70	140	54	86	140	-16	16	0	-23%	23%	0%	**Yes**
DER-Driven Grid Reinforcement	N/A	N/A	This activity is comprised of SCE's Sub transmission Relay Upgrade and is not unit based.													No
Distribution Circuit Upgrades	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Distribution Claim	N/A	N/A	This activity is driven by factors outside of SCE's control and that can vary significantly from year to year. Accordingly, the capital forecast is based on historical average of recorded expenditures and is not unit based.													No
Distribution Deteriorated Pole Replacement	N/A	N/A	# of Distribution Pole Replacements	10513	10513	21026	9983	9520	19503	-530	-993	-1523	-5%	-9%	-7%	No
Distribution Fault Anticipation	N/A	N/A	# of HFRA Circuits	0	0	0	130	0	130	130	0	130				No
Distribution Plant Betterment	N/A	N/A	As the work can vary in this activity, the forecasted spend used a historical average of completed projects and is not unit based.													No
Distribution Pole Loading Program Pole Replacement	N/A	N/A	# of Distribution Pole Replacements	14187	14187	28374	11629	14306	25935	-2558	119	-2439	-18%	1%	-9%	No
Distribution Preventive and Breakdown Capital Maintenance	N/A	N/A	The annual costs vary from year-to-year based on the volume of preventive and breakdown maintenance items found during inspections, as well as the complexity of the required repair. Given this, SCE used recorded data to forecast this activity.													No
Distribution Storm Response Capital	N/A	N/A	Storm events are driven by weather and other environmental factors outside of SCE's control and that can vary significantly from year to year. Accordingly, the capital forecast for Storm Response is based on a five-year average of recorded expenditures and is not unit based.													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Distribution Substation Plan (DSP) Circuits	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Distribution Substation Plan Substations	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Distribution Tools and Work Equipment	N/A	N/A	The variety of tool and work equipment in this category makes it infeasible to identify a single unit of measurement.													No
Distribution Transformers	N/A	N/A	# of Distribution Transformers	21,654	21,654	43,308	27,161	21,524	48,685	5,507	-130	5,377	25%	-1%	12%	No
Distribution Volt VAR Control and Capacitor Automation Program	N/A	N/A	# of Programmable Capacitor Controls Replaced	450	450	900	524	216	740	74	-234	-160	16%	-52%	-18%	**Yes**
Distribution Wood Pole Disposal	N/A	N/A	The forecast for this activity is based on the number of pole replacements and the disposal unit cost. The unit cost is based on a five-year average. A five-year average was selected because the cost varies and is difficult to predict													No
Engineering and Planning Software Tools	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Enhanced Overhead Inspections and Remediations	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Fusing Mitigation	Wildfire	Fusing Mitigation	# of Current Limiting Fuses (SCE did not get authorization for this in the TY 2021 GRC)													No
HFRA Sectionalizing Devices	Wildfire	Remote-Controlled Automatic Reclosers and Fast Curve Settings	# of CB Relay Hardware for Fast Curve	34	34	68	95	117	212	61	83	144	179%	244%	212%	**Yes**
Meter System Maintenance Design	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
New Capacitors	N/A	N/A	SCE did not provide a specific unit count in GRC testimony or workpapers for 2021.													No
Overhead Conductor Program (OCP)	Contact with Energized Equipment	Overhead Conductor Program (OCP)	Conductor Miles	367	367	734	344	280.35	624.35	-23	-86.65	-109.65	-6%	-24%	-15%	**Yes**
PCB Transformer Removal	N/A	N/A	# of PCB Contaminated Transformers Replaced	250	250	500	202	107	309	-48	-143	-191	-19%	-57%	-38%	**Yes**
Prefabrication	N/A	N/A	This activity comprises multiple types of work activities, and therefore providing a single work unit is not feasible.													No
Preventive Maintenance	N/A	N/A	These costs can vary from year to year, accordingly, the capital forecast for is based on a five-year average of recorded expenditures and is not unit based.													No
PSPS Execution	Wildfire	PSPS Protocol and Support Functions	This activity comprises multiple types of work activities, and therefore providing a single work unit is not feasible.													No
Streetlight Maintenance and LED Conversions	N/A	N/A	# of Streetlight Replacements and LED Conversions	76,300	76,300	152,600	63,996	32,921	96,917	-12,304	-43,379	-55,683	-16%	-57%	-36%	**Yes**

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Substation Emergency Equipment	N/A	N/A	This activity comprises multiple types of work activities, and therefore providing a single work unit is not feasible.													No
Substation Equipment Replacement Program	N/A	N/A	# of Substation Circuit Breakers Replaced	217	217	434	188	43	231	-29	-174	-203	-13%	-80%	-47%	**Yes**
Substation Tools and Work Equipment	N/A	N/A	The variety of tool and work equipment in this category makes it infeasible to identify a single unit of measurement.													No
Underground Structure Replacements	N/A	Non-RAMP	# of Underground Structure Replacements	25	25	50	33	24	57	8	-1	7	32%	-4%	14%	No
Underground Structure Replacements	N/A	Total	# of Underground Structure Replacements, # of CPRR Installed	383	383	766	388	349	737	5	-34	-29	1%	-9%	-4%	No
Underground Structure Replacements	Underground Equipment Failure	Cover Pressure Relief and Restraint (CPRR) Program	# of CPRR Installed	347	347	694	355	325	680	8	-22	-14	2%	-6%	-2%	No
Underground Switch Replacements	Underground Equipment Failure	UG Oil Switch Replacement Program	# of Underground Switch Replacements	24	24	48	39	26	65	15	2	17	63%	8%	35%	No
Undergrounding	N/A	N/A	# of Circuit Miles	6	11	17	5.5	11	16.5	-0.5	0	-0.5	-8%	0%	-3%	No
Wildfire Covered Conductor Program	Wildfire	Wildfire Covered Conductor Program	# of Conductor Miles Replaced with Covered Conductor	1,043	1,000	2,043	1,427	1,356	2,783	384	356	740	37%	36%	36%	**Yes**
Worst Circuit Rehabilitation (WCR)	Underground Equipment Failure	Worst Circuit Rehabilitation (WCR)	# of Conductor Miles	15	15	30	58	7.7	65.7	43	-7.3	35.7	287%	-49%	119%	**Yes**

3. Variance Explanations

Table IX-15 below provides the variance explanations for those GRC activities meeting the established thresholds.[34]

[34] Column W indicates if the dollar variance was exceeded, Column X indicates if the dollar variance subject to a percentage was exceeded and Column AL indicates if the unit variance was exceeded.

Table IX-15
Distribution Capital Expenditure Category Activity Variance Explanations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
4 kV Cutovers	No	**Yes**	**Yes**	The difference in recorded costs and units for the 4 kV Cutover Program is attributable to the need to address emergent capacity constraints and the higher overall unit costs associated with supply chain impacts following the COVID-19 pandemic. As mentioned in both SCE's 2021 and 2025 GRCs, the 4kV program will vary due to the specific scope of work completed in any given year.[35] [36]
4 kV Substation Eliminations	No	No	**Yes**	In 2022, SCE experienced labor and construction costs above what was originally forecast in the Test Year 2021 GRC. The increase in these factors is the primary driver for the overspend in 2022. While SCE has not fully executed all projected scope, these eliminations are multi-year projects and therefore as noted, SCE experienced material and supply constraints which are contributing to the lower full execution levels.
Automatic Reclosers Replacement Program	No	No	**Yes**	The removal of ARs in 2022 was less than authorized due to the cancellation of certain projects by customers. In the TY 2021 GRC, SCE targeted oil-filled ARs, however in the 2025-2028 GRC cycle SCE is prudently expanding the scope to target the remaining oil-filled ARs, older vacuum ARs, and vacuum-filled interrupters.
Automation	No	**Yes**	No	In 2022, capital expenditures for Automation were approximately $14 million below the authorized amount. Recorded expenditures for each Automation workstream were lower than the Commission-authorized amounts for multiple reasons. Recorded expenditures for Reliability-driven Distribution Automation were lower than authorized due to reprioritization of labor resources to other higher priority distribution work, including wildfire prevention measures. While SCE's 2021 GRC request for distribution automation accounted for this prioritization of wildfire mitigation activities over other types of distribution work, the resource impact to Reliability-driven Distribution Automation proved

[35] *See* A.19-08-013, SCE Test Year 2021 GRC, Exhibit SCE-02, Vol. 01, Pt. 1, p. 15.
[36] *See* A.23-05-010, SCE Test Year 2025 GRC, Exhibit SCE-02, Vol.01, Pt. 2, p.25.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				greater than SCE expected when preparing the 2021 GRC request. SCE plans to accelerate Reliability-driven Distribution Automation deployments beginning in 2025. Recorded expenditures for DER-driven Distribution Automation were lower than authorized due to the delay in completing the Small-scale Deployment of overhead, padmounted, and underground Remote Fault Indicator (RFI) solutions. SCE now plans to install these devices for all distribution automation deployments once the Small-scale Deployments conclude in 2023. Recorded expenditures for Small-scale Deployments were lower than authorized due to fewer device deployments, which was caused by a lower number of new devices emerging from demonstration (as part of the Electric Program Investment Charge (EPIC) program), limited distribution resources to perform the installations due to the prioritization of wildfire prevention work, and, to a lesser extent, challenges identified with devices during lab testing prior to the field pilot. Finally, recorded DER-driven Substation Automation expenditures were lower than authorized due to vendor delays in delivering the substation equipment, which impacted the construction schedule for multiple substations.
Cable-in-Conduit (CIC) Replacement Program	No	No	**Yes**	SCE had a sizeable amount of scoped work for 2021 that continued into 2022. The continuation of Cable-in-Conduit (CIC) projects scoped for 2021 into 2022, resulted in SCE completing additional units above the amount forecast for 2022.
Capacitor Bank Replacement Program	No	No	**Yes**	The additional units completed in 2022 is driven by the replacement of capacitor banks that were originally forecast and scoped for completion in 2021, but that were not fully completed until 2022.
Distribution Circuit Upgrades	No	**Yes**	No	SCE recorded over authorized for Distribution Circuit Upgrades in 2022. As noted in the TY 2021 GRC testimony, for 2021-2023, SCE used a growth ratio[37] to calculate the proportion of capital expenditure needed in a year relative to the forecast load growth in that year for this GRC activity. The growth ratio is calculated for each year using two key variables: 1) the costs of completed or planned distribution circuit upgrades from a given year and 2) its

[37] Additional details on the growth ratio can be found in WP SCE-02 Vol. 04 Pt. 2, Ch. II – Book A - pp. 32 – 33 – Distribution Circuit Upgrades Forecast Methodology.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				corresponding load growth assumption. Therefore, SCE expects the annual spend to vary year to year, with 2021 having a slight underspend and 2022 an overspend. Some of the factors contributing to the overspend in 2022 include higher construction design contractor and material costs for several projects.
Distribution Plant Betterment	**Yes**	**Yes**	No	SCE forecasted this work in our TY 2021 GRC using a historical average. In 2022, similar to 2021, SCE experienced a higher volume of work and spend due to greater than average distribution projects performed by the regions compared to the historical averages. For example, SCE executed regional grid team work that would not have been part of our 2022 forecast. Additionally, SCE spent money as part of a remote grid project and pilot projects that were also not part of our 2022 forecast. These projects primarily focused on addressing voltage problems and related to new protection devices and switches. These projects are necessary for SCE to provide safe and reliable power.
Distribution Pole Loading Program Pole Replacement	**Yes**	**Yes**	No	The spend over authorized can be attributed to higher unit costs due to higher environmental and permitting expenses, higher survey costs, and higher construction costs. In addition, the inflation-driven increase in material prices further contributed to the increased unit costs.
Distribution Preventive and Breakdown Capital Maintenance	**Yes**	No	No	The overrun for Capital Preventive and Breakdown Maintenance was driven primarily by Pole Related Maintenance Splice (PRMS) work. The PRMS activity includes splice work that is identified during pole replacement design. When the splice is beyond the one-span threshold to be considered pole replacement work, the activity is then considered preventive maintenance work. This was not forecast as part of the 2021 GRC and had a total of $32.6 million in spend for 2022. Other impacts to the overrun include greater reliance on contractor resources, more work being completed on premium time, and use of contractor time and expense pay (which is higher than unit price work). “Time and expense rates” are used in place of unit price contracts when an activity has a constrained timeline, the scope is difficult to ascertain, or unique circumstances are present where the defined units do not align with work being performed.
Distribution Substation Plan Substations	No	**Yes**	No	SCE recorded lower than authorized in 2022. However, it should be noted that the majority of the variance between the authorized and the recorded amounts is related to the escalation methodology authorized in SCE’s 2021 GRC compared to SCE’s 2021 GRC request. In SCE’s TY 2021 GRC, SCE’s 2022 request was approximately $39 million. However, the escalation methodology authorized in SCE’s 2021 GRC provided a flat escalation rate to the 2021 authorized capital expenditures, which is why $65.9 million is shown as authorized in 2022 for this GRC activity.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				The primary reason that SCE spent more in 2022 than it forecast in its 2021 GRC, was because SCE recorded expenditures in 2022 of approximately $22 million ($10 million over the 2022 forecast) associated with the Garnet 115/33 kV substation upgrade due to the deferral of that project compared to the TY 2021 GRC forecast operating date. In addition to the Garnet substation, SCE has also experienced delays in several other projects including, Edwards 115/33 kV Substation and Lee Vining 115/55 kV Hydro Substation resulting in 2022 recorded dollars that were not originally forecasted in the TY 2021 GRC.
Distribution Volt VAR Control and Capacitor Automation Program	No	No	**Yes**	SCE underspent and executed in the DVVC program due to less available resources available to perform job walks that identify the locations for DVVC replacements.
Enhanced Overhead Inspections and Remediations	**Yes**	**Yes**	No	In 2022, SCE completed repairs and replacements identified through risk-informed and compliance-based inspections, including ground-based, aerial, and infrared, and prioritized those repairs based on regulatory compliance due dates. When scheduling and performing compliance-driven remediation work, SCE also considers work bundling, outage requirements, permitting restrictions, crew availability, and specialty equipment needs. SCE continues to bundle the work at the structure and circuit segment levels to the extent feasible for economic efficiency and to minimize the impact of remediation work on customers, as well as to reduce the volume of repeat outages, road closures and traffic restrictions. In certain cases, this resulted in future-year scope being accelerated in advance of the established compliance due date (e.g., pole replacement being accelerated from a future year to align with a crossarm replacement due in the current year). Additionally, there were several earlier-year due notifications that were not completed due to prior-year operating constraints such as resource availability, permitting delays, and weather deferrals. This contributed to SCE's increased spending compared to the authorized level of spending.
HFRA Sectionalizing Devices	No	**Yes**	**Yes**	In 2022, SCE increased HFRA sectionalizing device work relative to 2022 authorized levels to more quickly mitigate wildfire risk. This work, which allows for fast curve settings to be applied to the system to increase the speed that it can detect and react to faults, helps to limit the potential for utility-caused ignitions. This activity also includes the installation of new Remote Automated Reclosers (RARs) and Remote Controlled Switches (RCSs) which allow SCE to sectionalize circuits into smaller portions, limiting the potential size of de-energizations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	$ Threshold Variance Explanation	% / $ Variance Explanation	Unit Variance Explanation	Variance Explanation
				and outages. This work was targeted towards future PSPS mitigation on frequently impacted circuits, which were not known to SCE at the time of initial GRC filing. Several projects, including 12 relay units, were impacted by inclement weather and fires, which introduced delays causing those units to be scheduled for 2023. However, the majority of costs for those projects were incurred in 2022 and contributed to the overspend in 2022. Overall in 2022, SCE was able to complete 117 units and saw increasing costs in line with that increase in activity scope.
Overhead Conductor Program (OCP)	No	No	**Yes**	The OCP Program experienced higher unit costs, primarily driven by increased material and labor costs springing from inflationary pressures and global supply chain challenges. This increase in material costs and supply chain constraints primarily led to the unit variance from forecast.
PCB Transformer Removal	No	No	**Yes**	The demand for power transformers, coupled with supply chain constraints, increased the individual cost per unit. The limited supply of assets also decreased SCE's ability to execute projected scope in 2022.
Streetlight Maintenance and LED Conversions	No	**Yes**	**Yes**	The underrun for this activity can be attributed to multiple factors. There was a reduction in LED conversions due to LED supply chain issues, leading to materials being delayed and a lower-than-expected number of cities signing up for LED conversion. Additionally, SCE has experienced city permit and supply chain issues, resulting in postponed delivery and material delays on wires. No new SmartSensor pilot programs were initiated in 2022. Notifications were lower due to less work turned in by districts (less Street Light maintenance works performed because of the installation of LED). There was also a reduction in fixture units.
Substation Equipment Replacement Program	**Yes**	**Yes**	**Yes**	SCE recorded lower than authorized in 2022 in terms of actual spend and corresponding work units. However, it should be noted that this variance between the authorized and the recorded amounts is due to the Post Test Year escalation methodology authorized in SCE's 2021 GRC, which was not based on SCE's Post Test Year forecasts. In SCE's TY 2021 GRC, SCE's 2022 forecast was approximately $7 million to replace 31 circuit breakers. However, the escalation methodology authorized in SCE's 2021 GRC provided a flat escalation rate to the 2021 authorized capital expenditures, which is why the authorized amount in 2022 for this activity is the $37.7 million shown. SCE recorded approximately $5 million more than the $7 million forecast for 2022 due to the replacement of 12 additional circuit breakers beyond the 2022 forecast in our TY 2021 GRC.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Undergrounding	No	**Yes**	No	SCE's capital expenditure incurred in 2022 was associated with construction costs for the approximately 11 miles completed in 2022, as well as material and design/planning costs for plan years 2023-2024. When SCE's 2021 GRC Track 1 Application was developed in 2019, SCE's initial estimated unit costs were based on completed Rule 20A projects, which include undergrounding overhead equipment such as primaries, secondaries, services and telecommunication wires with various levels of difficulty to construct, such as Brea and Fullerton to Lake Elsinore and Mammoth Lakes. However, the completed Targeted Undergrounding (TUG) projects in 2022 had a low level of difficulty to construct (e.g., Riverside County), which is the primary reason for the cost difference. Those projects also did not include secondaries, services, or telecommunication wires and thus resulted in lower costs. Undergrounding costs per mile for distribution voltages can vary significantly based on population density, topography, permitting and environmental clearances, paving, and labor (e.g., SCE labor vs. contract resources). The initial miles SCE converted to an underground system in 2022 were located in sparsely populated areas. The topographical conditions of the selected miles were less expensive on a per-mile basis compared to steep, hilly terrain that are generally found in other parts of SCE's service area. Minimal bends and obstacles reduced the need for additional re-routing circuitry for the underground conversion. The projects generally had no curbs or gutters, decreasing the need to re-pave after the underground installation was complete. Therefore, the costs incurred to implement these projects may not be representative of the costs that SCE will incur to complete future TUG projects.
Wildfire Covered Conductor Program	**Yes**	**Yes**	**Yes**	SCE spent above the amount authorized in the Track 1 GRC decision for Wildfire Covered Conductor Program (WCCP) partially due to increased unit costs. SCE experienced higher unit costs driven by work in certain SCE regions such as North Coast and Rurals, where higher unit costs than initially anticipated were driven by the mountainous areas for which contractors' rates were higher than those in other flat-terrain areas. Increased costs were also incurred due to the execution of more miles than the imputed authorized miles, which was critical to continue to buy down wildfire potential on scoped circuits within SCE's high fire risk areas.
Worst Circuit Rehabilitation (WCR)	No	No	**Yes**	SCE completed less units than forecast in 2022, in light of the necessity of addressing activities to help mitigate wildfire ignition threats. SCE notes that the cumulative 2021 and 2022 data is generally in line with the two-year authorized numbers.

4. Activity Status

Table IX-16 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

Table IX-16
Distribution Expenditure Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
4 kV Cutovers	On-Going	Annual	Over	On-Target	Over	Expanded	While we are proceeding as generally planned, as noted in our variance explanation we have completed additional units beyond our 2022 forecast to meet emergent needs.
4 kV Cutovers - Load Growth Driven	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
4 kV Substation Eliminations	On-Going	Annual	Under	Under	On-Target	Partially Delayed	In 2022, SCE experienced labor and construction costs above what was originally forecast in 2021. The increase in these factors is the primary driver of this variance. While SCE has not fully executed all projected scope, these eliminations are multi-year projects and therefore as noted, SCE experienced material and supply constraints which are contributing to the lower full execution levels.
Automatic Reclosers Replacement Program	On-Going	Annual	Under	Under	Under	Partially Delayed	While SCE is generally proceeding as planned. As noted in our variance explanation, SCE did cancel some projects based on customer requests.
Automation	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanation, recorded capital

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
							expenditures for each Automation workstream were lower than the Commission-authorized amounts for multiple reasons. Please refer to our variance explanation for additional details on the drivers for the underspend and under execution.
Cable Life Extension (CLE) Program	N/A	N/A	N/A	N/A	N/A	N/A	SCE did not request this program in the TY 2021 GRC. However, there were some minor roll over costs recorded in 2022.
Cable-in-Conduit (CIC) Replacement Program	On-Going	Annual	Over	On-Target	On-Target	Proceeding as Planned	SCE had a sizeable amount of scoped work for 2021 that continued into 2022. The continuation of Cable-in-Conduit (CIC) projects scoped for 2021 into 2022, resulted in SCE completing additional units above the amount forecast for 2022 but is overall generally proceeding as planned to the four-year cycle.
Capacitor Bank Replacement Program	On-Going	Annual	On-Target	On-Target	Over	Proceeding as Planned	SCE is generally proceeding as planned. In 2021 and 2022 combined, SCE executed to the authorized units, however we are experiencing slightly higher overall costs.
DER-Driven Grid Reinforcement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Circuit Upgrades	On-Going	Annual	On-Target	On-Target	Over	Proceeding as Planned	SCE is proceeding as generally planned and is executing these

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
							upgrades. Refer to variance explanation for cost pressures.
Distribution Claim	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Deteriorated Pole Replacement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Fault Anticipation	Completed	Completed	On-Target	On-Target	On-Target	Completed	SCE does not currently have any additional scope for this program planned.
Distribution Plant Betterment	On-Going	Annual	Over	Over	Over	Emergent	As noted in our variance explanation, SCE has emergent work associated with this GRC activity that was not part of our TY 2021 GRC request.
Distribution Pole Loading Program Pole Replacement	Eleven Years (2014 - 2025)	Nine of Eleven	On-Target	On-Target	Over	Proceeding as Planned	SCE is on schedule to complete this program by 2025, however costs are exceeding forecast. Refer to Variance explanation for more details.
Distribution Preventive and Breakdown Capital Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	Overall SCE is proceeding as planned. As some of the costs are associated with asset breakdowns, the costs can vary year to year and may exceed authorized in some years.
Distribution Storm Response Capital	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Substation Plan (DSP) Circuits	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Substation Plan Substations	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanation, SCE is experiencing delays in several projects.

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Distribution Tools and Work Equipment	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Transformers	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Distribution Volt VAR Control and Capacitor Automation Program	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanation SCE is behind in our installation in the DVVC program and will attempt to catch up on this work during this GRC cycle.
Distribution Wood Pole Disposal	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Engineering and Planning Software Tools	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Enhanced Overhead Inspections and Remediations	On-Going	Annual	Over	On-Target	Over	Emergent	While SCE is generally proceeding as planned and executing the work in this activity, there is emergent work that is contributing to the overspend. Please refer to the variance explanation for details on the emergent scope and costs associated with Enhanced Overhead Inspections and Remediations.
Fusing Mitigation	Completed	Completed	Completed	Completed	Completed	Completed	N/A
HFRA Sectionalizing Devices	On-Going	Annual	Over	On-Target	Over	Expanded	In 2022, SCE increased HFRA sectionalizing device work relative to 2022 authorized levels to more quickly mitigate wildfire risk. This work was targeted towards future PSPS

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
							mitigation on frequently impacted circuits, which were not known to SCE at the time of initial GRC filing.
Meter System Maintenance Design	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
New Capacitors	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Overhead Conductor Program (OCP)	On-Going	Annual	Under	On-Target	Over	Partially Delayed	The OCP Program experienced higher unit costs, primarily driven by increased material and labor costs springing from inflationary pressures and global supply chain challenges. This increase in material costs and supply chain constraints primarily led to the unit variance from forecast.
PCB Transformer Removal	On-Going	Annual	Under	Under	Over	Partially Delayed	The demand for power transformers, coupled with supply chain constraints, increased the individual cost per unit. The limited supply of assets also decreased SCE's ability to execute our projected scope in 2022.
Prefabrication	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Preventive Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
PSPS Execution	On-Going	Annual	Over	On-Target	Over	Emergent	This work includes PSPS website improvements and line patrols that were not part of the TY 2021 GRC request.

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Streetlight Maintenance and LED Conversions	On-Going	Annual	Under	Under	Under	Partially Delayed	While SCE is generally proceeding as planned, we are seeing some delays. However, the underrun for this activity can be attributed to multiple factors as mentioned in our variance explanation, some of which are out of SCE's control.
Substation Emergency Equipment	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Substation Equipment Replacement Program	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	As noted in our variance explanation, the perceived underspend and execution is a result of the Post Test Year Escalation methodology. SCE is proceeding as generally planned with our Test Year 2021 GRC forecast.
Substation Tools and Work Equipment	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Underground Structure Replacements	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Underground Switch Replacements	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Undergrounding	On-Going	Annual	On-Target	On-Target	Under	Proceeding as Planned	SCE is proceeding as generally planned. Further details on the underspend are included in our variance explanation.
Wildfire Covered Conductor Program	On-Going	Annual	Over	Over	Over	Proceeding as Planned	SCE is proceeding as generally planned. While SCE is executing more miles than the

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
							imputed authorized miles, SCE believes this is critical to continue to buy down wildfire potential on scoped circuits within SCE's high fire risk areas.
Worst Circuit Rehabilitation (WCR)	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	SCE is generally proceeding as planned. SCE notes that the cumulative 2021 and 2022 data is generally in line with the two-year authorized numbers.

X.

TRANSMISSION CATEGORY

A. Expensed Programs

1. GRC Activity and Unit Description Table

For the Transmission expense activities that are SAR-eligible, Table X-17 below provides the 2021 GRC testimony citation and activity description and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table X-17
Transmission Expense Category Activity Description and Background Information

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Equipment Washing	Includes the cost of labor, materials used, and expenses incurred in performing the equipment washing activity at distribution and transmission substations.	SCE-02 Vol: 3	WPSCE02V3 pp. 86 - 92	N/A	N/A
Insulator Washing	Includes the costs of labor for proactive maintenance on transmission line insulators by washing. Insulator washing is performed by spraying high-pressure water onto insulators to remove contaminants such as salt, dirt, or automobile exhaust. Excessive contamination on an insulator reduces its ability to insulate the energized line from the grounded support structure. Excess contamination and debris can cause an energized circuit to short circuit. Includes related costs such as: transportation expenses, meals, traveling, lodging, and incidental expenses.	SCE-02 Vol: 2	WPSCE02V02A pp. 32 - 38	N/A	N/A
Monitoring Bulk Power System	Transmission and Distribution Grid Operations activities including Management and Operation of the Grid Control Center. Includes the cost of labor and other expenses incurred by SCE's centralized control centers for real time electric operations encompassing transmission and distribution systems. Activities include: execution of California Independent System Operator (CAISO) instructions regarding the operations of the SCE electrical system under CAISO operational control; develop and maintain switching procedures under CAISO purview; coordinate planned outages consistent with CAISO approval; and maintaining situation awareness. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense. Also includes Informational Technology as Grid Network Solutions is responsible for the overall health and performance of SCE's communications network and Supervisory Control and Data Acquisition (SCADA)	SCE-02 Vol: 3	WPSCE02V3 pp.3 - 8	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	systems used to monitor and control the company's electric grid and conduct daily business operations..				
Roads and Rights of Way	Includes the costs of labor, materials and expenses incurred in performing brushing and clearing activities to maintain transmission roads and right-of-way. Includes related costs such as: transportation expenses, meals, traveling, lodging, and incidental expenses.	SCE-02 Vol: 2	WPSCE02V02A pp. 39 - 45	N/A	N/A
Telecommunication Inspection and Maintenance	Includes the costs of labor, materials and expenses incurred in performing the following activities: telecommunication line patrols, proactive maintenance, breakdown maintenance, storm response, claims resolution and relocation activities. Includes related costs such as transportation expenses, meals, traveling, lodging, and incidental expenses.	SCE-02 Vol: 2	WPSCE02V02A pp. 46 - 54	N/A	N/A
Transformer Inspections and Maintenance	Includes the cost of labor, materials used, and expenses incurred in performing the inspection and maintenance of transformers at distribution and transmission substations.	SCE-02 Vol: 3	WPSCE02V3 pp. 58 - 64	N/A	N/A
Transmission Intrusive Pole Inspections	The costs incurred for intrusive pole inspections of transmission poles. Intrusive inspections require inspectors with proper training and experience to drill into the pole's exterior to identify and measure the extent of internal decay which is typically undetectable with external observation alone. Inspectors also does a visual inspection of the exterior of the pole to check for damage.	SCE-02 Vol: 5	WPSCE02V5, pp. 25-32	N/A	N/A
Transmission Line Patrols	Includes the cost of labor and expenses incurred in the inspection of transmission lines. Includes labor for activities such as routine line patrolling and overhead detailed inspections. Includes related costs such as transportation expenses, meals, traveling, lodging, incidental expenses, division overhead and supply and tool expense.	SCE-02 Vol: 2	WPSCE02V02A pp. 3 - 9	N/A	N/A
Transmission Line Rating Remediation (TLRR)	Includes the cost of labor, materials used and expenses incurred to remediate line clearance discrepancies. Includes related costs such as transportation expenses, meals, traveling, lodging, and incidental expenses.	SCE-02 Vol: 2	WPSCE02V02A pp. 71 - 79	N/A	N/A
Transmission O&M Maintenance	Includes the cost of labor, materials used and expenses incurred in the maintenance of transmission lines, such as	SCE-02 Vol: 2	WPSCE02V02A pp. 21 - 31	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	preventive, reactive and breakdown maintenance. Includes related costs such as transportation expenses, meals, traveling, lodging, incidental expenses, division overhead and supply and tool expense.				
Transmission Pole Loading Assessments	The cost incurred in performing pole loading assessments on transmission poles, including pole loading calculations. Through assessments, poles that do not meet GO 95 loading, temperature and safety factor requirements or, in areas with known local conditions such as high winds and SCE's loading, will be identified for repair or replacement.	SCE-02 Vol: 5	WPSCE02V5, pp. 10-15	N/A	N/A
Transmission Pole Loading Repairs	The cost incurred to make repairs to transmission poles as part of the Pole Loading Program. Repairs involve the design and installation or modification of guy wires.	SCE-02 Vol: 5	WPSCE02V5, pp. 226-231	N/A	N/A
Transmission Request for Attachment Inspections	Costs for Pre Inspections and Final Inspections of transmission renter attachments to poles.	SCE-02 Vol: 5	WPSCE02V5, pp. 272-277	N/A	N/A
Transmission Routine Vegetation Management	Expenses incurred for activities include pre-inspections, trimming and removal of trees, expanded clearance distances, back-end quality assurance/checks; pole-brushing work, supplemental patrols, and substation-associated vegetation management work around transmission assets	SCE-02 Vol: 6	WPSCE02V06A pp. 130 - 160	N/A	N/A
Transmission Underground Structure Inspection	SCE's underground lines and vaults require routine inspections to detect and remedy any degradation that may lead to safety hazards or system reliability issues. Inspections of the underground components, which include vaults, cable, splices, and shield arrestors, are performed at least once every three years in compliance with CPUC GO 165. Also included in this activity are SCE's Underground Service Alert (USA) location requests.	SCE-02 Vol: 2	WPSCE02V02A pp. 12 - 20	N/A	N/A

2. GRC Activities Dollar and Unit Variance Calculations

Table X-18 and Table X-19 below provide the authorized and recorded costs, and variance and percentage change values for each Transmission expense activity in terms of dollars and units. These tables also indicate whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table X-18
Transmission Expense Category Activity Dollar Variance Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
Equipment Washing	N/A	N/A	Yes	On-Going	Annual	$1,381	$1,424	$2,805	$1,268	$1,600	$2,868	($113)	$177	$64	-8%	12%	2%	No	No
Insulator Washing	N/A	N/A	Yes	On-Going	Annual	$820	$844	$1,664	$694	$467	$1,161	($126)	($378)	($504)	-15%	-45%	-30%	No	No
Monitoring Bulk Power System	N/A	N/A	Yes	On-Going	Annual	$56,667	$58,164	$114,831	$45,294	$49,073	$94,367	($11,373)	($9,091)	($20,464)	-20%	-16%	-18%	No	No
Roads and Rights of Way	N/A	N/A	Yes	On-Going	Annual	$4,813	$4,948	$9,761	$6,559	$6,252	$12,811	$1,746	$1,304	$3,050	36%	26%	31%	No	No
Telecommunication Inspection and Maintenance	N/A	N/A	Yes	On-Going	Annual	$2,591	$2,654	$5,245	$4,341	$4,496	$8,837	$1,750	$1,842	$3,592	68%	69%	68%	No	No
Transformer Inspections and Maintenance	N/A	N/A	Yes	On-Going	Annual	$1,352	$1,394	$2,746	$1,275	$4,369	$5,644	($77)	$2,975	$2,898	-6%	213%	106%	No	No
Transmission Intrusive Pole Inspections	N/A	N/A	Yes	On-Going	Annual	$608	$625	$1,233	$403	$484	$887	($205)	($141)	($346)	-34%	-23%	-28%	No	No
Transmission Line Patrols	N/A	N/A	Yes	On-Going	Annual	$7,512	$7,736	$15,248	$4,562	$5,234	$9,796	($2,950)	($2,502)	($5,452)	-39%	-32%	-36%	No	No
Transmission Line Rating Remediation (TLRR)	N/A	N/A	Yes	On-Going	Annual	$1,861	$1,914	$3,775	$129	$1,055	$1,184	($1,732)	($859)	($2,591)	-93%	-45%	-69%	No	No
Transmission O&M Maintenance	N/A	N/A	Yes	On-Going	Annual	$21,461	$22,094	$43,555	$9,051	$12,427	$21,478	($12,410)	($9,667)	($22,077)	-58%	-44%	-51%	No	**Yes**
Transmission Pole Loading Assessments	N/A	N/A	Yes	Seven Years (2014 - 2021)	Completed in 2022	$109	$112	$221	$1,264	$89	$1,353	$1,155	($24)	$1,131	1060%	-21%	511%	No	No
Transmission Pole Loading Repairs	N/A	N/A	Yes	Eight Years (2014 - 2022)	Anticipated Completion in 2023	$379	$390	$769	$806	$315	$1,121	$427	($75)	$352	113%	-19%	46%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
Transmission Request for Attachment Inspections	N/A	N/A	Yes	On-Going	Annual	$351	$361	$712	$323	$517	$840	($28)	$156	$128	-8%	43%	18%	No	No
Transmission Routine Vegetation Management	N/A	N/A	Yes	On-Going	Annual	$12,963	$13,319	$26,282	$42,574	$32,449	$75,023	$29,611	$19,130	$48,741	228%	144%	185%	**Yes**	**Yes**
Transmission Underground Structure Inspection	N/A	N/A	Yes	On-Going	Annual	$2,101	$2,164	$4,265	$2,472	$2,986	$5,458	$371	$821	$1,192	18%	38%	28%	No	No

Table X-19
Transmission Expense Category Activity Unit Variance Calculations

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Unit Description / Rationale for No Work Units	Year 1 - 2021	Year 2 - 2022	Imputed Units to Date	Year 1 - 2021	Year 2 - 2022	Actual Units to Date	Year 1 - 2021	Year 2 - 2022	Unit Difference to Date	Year 1 - 2021	Year 2 - 2022	Percent Unit Diff. to Date	Unit Variance Explanation Triggered?
Equipment Washing	N/A	N/A	Equipment washing differs from site to site. Based on the unpredictable nature of the level of work activity, a five-year avg was applied to generate the forecast and is not unit based.													No
Insulator Washing	N/A	N/A	Factors that impact the need to wash insulators are beyond SCE's control. SCE's 2021 test year forecast methodology selected as the three-year historical avg from 2016-2018 and is not unit based.													No
Monitoring Bulk Power System	N/A	N/A	SCE used LYR recorded as the forecast basis as this amount provide the necessary funding to perform this activity going forward.													No
Roads and Rights of Way	N/A	N/A	SCE used last recorded year to forecast and there is no associated work units.													No
Telecommunication Inspection and Maintenance	N/A	N/A	SCE uses LYR plus adj in anticipation of incremental work required in the Test Year to support new telecommunications inspection and maintenance practices.													No
Transformer Inspections and Maintenance	N/A	N/A	Since the cost for transformer maintenance can vary based on field inspections and the type of repair required, SCE forecasted 2021 expenses by using a four-year average of 2015-2018 recorded expenses and is not unit based.													No
Transmission Intrusive Pole Inspections	N/A	N/A	# of Transmission Intrusive Pole Inspections	14,360	14,360	28,720	10,150	11,304	21,454	-4,210	-3,056	-7,266	-29%	-21%	-25%	**Yes**
Transmission Line Patrols	N/A	N/A	SCE uses LYR + Adjustments and is not unit based.													No
Transmission Line Rating Remediation (TLRR)	N/A	N/A	The forecast for TLRR O&M is based on the capital work executed is not unit based.													No
Transmission O&M Maintenance	N/A	N/A	The use of the four-year average is appropriate as a forecast basis because costs can fluctuate due to the level of required maintenance from year-to-year and is not unit based.													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Transmission Pole Loading Assessments	N/A	N/A	# of Transmission Pole Loading Assessments	1,600	0	1,600	2,105	45	2,150	505	45	550	32%		34%	No
Transmission Pole Loading Repairs	N/A	N/A	# of Transmission Pole Loading Repairs	224	23	247	132	23	155	-92	0	-92	-41%	0%	-37%	No
Transmission Request for Attachment Inspections	N/A	N/A	The forecast is based on LYR to perform the inspection and the labor to support the activity.													No
Transmission Routine Vegetation Management	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Transmission Underground Structure Inspection	N/A	N/A	SCE used last recorded year to forecast and there is no associated work units.													No

3. Variance Explanations

Table X-20 below provides the variance explanations for those GRC activities meeting the established thresholds.

Table X-20
Transmission Expense Category Activity Variance Explanations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Transmission Intrusive Pole Inspections	No	No	**Yes**	Intrusive Pole Inspection forecast unit volumes are based on the historical ratio of Transmission and Distribution split of total volume. Transmission poles compose about 10% of the pole population, with Distribution composing the other 90%. For the GRC, SCE forecasts the overall number of intrusive pole inspections planned for a year, and then does a 90/10 split for Distribution and Transmission. Depending on compliance schedules, vendor schedules and other factors, there are some years where we may fall short of a true 90/10 split. Other years we may go in the other direction of the split. In 2022, the assets that fell within this inspections cycle fell below this ratio.
Transmission O&M Maintenance	No	**Yes**	No	SCE recorded less than authorized for Transmission O&M Maintenance largely because SCE did not move forward with the non-HFRA Aerial Inspections program sub-activity. The Aerial Inspections program was originally included within this GRC Activity when SCE filed its 2021 GRC Track 1 application in August 2021. However, since filing the TY 2021 GRC application, SCE did not move forward with its proposed non-HFRA Aerial Inspections Program, for which it was authorized, as resources were focused on further building out and expanding the HFRA (wildfire) aerial programs.
Transmission Routine Vegetation Management	**Yes**	**Yes**	No	Similar to SCE's experience in 2021, in 2022, SCE's recorded costs for this GRC activity were significantly impacted by the California Legislature's implementation of SB 247, which set a higher pay rate for tree trimmers in California. Because the 2021 GRC was filed in 2019, prior to SB 247's enactment, SCE submitted its 2021 forecast based on its best understanding at the time and could not have foreseen or factored into its vegetation management forecasts the full monetary impact of SB 247 – the extent of which was not yet known. SCE's update testimony, which would have increased the 2021 forecast, was denied on procedural grounds. Thus, the authorized amount for 2021 and the post-test years did not include the substantial impact of SB 247 on the cost of tree trimming. SB 247 rates impacted both HFRA and non-HFRA work, as tree trimmers were deployed across grids irrespective of classification. In 2022, SCE's vegetation management performed mitigation on approximately 840,000 trees, exceeding the mitigation volume of approximately 770,000 trees mitigated in 2021. The mitigation volume comprises both trims and removals, whose costs form the majority of total costs for Distribution and Transmission Routine Vegetation Management GRC activities. Costs for services supporting compliance mitigation such as customer coordination and traffic

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				control, as well as environmental support work, inspections, and quality control, continue to contribute to recorded costs for both Distribution and Transmission Routine Vegetation Management GRC activities. Finally, emergent mitigation costs also contributed to Transmission Routine Vegetation Management.

4. Activity Status

Table X-21 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

Table X-21
Transmission Expense Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Equipment Washing	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Insulator Washing	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Monitoring Bulk Power System	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Roads and Rights of Way	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Telecommunication Inspection and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transformer Inspections and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission Intrusive Pole Inspections	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	Overall SCE is generally proceeding as planned. Refer to the variance explanation for rationale on lower overall units.
Transmission Line Patrols	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission Line Rating Remediation (TLRR)	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission O&M Maintenance	On-Going	Annual	Under	On-Target	Under	Proceeding as Planned	SCE is generally proceeding as planned, with the exception as noted in our variance explanation that SCE did not move forward with the non-HFRA aerial inspection program.
Transmission Pole Loading Assessments	Seven Years (2014 - 2021)	Completed in 2022	On-Target	On-Target	On-Target	Completed	SCE completed this program in 2022. There may be some costs that record in 2023 but the work has been completed in 2022.
Transmission Pole Loading Repairs	Eight Years (2014 - 2022)	Anticipated Completion in 2023	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission Request for Attachment Inspections	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission Routine Vegetation Management	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	SCE is generally proceeding as planned; however, costs are above the TY 2021 GRC forecast for 2022. Refer to variance explanation for the rationale for increased costs.
Transmission Underground Structure Inspection	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

B. Capital Expenditure Programs

1. GRC Activity and Unit Description Table

For the Transmission capital activities that are SAR-eligible, Table X-22 below provides the 2021 GRC testimony citation and activity description and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table X-22
Transmission Capital Expenditure Category Activity Description

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Circuit Breaker Replacement	The Distribution Circuit Breaker Replacement Program replaces breakers approaching the end of their service lives. These circuit breakers are becoming increasingly unreliable, contain parts known to be problematic or unavailable and may require custom parts to be made for obsolete equipment.	SCE-02 Vol: 3	WPSCE02V3 – pp.120-146	N/A	N/A
Grid Reliability Projects	Grid Reliability Projects 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) and are required to support reliability and compliance with NERC, WECC, and CAISO system performance standards and criteria.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4P1ChIIIBkC, pp 234-269	N/A	N/A
Monitoring Bulk Power System	Transmission and Distribution Grid Operations activities including Management and Operation of the Grid Control Center. Includes the cost of labor and other expenses incurred by SCE's centralized control centers for real time electric operations encompassing transmission and distribution systems. Activities include execution of California Independent System Operator (CAISO) instructions regarding the operations of the SCE electrical system under CAISO operational control; develop and maintain switching procedures under CAISO purview; coordinate planned outages consistent with CAISO approval; and maintaining situation awareness. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense. Also includes Informational Technology as Grid Network Solutions is responsible for the overall health and performance of SCE's communications network and Supervisory Control and Data	SCE-02 Vol: 3	WPSCE02V3 – pp.16 - 50	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	Acquisition (SCADA) systems used to monitor and control the company's electric grid and conduct daily business operations.				
NERC Compliance Programs	NERC Compliance Programs are the costs incurred to bring facilities into compliance with physical security standards of NERC-CIP-14.	SCE-04 Vol: 4	WPSCE04V4 pp. 41 - 47	N/A	N/A
Protection of Grid Infrastructure Assets	This program is an ongoing effort to improve the physical protection of SCE employees and assets at electric facilities to deter and protect against theft, security breaches, and other security incidents.	SCE-04 Vol: 4	WPSCE04V4 pp. 79	Physical Security	Grid Infrastructure Protection - Enhanced
Protection of Major Business Functions	This program is an ongoing effort to improve the physical protection of SCE assets and employees at non-electric facilities, such as offices and warehouses and mitigate the impact on operations resulting from theft, security breaches, and other security incidents.	SCE-04 Vol: 4	WPSCE04V4 pp. 78	Physical Security	Non-Electric Facilities/Protection of Major Business Functions
Relays, Protection and Control Replacements	The Substation Relays, Protection, and Control Replacement Program identifies and proactively replaces substation protective relays, control, automation, monitoring and event recording equipment to address equipment obsolescence, meet compliance requirements, and improve functionality.	SCE-02 Vol: 3	WPSCE02Vol. 03, pp. 190-213	N/A	N/A
Substation Capital Breakdown Maintenance	This maintenance activity captures the labor, equipment, and other material costs to remove and replace failed substation equipment.	SCE-02 Vol: 3	WPSCE02Vol. 03, pp. 116-117	N/A	N/A
Substation Claim	Substation Claim supports repair damage to the substation caused by another party. SCE seeks to recover the costs to repair the damage through making a claim against the party responsible for the damage.	SCE-02 Vol: 3	WPSCE02Vol. 03, pp. 118-119	N/A	N/A
Substation Transformer Bank Replacement	This activity planned includes the preemptive replacement of transformers approaching the end of their service lives.	SCE-02 Vol: 3	WPSCE02V3 – pg. 150-153	N/A	N/A
Telecommunication Deteriorated Pole Replacement	This activity includes the replacement of telecommunication poles under the Deteriorate Pole Program, in compliance with GO 95.	SCE-02 Vol: 5	WPSCE02V5, pp. 153	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Telecommunication Inspection and Maintenance	Includes the costs of labor, materials and expenses incurred in performing the following activities: telecommunication line patrols, proactive maintenance, breakdown maintenance, storm response, claims resolution and relocation activities. The following costs are also included transportation expenses, meals, traveling, lodging, and incidental expenses.	SCE-02 Vol: 2	WPSCE02V2 pp. 67-68	N/A	N/A
Telecommunication Pole Loading Program Replacement	This activity includes the replacement of telecommunication poles under the Pole Loading Program.	SCE-02 Vol: 5	WPSCE02V5, pp. 155	N/A	N/A
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.	SCE-02 Vol: 2	WPSCE02V2 pp. 55-66	N/A	N/A
Transmission Claim	Transmission Claim captures the expenditures associated with casualty damage to Transmission facilities, such as cars hitting and damaging poles. Claim damage events are random and are beyond SCE's control. Claims work is performed to repair or replace damaged facilities, restore service, and return the system to normal operating conditions. The costs recorded to this activity are almost entirely in response to pole and tower damage, or wire down events caused by third parties.	SCE-02 Vol: 2	WPSCE02V2 pp. 69-70	N/A	N/A
Transmission Deteriorated Pole Replacement	The costs incurred for intrusive pole inspections of transmission poles. Intrusive inspections require inspectors with proper training and experience to drill into the pole's exterior to identify and measure the extent of internal decay which is typically undetectable with external observation alone. Additionally, the inspector	SCE-02 Vol: 5	WPSCE02V5, pp. 152; 211	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	does a visual inspection of the exterior of the pole to check for damage.				
Transmission Emergency Equipment	In this program, SCE identifies, purchases, and maintains emergency spare parts for the transmission grid. Some of this equipment has long procurement lead times, so SCE maintains an inventory on hand in order to avoid delays in responding to emergencies and outages. Examples of equipment maintained in inventory include poles, steel bundles for towers, underground cable, and overhead conductor.	SCE-02 Vol: 2	WPSCE02V2 pp. 114-115	N/A	N/A
Transmission Line Rating Remediation (TLRR)	Includes the cost of labor, materials used and expenses incurred to remediate line clearance discrepancies. Includes related costs such as transportation expenses, meals, traveling, lodging, and incidental expenses.	SCE-02 Vol: 2	WPSCE02V2 pp.104-106	N/A	N/A
Transmission Pole Loading Program Replacement	Costs incurred for the assessment of Transmission poles for compliance with safety factors.	SCE-02 Vol: 5	WPSCE02V5, pp. 154	N/A	N/A
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 SCE's B-Substations. The A-bank Plan focuses on SCE's transmission substation capacity to ensure safe and reliable service to customers. The Sub transmission VAR Plan focuses on SCE's system reactive power need to ensure safe and reliable service to customers.	SCE-02 Vol: 4 Pt. 2	WPSCE02V4PT2ChIIBkbkB pp. 27-227	N/A	N/A
Transmission Tools and Work Equipment	Transmission Tools and Work Equipment includes costs for acquiring and retiring portable tools and work equipment that cost a minimum of $1,000. SCE purchases new tools and equipment as older tools become obsolete or there are advancements in tool technologies.	SCE-02 Vol: 2	WPSCE02V2 pp.116-117	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Transmission/Substation Storm Response Capital	Repair and replacement performed as part of a storm response on Transmission and Substation facilities.	SCE-04 Vol: 2	WPSCE04V2 pp. 46 - 48	N/A	N/A

2. GRC Activities Variance Calculations

Table X-23 and Table X-24 below provides the authorized, recorded, variance and percentage change values for each Transmission expenditure category activity in terms of dollars and units. The tables also indicate whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table X-23
Transmission Capital Expenditure Category Activity Dollar Variance Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Circuit Breaker Replacement	N/A	N/A	Yes	On-Going	Annual	$43,372	$43,372	$86,744	$49,218	$57,283	$106,501	$5,846	$13,911	$19,757	13%	32%	23%	No	**Yes**
Grid Reliability Projects	N/A	N/A	Yes	On-Going	Annual	$262,619	$262,619	$525,239	$203,429	$113,024	$316,453	($59,190)	($149,595)	($208,785)	-23%	-57%	-40%	**Yes**	**Yes**
Monitoring Bulk Power System	N/A	N/A	Yes	On-Going	Annual	$74,364	$74,364	$148,728	$84,345	$77,939	$162,284	$9,981	$3,575	$13,556	13%	5%	9%	No	No
NERC Compliance Programs	N/A	N/A	Yes	On-Going	Annual	$7,563	$7,563	$15,126	$934	$86	$1,020	($6,629)	($7,477)	($14,106)	-88%	-99%	-93%	No	No
Protection of Grid Infrastructure Assets	Physical Security	Grid Infrastructure Protection - Enhanced	Yes	On-Going	Annual	$28,380	$28,380	$56,760	$15,686	$33,813	$49,499	($12,694)	$5,433	($7,261)	-45%	19%	-13%	No	No
Protection of Major Business Functions	Physical Security	Non-Electric Facilities/Protection of Major Business Functions	Yes	On-Going	Annual	$13,745	$13,745	$27,490	$16,623	$18,334	$34,957	$2,878	$4,589	$7,467	21%	33%	27%	No	No
Relays, Protection and Control Replacements	N/A	N/A	Yes	On-Going	Annual	$75,172	$75,172	$150,344	$74,823	$80,464	$155,287	($349)	$5,292	$4,943	0%	7%	3%	No	No
Substation Capital Breakdown Maintenance	N/A	N/A	Yes	On-Going	Annual	$13,156	$13,156	$26,312	$27,475	$20,148	$47,623	$14,319	$6,992	$21,311	109%	53%	81%	No	No
Substation Claim	N/A	N/A	Yes	On-Going	Annual	$396	$396	$793	$791	$339	$1,130	$395	($58)	$337	100%	-15%	43%	No	No
Substation Transformer Bank Replacement	N/A	N/A	Yes	On-Going	Annual	$87,713	$87,713	$175,426	$53,675	$52,756	$106,431	($34,038)	($34,956)	($68,994)	-39%	-40%	-39%	**Yes**	**Yes**
Telecommunication Deteriorated Pole Replacement	N/A	N/A	Yes	On-Going	Annual	$230	$230	$460	$261	$148	$409	$31	($82)	($51)	13%	-36%	-11%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
Telecommunication Inspection and Maintenance	N/A	N/A	Yes	On-Going	Annual	$3,014	$3,014	$6,029	$4,350	$2,921	$7,271	$1,336	($93)	$1,242	44%	-3%	21%	No	No
Telecommunication Pole Loading Program Replacement	N/A	N/A	Yes	Eleven Years (2014 - 2025)	Nine of Eleven	$1,124	$1,124	$2,248	$20	$40	$60	($1,104)	($1,084)	($2,188)	-98%	-96%	-97%	No	No
Transmission Capital Maintenance	N/A	N/A	Yes	On-Going	Annual	$87,353	$87,353	$174,706	$49,697	$43,345	$93,042	($37,656)	($44,008)	($81,664)	-43%	-50%	-47%	**Yes**	Yes
Transmission Claim	N/A	N/A	Yes	On-Going	Annual	$3,835	$3,835	$7,670	$6,446	$7,400	$13,846	$2,611	$3,565	$6,176	68%	93%	81%	No	No
Transmission Deteriorated Pole Replacement	N/A	N/A	Yes	On-Going	Annual	$98,274	$98,274	$196,548	$90,033	$101,258	$191,291	($8,241)	$2,984	($5,257)	-8%	3%	-3%	No	No
Transmission Emergency Equipment	N/A	N/A	Yes	On-Going	Annual	$166	$166	$332	$0	$0	$0	($166)	($166)	($332)	-100%	-100%	-100%	No	No
Transmission Line Rating Remediation (TLRR)	N/A	N/A	Yes	On-Going	Annual	$136,614	$136,614	$273,228	$93,182	$98,285	$191,467	($43,432)	($38,330)	($81,762)	-32%	-28%	-30%	**Yes**	**Yes**
Transmission Pole Loading Program Replacement	N/A	N/A	Yes	Eleven Years (2014 - 2025)	Nine of Eleven	$43,910	$43,910	$87,820	$26,864	$32,398	$59,262	($17,046)	($11,512)	($28,558)	-39%	-26%	-33%	No	**Yes**
Transmission Substation Plan (TSP)	N/A	N/A	Yes	On-Going	Annual	$89,283	$89,283	$178,566	$112,885	$40,737	$153,622	$23,602	($48,547)	($24,945)	26%	-54%	-14%	**Yes**	**Yes**
Transmission Tools and Work Equipment	N/A	N/A	Yes	On-Going	Annual	$1,426	$1,426	$2,852	$788	$1,083	$1,871	($638)	($344)	($982)	-45%	-24%	-34%	No	No
Transmission/Substation Storm Response Capital	N/A	N/A	Yes	On-Going	Annual	$6,193	$6,193	$12,386	$7,724	$13,837	$21,561	$1,531	$7,644	$9,175	25%	123%	74%	No	No

Table X-24
Transmission Capital Expenditure Category Activity Unit Variance Calculations

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Circuit Breaker Replacement	N/A	N/A	2.4 kV - 500 kV Substation Circuit Breakers Replaced	205	205	410	187	199	386	-18	-6	-24	-9%	-3%	-6%	No
Grid Reliability Projects	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Monitoring Bulk Power System	N/A	N/A	The forecast is based on LYR to perform the inspection and the labor to support the activity and therefore providing one work unit is not feasible.													No
NERC Compliance Programs	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Protection of Grid Infrastructure Assets	Physical Security	Grid Infrastructure Protection - Enhanced	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Protection of Major Business Functions	Physical Security	Non-Electric Facilities/Protection of Major Business Functions	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Relays, Protection and Control Replacements	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Substation Capital Breakdown Maintenance	N/A	N/A	The cost incurred to replace failed substation equipment in substation breakdown maintenance can be expected to fluctuate from year-to-year due to uncontrolled factors, such as weather. Following guidance from D.89-12-057, the CPUC stated that for those activities which have significant fluctuations in recorded expenses from year-to-year, an average of recorded expenses is appropriate.													No
Substation Claim	N/A	N/A	Because claim expenditures are outside of SCE's control and vary significantly from year-to-year, SCE uses a five-year average to forecast these expenditures and are not unit based.													No
Substation Transformer Bank Replacement	N/A	N/A	# of Substation Transformers Replaced	47	47	94	30	21	51	-17	-26	-43	-36%	-55%	-46%	**Yes**
Telecommunication Deteriorated Pole Replacement	N/A	N/A	The forecast is based on LYR to perform the inspection and the labor to support the activity and therefore providing one work unit is not feasible.													No
Telecommunication Inspection and Maintenance	N/A	N/A	SCE use LYR to forecast this work and is therefore not unit based.													No
Telecommunication Pole Loading Program Replacement	N/A	N/A	The forecast is based on LYR to perform the inspection and the labor to support the activity and therefore providing one work unit is not feasible.													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Transmission Capital Maintenance	N/A	N/A	This includes multiple sub-programs that vary in unit types. Therefore, providing one unit type is not feasible.													No
Transmission Claim	N/A	N/A	Because claim expenditures are outside of SCE's control and vary significantly from year-to-year, SCE uses a five-year average to forecast these expenditures and are not unit based.													No
Transmission Deteriorated Pole Replacement	N/A	N/A	# of Transmission Pole Replacements	3570	3570	7140	3145	2837	5982	-425	-733	-1158	-12%	-21%	-16%	**Yes**
Transmission Emergency Equipment	N/A	N/A	SCE forecasts emergency equipment costs based on management judgment of the estimated incremental costs to maintain inventory at current levels, which includes the rotation of inventory, such as cable, with finite shelf-life. This is not unit based.													No
Transmission Line Rating Remediation (TLRR)	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Transmission Pole Loading Program Replacement	N/A	N/A	# of Transmission Pole Replacements	1,598	1,598	3,196	783	795	1,578	-815	-803	-1,618	-51%	-50%	-51%	**Yes**
Transmission Substation Plan (TSP)	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Transmission Tools and Work Equipment	N/A	N/A	Because these expenditures can vary significantly from year-to-year, SCE uses historical average to forecast these expenditures and are not unit based													No
Transmission/ Substation Storm Response Capital	N/A	N/A	Because these expenditures are outside of SCE's control and vary significantly from year-to-year, SCE uses a five-year average to forecast these expenditures and are not unit based.													No

3. Variance Explanations

Table X-25 below provides the variance explanations for those GRC activities meeting the established thresholds.

Table X-25
Transmission Capital Expenditure Category Activity Variance Explanations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Circuit Breaker Replacement	No	**Yes**	No	In 2022, SCE experienced greater than forecast project costs driven by an increase in material costs. The increase was associated with supply chain complications resulting from the COVID-19 pandemic and delays from Fire Climate Zones (FCZ) constraints.
Grid Reliability Projects	**Yes**	**Yes**	No	SCE notes that the majority of projects in Grid Reliability are FERC jurisdictional. SCE spend in 2022 was below authorized due to continued delays with the Riverside Transmission Reliability Project (RTRP). Based on an underground feasibility report, Riverside City Council decided to pursue an alternative proposal for the entire project to be underground as opposed to partial undergrounding which was reflected in the spend initially approved by the CPUC.
Substation Transformer Bank Replacement	**Yes**	**Yes**	**Yes**	As in 2021, SCE completed fewer units than forecast due to vendor supply chain constraints resulting from COVID-19. Additionally, work execution was interrupted or delayed due to Fire Climate Zone constraints. In review of our 2021 RSAR, Energy Division noted that SCE should provide a plan for how it will continue this work and address any resulting backlog in the next RSAR submittal. SCE did realize certain efficiencies by replacing several single-phase transformers with one three-phase transformer. This reduced labor, material, and maintenance costs. SCE will continue to explore the efficiencies gained by deploying three-phase transformers, where applicable, to work through any existing backlog of proactive replacement work in this program.
Transmission Capital Maintenance	**Yes**	**Yes**	No	The variance from 2022 authorized to recorded in the Transmission Capital Maintenance Program is primarily driven by under-recording in the Transmission Tower Corrosion Program. In 2021, SCE developed the Transmission Tower Corrosion Program in an effort to mitigate the impact of corrosion on its transmission towers. This variance is a result of SCE standing up a new program and refining its overall scoping, execution, and recording practices. Additionally, SCE did not move forward with its proposed non-HFRA Aerial Inspections Program, for which it was authorized, as resources were focused on further building out and expanding the HFRA (wildfire) aerial programs. In review of our 2022 RSAR, Energy Division noted that SCE should provide a plan for how it will address any backlog of work, including the potential need to reprioritize projects to ensure safety and reliability. SCE expects that this impact to the program should not continue at this level moving forward and does not believe that this will have measurable impacts to safety or reliability.
Transmission Deteriorated Pole Replacement	No	No	**Yes**	The decrease in the number of Transmission Deteriorated Pole replacements can be attributed to a reduction in the failure rate of poles when compared to forecast. Also, a higher percentage of pole replacement constraints, such as environmental and engineering holds, as well as Caltrans permitting, resulted in a lower number of poles being replaced.
Transmission Line Rating	**Yes**	**Yes**	No	In order to meet the 2025 deadline commitment made to the North American Electric Reliability Corporation (NERC), Western Electric Coordinating Council (WECC), and the CPUC in October 2014,

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	$ Threshold Variance Explanation	% / $ Variance Explanation	Unit Variance Explanation	Variance Explanation
Remediation (TLRR)				the TLRR portfolio focused on planned construction activities in years 2021-2024. While SCE experienced several project delays and deferrals for TLRR projects in 2022, SCE remains committed to making progress on all projects within the TLRR Portfolio. To address Energy Division's feedback on our 2021 RSAR, we continue to communicate that progress in quarterly letters to the CPUC Safety Enforcement Division (SED) and in semi-annual letters to WECC. In 2022, SCE deferred the Arrowhead-Calectric-Devil Canyon-Shandin 115kV subtransmission project as a result of agency resource and circuit outage availability. SCE deferred construction for the Ivanpah-Control 115 kV subtransmission project as a result of longer than expected Proponent's Environmental Assessment (PEA) review, and time needed to address extensive agency comments, deficiencies, and data requests after initial filing with CPUC. SCE also experienced delays in three other licensed projects, Gorman-Kern River 66kV subtransmission project, Control Silver Peak 55kV subtransmission project and Eldorado-Lugo-Pisgah 220 kV transmission project as we incorporated lessons learned from previously submitted PEAs into the project submittals.
Transmission Pole Loading Program Replacement	No	**Yes**	**Yes**	The decrease in the number of Transmission Pole Loading Program (PLP) replacements and overall spend for transmission PLP replacements can be attributed to two primary factors. First, there were fewer PLP assessments needed compared to the GRC forecast. Second, there was a reduction in the number of pole failures when compared to forecast failures.
Transmission Substation Plan (TSP)	**Yes**	**Yes**	No	Similar to previous years, SCE experienced higher priority emergent needs outside of the TSP, as well as project delays, deferrals, and cancellations associated with the TSP. The key driver and majority of underspend in 2022 is related to the Alberhill A Bank project. In Feb 2021, SCE provided an updated filing for this project, which included a revised cost-to-benefit analysis. Subsequently, the CPUC issued a Staff Report in December 2021, which requested a revised application from SCE with ASP Open Air as the preferred alternative. As a result, SCE held meetings with the CPUC about this in August 2022 and SCE submitted a revised application on June 2, 2023. Based on these regulatory delays and the additional time needed to prepare the supplemental information requested by the CPUC, the operating date for this project has been deferred to June 2029. Additionally, the Saugus - Colossus - Lockheed - Pitchgen project and the Holgate Kramer subtransmission lines projects were deferred to 2025, while the El Nido project was cancelled by the sponsor due to due to the challenges of constructing a new 66 kV line in the El Nido load pocket. A separate project to address the potential single point failure that jeopardize the Hollywood Park Substation reliability has been put in place. Offsetting some of the underspending versus authorized that occurred because of these regulatory developments, SCE had several emergent projects in 2022, including the Cal City Substation and Del Amo substation projects that together recorded approximately $8.6 million in 2022, that were not included in SCE's TY 2021 GRC forecast for 2022.

4. Activity Status

Table X-26 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

Table X-26
Transmission Expenditure Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Circuit Breaker Replacement	On-Going	Annual	On-Target	On-Target	Over	Proceeding as Planned	Proceeding as generally planned, SCE has experienced general supply chain constraints that have impacted costs.
Grid Reliability Projects	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanation, SCE is experiencing delays in RRTP, which is largely a FERC jurisdiction project.
Monitoring Bulk Power System	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
NERC Compliance Programs	On-Going	Annual	On-Target	On-Target	On-Target	Completed	SCE completed the initial program as discussed in our TY 2021 GRC testimony in 2022.
Protection of Grid Infrastructure Assets	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Protection of Major Business Functions	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Relays, Protection and Control Replacements	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Substation Capital Breakdown Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Substation Claim	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Substation Transformer Bank Replacement	On-Going	Annual	Under	Under	Over	Partially Delayed	SCE completed fewer units than forecast due to vendor supply chain constraints resulting from COVID-19. Additionally, work execution was interrupted or delayed due to Fire Climate Zone constraints. However, we did realize certain efficiencies by replacing several single-phase transformers with one three-phase transformer. This reduced labor, material, and maintenance costs. SCE will continue to explore the efficiencies gained by deploying three-phase transformers, where applicable, to work through any existing backlog of proactive replacement work in this program.
Telecommunication Deteriorated Pole Replacement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Telecommunication Inspection and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Telecommunication Pole Loading Program Replacement	Eleven Years (2014 - 2025)	Nine of Eleven	On-Target	On-Target	On-Target	Proceeding as Planned	While SCE has spent less than 5% of authorized, SCE does not consider this program cancelled. Telecommunication pole replacements, while making up a small portion of the overall pole population, is still a necessary activity. The reason the total spend is lower than authorized is due to the number of required telecommunication pole replacements being lower than forecast.

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	Project Life	Project Year	Scope	Schedule	Cost	Status	Status Completion Statement
							Although the total is lower than authorized, it is still an active activity necessary to ensure safety.
Transmission Capital Maintenance	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanation, the variance is primarily driven by under-recording in the Transmission Tower Corrosion Program. This variance is a result of SCE standing up a new program and refining its overall scoping, execution, and recording practices. SCE expects that this impact to the program should not continue at this level moving forward.
Transmission Claim	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission Deteriorated Pole Replacement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	SCE is generally proceeding as planned, however as noted in our variance explanation, the decrease in the number of Transmission Deteriorated Pole replacements can be attributed to a reduction in the failure rate of poles when compared to forecast. Also, a higher percentage of pole replacement constraints, such as environmental and engineering holds, as well as Caltrans permitting, resulted in a lower number of poles being replaced.
Transmission Emergency Equipment	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	While SCE has spent less than 5% of authorized, SCE does not consider this program cancelled. This spend is driven by emergency spare usage and replacement, and based on general averages; however, the spend is not always linear, and SCE did not require replacement of spare parts in 2021 or 2022. However, that does not mean SCE may not require replacement parts in 2023.
Transmission Line Rating Remediation (TLRR)	On-Going	Annual	Under	Under	Under	Partially Delayed	In order to meet the 2025 deadline commitment made to the North American Electric Reliability Corporation (NERC), Western Electric Coordinating Council (WECC), and the CPUC in October 2014, the TLRR portfolio focused on planned construction activities in years 2021-2024. While SCE experienced several project delays and deferrals for TLRR projects in 2022, SCE remains committed to making progress on all projects within the TLRR Portfolio. To address Energy Division's feedback on our 2021 RSAR, we continue to communicate that progress in quarterly letters to the CPUC Safety Enforcement Division (SED) and in semi-annual letters to WECC (these can be made available upon request to Energy Division and other parties).
Transmission Pole Loading Program Replacement	Eleven Years (2014 - 2025)	Nine of Eleven	On-Target	On-Target	Over	Proceeding as Planned	SCE is on schedule to complete PLP by 2025, however costs are exceeding forecast. Refer to Variance explanation for more details.
Transmission Substation Plan (TSP)	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanation, Similar to previous years, SCE experienced higher priority emergent needs outside of the TSP, as well as project delays, deferrals, and cancellations associated with the TSP. The key driver and majority of underspend in 2022 is related to the Alberhill A Bank project.
Transmission Tools and Work Equipment	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission/Substation Storm Response Capital	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

XI.

GENERATION CATEGORY

A. Expensed Programs

1. GRC Activity and Unit Description Table

For the Generation expense activities that are SAR-eligible, Table XI-27 below provides the 2021 GRC testimony citation and activity description and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table XI-27
Generation Expense Category Activity Description

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Catalina - Diesel	Catalina Generation's O&M expenses are for ongoing operations and maintenance activities necessary for the operation of the generators and connected electrical systems. These activities include miscellaneous expenses such as minor spare parts, general and administrative support staff, automotive repair, tools, and compliance reporting. Labor costs include SCE employees who work at the Pebbly Beach Generating Station and at other locations. Non-labor costs include repair parts, chemicals, supplies, contracts and various miscellaneous expenses needed to operate and maintain Catalina's generation units.	SCE-05 Vol: 1	WPSCE05V1BkB pp. 210 - 216	N/A	N/A
Hydro	The expenses include costs for operating and maintaining SCE's Hydro generating units and associated reservoirs, dams, waterways, and miscellaneous Hydro facilities. Work activities are presented in three main categories: (1) Water for Power and Rents, (2) Hydro Operations, and (3) Hydro Maintenance. These expenses are necessary for SCE's Hydro generation to provide reliable service at low cost, maintain safe operations for employees and the public, and comply with applicable laws and regulations.	SCE-05 Vol: 1	WPSCE05V1BkA pp. 5 - 11	N/A	N/A
Mountainview	The Mountainview Operations GRC activity comprises all labor and non-labor expenses that record as operations-related expenses. These activities include operation supervision and engineering, general expenses, miscellaneous other power generation expenses, and rentals. The Mountainview Maintenance work activity includes all labor, non-labor, and other expenses (e.g., the GE Contractual Service Agreement costs) associated with maintaining and repairing the power island and all general plant maintenance-related expenses.	SCE-05 Vol: 1	WPSCE05V1BkB pp. 167 - 180	N/A	N/A
Palo Verde	This activity includes expenses related to materials for the Palo Verde nuclear generation station which are not	SCE-05 Vol: 1	WPSCE05V1BkB pp. 256 - 296	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	specifically provided for or are not readily assignable to other nuclear generation operation accounts.				
Peakers	Includes costs for SCE employees who routinely work at the Peaker locations and support provided to the plant by employees who work at other locations. Non-labor includes costs to repair parts, chemicals, supplies, contracts, and numerous other items needed to operate and maintain the Peaker plants. This also includes costs for interconnection fees that SCE pays to be connected to the bulk power grid.	SCE-05 Vol: 1	WPSCE05V1BkB pp. 194 - 200	N/A	N/A
Solar	Maintenance: Labor and non-labor expenses incurred in the maintenance of rooftop solar photovoltaic program projects. Operations: Labor and non- labor expenses incurred in the operation of rooftop solar photovoltaic program projects.	SCE-05 Vol: 1	WPSCE05V1BkB pp. 235 - 252	N/A	N/A

2. GRC Activities Dollar and Unit Variance Calculations

Table XI-28 and Table XI-29 below provide the authorized and recorded costs, and variance and percentage change values for each Generation expense activity in terms of dollars and units. These tables also indicate whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table XI-28
Generation Expense Category Activity Variance Dollar Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
Catalina - Diesel	N/A	N/A	Yes	On-Going	Annual	$5,667	$5,876	$11,543	$6,133	$5,625	$11,758	$466	($251)	$215	8%	-4%	2%	No	No
Hydro	N/A	N/A	Yes	On-Going	Annual	$43,601	$45,169	$88,770	$45,313	$41,245	$86,558	$1,712	($3,924)	($2,212)	4%	-9%	-2%	No	No
Mountainview	N/A	N/A	Yes	On-Going	Annual	$29,402	$30,574	$59,976	$20,514	$29,478	$49,992	($8,888)	($1,096)	($9,984)	-30%	-4%	-17%	No	No
Palo Verde	N/A	N/A	Yes	On-Going	Annual	$72,249	$75,449	$147,698	$73,401	$75,076	$148,477	$1,152	($373)	$779	2%	0%	1%	No	No
Peakers	N/A	N/A	Yes	On-Going	Annual	$7,957	$8,262	$16,219	$8,728	$8,104	$16,832	$771	($158)	$613	10%	-2%	4%	No	No
Solar	N/A	N/A	Yes	On-Going	Annual	$1,389	$1,444	$2,833	$1,381	$1,358	$2,739	($8)	($86)	($94)	-1%	-6%	-3%	No	No

Table XI-29
Generation Expense Category Activity Variance Unit Calculations

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Unit Description / Rationale for No Work Units	Year 1 - 2021	Year 2 - 2022	Imputed Units to Date	Year 1 - 2021	Year 2 - 2022	Actual Units to Date	Year 1 - 2021	Year 2 - 2022	Unit Difference to Date	Year 1 - 2021	Year 2 - 2022	Percent Unit Diff. to Date	Unit Variance Explanation Triggered?
Catalina - Diesel	N/A	N/A	Unable to identify a single unit due to multiple activities for supporting this Generation activity.													No
Hydro	N/A	N/A	Unable to identify a single unit due to multiple activities for supporting this Generation activity.													No
Mountainview	N/A	N/A	Unable to identify a single unit due to multiple activities for supporting this Generation activity.													No
Palo Verde	N/A	N/A	Unable to identify a single unit due to multiple activities for supporting this Generation activity.													No
Peakers	N/A	N/A	Unable to identify a single unit due to multiple activities for supporting this Generation activity.													No
Solar	N/A	N/A	Unable to identify a single unit due to multiple activities for supporting this Generation activity.													No

3. Variance Explanations

SCE did not have any generation expense GRC activities that triggered a variance explanation in 2022.

4. Activity Status

Table XI-30 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

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Table XI-30
Generation Expenditure Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Catalina - Diesel	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Hydro	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Mountainview	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Palo Verde	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Peakers	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Solar	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

B. Capital Expenditure Programs

1. GRC Activity and Unit Description Table

For the Generation capital activities that are SAR-eligible, Table XI-31 below provides the 2021 GRC testimony citation and activity description and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table XI-31
Generation Capital Expenditure Category Activity Description

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Catalina - Diesel	Labor and non-labor expenses necessary to operate and maintain Catalina's generation and ancillary equipment. Also includes home office support expenses. Projects include Catalina Repower and a 2.4 kV switchyard upgrade.	SCE-05 Vol: 1	WPSCE05V1BkB, pp. 217-225	N/A	N/A
Hydro - Dams and Waterways	Dams and Waterways projects include the rebuilding of reservoirs, flowlines, or flumes, installing flow measurement equipment, replacing valves, and installing debris removal equipment or fish screens.	SCE-05 Vol: 1	WPSCE05V1BkB, pp. 217-225	Hydro Asset Failure	Dam Surface Protection, Instrumentation / Communication Enhancements, Low Level Outlet Improvements, Seepage Mitigation, Seismic Retrofit and Spillway Remediation and Improvement
Hydro - Decommissioning	Due to contractual obligations and proposed U.S. Forest Service requirements, SCE anticipates it will be required to do significant construction work on the San Gorgonio facilities before turning the project over to the local water agencies.	SCE-05 Vol: 1	WPSCE-05V1, Book A, pp. 109-194 and Book B, pp. 2-162	N/A	N/A
Hydro - Electrical Equipment	Control systems, circuit protection, and transformers wear out over time and require replacement at the Hydro facilities. Larger projects in this category typically involve complete replacement of excitation equipment, high voltage plant circuit breakers, transformers, or automation work. Excitation equipment provides the power to a generator's field windings, which is necessary to produce output power. Plant circuit breakers are large devices that protect and disconnect Hydro facilities from the transmission network. Step-up transformers convert the Hydro plant voltage to that of the transmission network or grid. Automation equipment is used to remotely or	SCE-05 Vol: 1	WPSCE-05V1, Book A, pp. 86-98	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	efficiently control processes at powerhouses and ancillary facilities.				
Hydro - Prime Movers	SCE Hydro operates seventy-six generating units at thirty-five powerhouses. Water turbines convert the flow of high-pressure water into rotary motion or mechanical energy, which the generators convert into electrical power. The high-pressure water and rotary motion cause wear and tear on the turbine units. The heat created by a generator when producing electrical power also causes wear and tear on the generator bearings and windings. If timely repairs are not performed when warranted, unit failure is inevitable. Therefore, turbines and generators receive annual maintenance and inspections.	SCE-05 Vol: 1	WPSCE-05V1, Book A, pp. 31-65	N/A	N/A
Hydro - Relicensing	Hydro - Relicensing executes the requirements of FERC relicensing and new license implementation projects, including Minimum Instream Flow Upgrades and Campground Infrastructure Refurbishments/Replacements.	SCE-05 Vol: 1	WPSCE-05V1, Book A, pp. 16-30	N/A	N/A
Hydro - Structures and Grounds	Hydro - Structures and Grounds involves needed work related to various structures including the powerhouses, roofs, cranes, heating ventilation and air conditioning, and to infrastructure including roads, bridges, paving, fencing and gates, fire and water systems, and wastewater projects. The major projects in this category are replacing high-pressure piping, completing road and bridge improvements, and installing dam safety video surveillance equipment.	SCE-05 Vol: 1	WPSCE-05V1, Book A, pp. 98-108	N/A	N/A
Mountainview	Includes SCE's planned capital expenditures for Mountainview that support reliable service, compliance with applicable laws and regulations, and safe operations for employees and the public.	SCE-05 Vol: 1	WPSCE-05V1, Book B, pp. 181-192	N/A	N/A
Palo Verde	The activity, Palo Verde includes expenses related to materials used and expenses incurred for Palo Verde which are not specifically provided for or are not readily assignable to other nuclear generation operation accounts.	SCE-05 Vol: 1	WPSCE-05V1, Book B, pp. 263-264	N/A	N/A
Peakers	SCE's planned capital expenditures for the Peaker plants that support reliable service, compliance with applicable laws and regulations, and safe operations for employees and the public.	SCE-05 Vol: 1	WPSCE-05V1, Book B, pp. 201-208	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Protection of Generation Assets	This activity includes the costs to implement security measures such as access control, alarms, surveillance, and perimeter protections at Generation assets, such as dams and peaker facilities.	SCE-04 Vol: 4	WPSCE04V4 pp. 80	Physical Security	Protection of Generation Capabilities
Solar	Maintenance: Labor and non-labor expenses incurred in the maintenance of rooftop solar photovoltaic program (SPVP) projects. Operations: Labor and non-labor expenses incurred in the operation of rooftop solar photovoltaic program (SPVP) projects.	SCE-05 Vol: 1	WPSCE-05V1, Book B, pp. 253-255	N/A	N/A

2. GRC Activities Variance Calculations

Table XI-32 and Table XI-33 below provides the authorized, recorded, variance and percentage change values for each Generation expenditure category activity in terms of dollars and units. These tables also indicate whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table XI-32
Generation Capital Expenditure Category Activity Dollar Variance Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Catalina - Diesel	N/A	N/A	Yes	On-Going	Annual	$2,048	$2,048	$4,096	($444)	$398	($46)	($2,492)	($1,650)	($4,142)	-122%	-81%	-101%	No	No
Hydro - Dams and Waterways	Hydro Asset Failure	Dam Surface Protection	No	On-Going	Annual	$0	$0	$0	$1,207	$347	$1,554	$1,207	$347	$1,554	-	-	-	N/A	N/A
Hydro - Dams and Waterways	Hydro Asset Failure	Instrumentation / Communication Enhancements	No	On-Going	Annual	$250	$250	$500	$237	$421	$658	($13)	$171	$158	-5%	68%	32%	N/A	N/A
Hydro - Dams and Waterways	Hydro Asset Failure	Low Level Outlet Improvements	No	On-Going	Annual	$0	$0	$0	$3,596	$1,342	$4,938	$3,596	$1,342	$4,938	-	-	-	N/A	N/A
Hydro - Dams and Waterways	Hydro Asset Failure	Non-RAMP	No	On-Going	Annual	$5,937	$5,937	$11,874	$8,059	$9,782	$17,841	$2,122	$3,845	$5,967	36%	65%	50%	N/A	N/A
Hydro - Dams and Waterways	Hydro Asset Failure	Seepage Mitigation	No	On-Going	Annual	$3,900	$3,900	$7,800	$0	$0	$0	($3,900)	($3,900)	($7,800)	-100%	-100%	-100%	N/A	N/A
Hydro - Dams and Waterways	Hydro Asset Failure	Seismic Retrofit	No	On-Going	Annual	$0	$0	$0	$0	$109	$109	$0	$109	$109	-	-	-	N/A	N/A
Hydro - Dams and Waterways	Hydro Asset Failure	Spillway Remediation and Improvement	No	On-Going	Annual	$2,500	$2,500	$5,000	$1,345	$1,758	$3,103	($1,155)	($742)	($1,897)	-46%	-30%	-38%	N/A	N/A
Hydro - Dams and Waterways	N/A	Total	Yes	On-Going	Annual	$12,587	$12,587	$25,174	$14,443	$13,759	$28,202	$1,856	$1,173	$3,029	15%	9%	12%	No	No
Hydro - Decommissioning	N/A	N/A	Yes	On-Going	Annual	$418	$418	$836	$586	$32,777	$33,363	$168	$32,359	$32,527	40%	7745%	3892%	**Yes**	**Yes**
Hydro - Electrical Equipment	N/A	N/A	Yes	On-Going	Annual	$3,533	$3,533	$7,066	$9,776	$9,115	$18,891	$6,243	$5,583	$11,826	177%	158%	167%	No	No
Hydro - Prime Movers	N/A	N/A	Yes	On-Going	Annual	$10,004	$10,004	$20,008	$4,198	$1,054	$5,252	($5,806)	($8,950)	($14,756)	-58%	-89%	-74%	No	No
Hydro - Relicensing	N/A	N/A	Yes	On-Going	Annual	$15,310	$15,310	$30,620	$6,731	$6,453	$13,184	($8,579)	($8,856)	($17,435)	-56%	-58%	-57%	No	No
Hydro - Structures and Grounds	N/A	N/A	Yes	On-Going	Annual	$3,203	$3,203	$6,406	$6,647	$2,051	$8,698	$3,444	($1,152)	$2,292	108%	-36%	36%	No	No
Mountainview	N/A	N/A	Yes	On-Going	Annual	$6,595	$6,595	$13,190	$4,760	$9,551	$14,311	($1,835)	$2,956	$1,121	-28%	45%	8%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
Palo Verde	N/A	N/A	Yes	On-Going	Annual	$37,212	$37,212	$74,424	$35,851	$34,429	$70,280	($1,361)	($2,782)	($4,143)	-4%	-7%	-6%	No	No
Peakers	N/A	N/A	Yes	On-Going	Annual	$0	$0	$0	$9,937	$2,299	$12,236	$9,937	$2,299	$12,236	-	-	-	No	No
Protection of Generation Assets	Physical Security	Protection of Generation Capabilities	Yes	On-Going	Annual	$3,288	$3,288	$6,576	$1,061	$1,613	$2,674	($2,227)	($1,675)	($3,902)	-68%	-51%	-59%	No	No
Solar	N/A	N/A	Yes	On-Going	Annual	$102	$102	$204	$16	$707	$723	($86)	$605	$519	-84%	591%	254%	No	No

Table XI-33
Generation Capital Expenditure Category Activity Unit Variance Calculations

				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Unit Description / Rationale for No Work Units	Year 1 - 2021	Year 2 - 2022	Imputed Units to Date	Year 1 - 2021	Year 2 - 2022	Actual Units to Date	Year 1 - 2021	Year 2 - 2022	Unit Difference to Date	Year 1 - 2021	Year 2 - 2022	Percent Unit Diff. to Date	Unit Variance Explanation Triggered?
Catalina - Diesel	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Hydro - Dams and Waterways	N/A	Total	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Hydro - Decommissioning	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Hydro - Electrical Equipment	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Hydro - Prime Movers	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Hydro - Relicensing	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Hydro - Structures and Grounds	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Mountainview	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No
Palo Verde	N/A	N/A	This activity is comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Peakers	N/A	N/A	This activity is comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Protection of Generation Assets	Physical Security	Protection of Generation Capabilities	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Solar	N/A	N/A	These workpapers are comprised of multiple projects and types of projects that vary in size and scope, and therefore providing a single work unit is not feasible													No

3. Variance Explanations

Table XI-34 below provides the variance explanations for those GRC activities meeting the established thresholds.

Table XI-34
Generation Capital Expenditure Category Activity Variance Explanations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Hydro - Decommissioning	**Yes**	**Yes**	No	In the 2021 GRC Final Decision, the CPUC approved $0.408 million annually for SCE to address ongoing safety, regulatory, and other requirements for the San Gorgonio project. The CPUC authorized amount was consistent with recorded 2019 capital expenditures but did not cover physical decommissioning activities at San Gorgonio because the timeline for decommissioning activities was unclear at the time. Pursuant to contractual obligations, FERC license responsibilities, and proposed USFS requirements, SCE was required to repair and maintain the water conveyance system as part of the decommissioning process. However, at the time of SCE's 2021 GRC request (submitted in September 2019) and the subsequent 2021 GRC decision, ongoing water rights disputes between the U.S. Forest Service (USFS) and local Participating Entities had continually delayed the FERC license surrender process and prevented SCE from beginning physical decommissioning activities at San Gorgonio. Shortly after the 2021 GRC decision, these water rights disputes were resolved and the FERC licenses were issued, allowing SCE to move forward with decommissioning activities. However, before these activities could commence, the 2020 Apple Fire burned through the San Gorgonio watershed and caused significant damage to the water conveyance system, rendering it inoperable, and therefore stopping the delivery of water to the Participating Entities. As part of the decommissioning process, SCE repaired the water conveyance system and has appropriately recorded these repair costs as a decommissioning expenditure. In 2021, SCE obtained approval from FERC and other resource agencies to reconstruct a section of the water conveyance system from the South Fork Diversion to Raywood Flat (referred to as Flowline No. 1 Phase 1). The reconstruction of this section of flowline restored a portion of the water delivery through the system. SCE's recorded costs are thus higher than the authorized amount because the approval from FERC and other resource agencies granted authorization for SCE to proceed with the necessary decommissioning work, which was exacerbated by fire and other weather conditions.

4. Activity Status

Table XI-35 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

Table XI-35
Generation Expenditure Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Catalina - Diesel	On-Going	Annual	Under	Under	Under	Partially Delayed	While SCE has spent less than 5% of authorized, SCE does not consider this program cancelled. SCE requested one project associated with this GRC activity in the TY 2021 GRC (PBGS Resurface Paving Project) which has been delayed to later years.
Hydro - Dams and Waterways	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Hydro - Decommissioning	On-Going	Annual	Over	Over	Over	Expanded	As noted in our variance explanation, in the 2021 GRC Final Decision, the CPUC approved $0.408 million annually for SCE to address ongoing safety, regulatory, and other requirements for the San Gorgonio project. The CPUC authorized amount was consistent with recorded 2019 capital expenditures but did not cover physical decommissioning activities at San Gorgonio because the timeline for decommissioning activities was unclear at the time that SCE has now initiated. Please refer to our variance explanation for additional details.
Hydro - Electrical Equipment	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Hydro - Prime Movers	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Hydro - Relicensing	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Hydro - Structures and Grounds	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Mountainview	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Palo Verde	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Peakers	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Protection of Generation Assets	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Solar	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

XII.

OTHER CATEGORY

A. Expensed Programs

1. GRC Activity and Unit Description Table

For the Other expense activities that are SAR-eligible, Table XII-36 below provides the 2021 GRC testimony citation and activity description and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table XII-36
Other Expense Category Activity Description

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
All Hazards Assessment, Mitigation and Analytics	All Hazards, Assessment, Mitigation & Analytics - includes cost to assess and mitigate hazards such as seismic, climate change, severe weather and other hazards.	SCE-04 Vol: 1	WPSCE04V1 pp.8 - 20	Climate Change and Building Safety	Climate Adaptation & Severe Weather and Seismic Building Safety Program
Customer Contact Center	This activity consists of costs associated with the Customer Contact Center to provide customers with telephone access to a SCE representative covering a full array of routine services and the costs for telephone billings and related expenses. The CCC also responds, 24 hours a day, seven days a week, to emergency calls regarding outages, damaged equipment, and disconnection of service.	SCE-03 Vol: 4	WPSCE03VO4A pp. 1 - 9	N/A	N/A
Cyber Software License and Maintenance	Expenses incurred for licensing and ongoing maintenance of Cyber Security software.	SCE-04 Vol: 3	WPSCE04V3 pp. 143 - 150	Cyber Attack	Data Protection, Grid Modernization Cybersecurity, Interior Protection, Perimeter Defense and SCADA Cybersecurity
Cybersecurity Delivery and IT Compliance	Expenses associated with delivering cybersecurity services and monitoring compliance with key cybersecurity related regulations.	SCE-04 Vol: 3	WPSCE04V3 pp. 21 - 27	Cyber Attack	Data Protection, Grid Modernization Cybersecurity, Interior Protection, Perimeter Defense and SCADA Cybersecurity
Develop and Manage Policy and Initiatives	The Develop and Manage Policy and Initiatives activity consists of work performed within the Regulatory Affairs organization. The work includes activities that support SCE's management of the regulatory work required to support and implement	SCE-06 Vol: 6	WPSCE06V6 pp. 1 - 6	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	energy, environmental, and wildfire mitigation policies, as well as other policies instituted by state, federal, and local agencies.				
Distribution Storm Response O&M	Distribution Storm - Includes the costs to patrol for and repair storm related damages and toxic waste disposal for distribution lines and facilities. Storm damage can be the result of severe weather conditions such as rain, wind, lightning, and by natural disasters such as earthquakes and forest fires. The storm costs included in this account are: switching, locating and isolating trouble on the system, removal of debris from lines or equipment, and securing damaged sites until repairs have been completed. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.	SCE-04 Vol: 2	WPSCE04V2 pp. 23 - 29	N/A	N/A
Education, Safety and Operations	The Education, Safety and Operations consists of work performed within the Local Public Affairs (LPA) organization. LPA is responsible for managing and directing external engagement with government officials, staff, businesses, and local community stakeholders representing 185 cities, 15 counties, and 13 Native American tribes in the SCE service territory. The activities covered include outreach and education related to electric safety, emergency response communications (including wildfire mitigation programs), capital infrastructure projects, operations impacting local communities, reliability issues, and education on state-mandated policy initiatives such as energy efficiency, renewable energy sources, distributed generation, transportation electrification, community resiliency, and other programs.	SCE-06 Vol: 6	WPSCE06V6 pp. 7 - 12	N/A	N/A
Emergency Preparedness and Response	Costs incurred to maintain expertise and provide direct support to the company and Service territory for	SCE-04 Vol: 2	WPSCE04V2 pp. 11 - 22	Climate Change	Emergency Management and Fire Management

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	emergency management preparedness, response and recovery operations.				
Employee and Contractor Safety	Includes all costs associated with salaries, expenses, and consultant services of personnel engaged of Employee and Contractor Safety activities.	SCE-06 Vol: 4	WPSCE06V4 pp. 54 - 60	Employee, Contractor and Public Safety	Contractor Safety Program and Industrial Ergonomics
Enhanced Situational Awareness	Expenses incurred to support the Situational Awareness Center.	SCE-04 Vol: 5	WPSCE04V5Pt2 pp. 59 - 70	N/A	N/A
Environmental Management and Development	Includes all costs associated with salaries and expenses in Environmental Services for the management and oversight of environmental programs. This activity involves administrative and general activities regarding environmental matters and issues that affect company operations.	SCE-06 Vol: 4	WPSCE06V4 pp. 3 - 9	N/A	N/A
Environmental Programs	Includes all costs associated with salaries and expenses for distribution, transmission, generation, and hazardous waste environmental programs, including the expenses associated with the maintenance and monitoring of the San Dieguito Wetlands and Wheeler North Reef Mitigation Projects.	SCE-06 Vol: 4	WPSCE06V4 pp. 10 - 16	N/A	N/A
Ethics and Compliance	Includes all costs associated with salaries and expenses to maintain the effectiveness of SCE's Ethics & Compliance (E&C) program. E&C incorporates and reinforces the Company's core values of Safety, Integrity, Excellence, Respect, Continuous Improvement and Teamwork. The goal of the Program is to facilitate and sustain a culture where acting ethically and obeying the law is the expected and everyday course of action for employees and the Company's business partners.	SCE-06 Vol: 4	WPSCE06V4 pp. 47 - 53	N/A	N/A
External Communications	This activity consists of external communications to help customers and the public stay safe around electrical infrastructure and to understand company and regulatory actions that affect them directly.	SCE-03 Vol: 2	WPSCE03V2 pp. 21 - 26	Contact with Energized Equipment	Public Outreach

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Facility and Land Operations	Facility and Land Operations Business Planning Activities (BPA's) include: Facility Asset Management, Business Planning, Corporate Real Estate (CRE) Project Management, Camp Edison, Forestry Management, and Acquire/Dispose of Land Rights. Facility Asset Management activities are focused on providing a safe and productive environment for employees, visitors, and customers at SCE facilities. Business Planning activities entail strategic planning and transactional activities including leasing for the SCE facility portfolio. CRE Project Management is responsible for overseeing large capital projects in the SCE facility portfolio. Camp Edison includes operating and maintaining the campground facility and infrastructure. Forestry management operations include activities such as of vegetation management, timber harvesting (thinning), wildfire prevention, reforestation and rehabilitation, protection of natural resources. Acquire/Dispose of Land Rights manages and coordinates requests for third party use of SCE land and land rights, including those rights associated with the relocation and removal of SCE facilities.	SCE-06 Vol: 5	WPSCE06V5BKA.pdf pp. 234 - 239	Building Safety, Employee, Contractor and Public Safety	Electrical Inspections, Fire Life Safety Portfolio Assessment and Office Ergonomics - Core Program
Fire Science and Advanced Modeling	Fire Science and Advanced Modeling - includes cost for gathering and integration of science and technology to support wildfire mitigation across the SCE service territory. The sub-activities are: Advanced Modeling Computer Hardware, Fuel Sampling Program, Remote Sensing Satellite, etc.	SCE-04 Vol: 5	WPSCE04V5Pt2 pp. 78 - 92	N/A	N/A
Grid Mod Cybersecurity	Expenses incurred in providing Cybersecurity capabilities for the Grid Mod program.	SCE-04 Vol: 3	WPSCE04V3 pp. 116 - 122	Cyber Attack	Grid Modernization Cybersecurity
Organizational Support	This activity includes the labor and contract costs associated with change management support for EOI, PSPS, and other wildfire management activities.	SCE-04 Vol: 5	WPSCE04V05APt01 pp. 351 - 359	N/A	N/A
Physical Security	Security Technology, Operations and Maintenance includes two sub-activities: (1) Project Management	SCE-04 Vol: 4	WPSCE04V4 pp. 25 - 36	Physical Security	Asset Protection, Insider Threat

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	Office and (2) Break-fix and Preventive Maintenance. The Project Management Office (PMO) implements standards for management of physical security projects and tracks and prioritizes physical security projects from initiation through completion. The PMO employs best practices established by the Project Management Institute and other project management resources. Break-fix and preventive maintenance activities include monitoring and repairing all Physical Access Control Systems (PACS) for both NERC and Non-NERC sites. Beyond PACS, there are four major types of security systems and equipment in use at SCE: access control, intrusion detection, perimeter protection, and video surveillance systems. Components of these systems include turnstiles, electronic identify badge readers, surveillance cameras, request to exit devices, electronic locks, smart keys, intrusion detection equipment (door contacts), gunshot detection, alarm panels, video recording systems, manual key boxes, and radar technology. The Workforce Protection and Insider Threat program includes: (1) security officer services, both at office buildings and in the field, including emergency backup of security officers and on-demand services, (2) centralized alarm monitoring and call/dispatch via the Edison Security Operations Center, (3) badging office, (4) background investigations, (5) Insider Threat program, (6) governance and compliance of security programs, and (7) administrative and general functions.				Program Enhancement - Information Analysis – Base
Planning, Continuity and Governance	Costs incurred to develop and maintain emergency and contingency plans, maintain continuity of operations, and governance over compliance programs related to emergency management, response and recovery.	SCE-04 Vol: 1	WPSCE04V1 pp. 1 - 7	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
PSPS Customer Support	Technology investments to improve the PSPS programs and protocols.	SCE-04 Vol: 5	WPSCE04V05A pp. 2 - 18	Wildfire	PSPS Protocol and Support Functions
PSPS Execution	PSPS Execution includes costs incurred in maintaining the capability of monitoring conditions for the activation of a planned outage on circuits with an elevated risk of wildfire, along with certain costs incurred in activation and deactivation of these planned outages.	SCE-04 Vol: 5	WPSCE04V05A pp. 29 - 54	Wildfire	PSPS Protocol and Support Functions
Public Safety	Includes all costs associated with salaries, expenses, and consultant services of personnel engaged of Public Safety activities.	SCE-06 Vol: 4	WPSCE06V4 pp. 61 - 67	N/A	N/A
Safety Activities - Transmission & Distribution	The cost of labor, materials used, and expenses incurred to develop and deliver safety programs to distribution and transmission personnel. Also includes the seat-time (labor costs) for employees to attend safety events and trainings and non-labor costs related to event attendance such as transportation expenses, meals, travel, lodging, and incidental expenses, as well as division overhead.	SCE-06 Vol: 4	WPSCE06V4 pp. 75 - 81	Employee, Contractor and Public Safety	Safety Controls
Safety Culture Transformation	Includes all costs associated with salaries, expenses, and consultant services of personnel engaged of Safety Culture Transformation activities. Costs relating with seat-time for employees to attend Safety Culture training sessions were excluded from this activity.	SCE-06 Vol: 4	WPSCE06V4 pp. 68 - 74	Employee, Contractor and Public Safety	Safety Culture Transformation
Software Maintenance and Replacement	The Software Maintenance and Replacement O&M work activity includes SCE labor and non-labor costs required to maintain SCE's operating software assets through on-premise license, cloud, subscription, and maintenance agreements. Operating Software includes operating systems, business intelligence systems, database management systems, cross-system integration tools, IT monitoring tools and end-user productivity and collaboration software which enable	SCE-06 Vol: 1 Pt. 2	WPSCE06V01Pt01A pp. 34 - 40	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	business applications to take advantage of the underlying hardware features and functions.				
Technology Delivery	This activity includes SCE labor and non-labor to plan and implement capital software projects. It also includes costs for project management, post go-live stabilization, and change management expenses. Lastly, the activity includes O&M software project costs that are expensed (typically less than $250,000).	SCE-06 Vol: 1 Pt. 2	WPSCE06V01Pt01A pp. 9 - 21	N/A	N/A
Technology Infrastructure Maintenance and Replacement	The Technology Infrastructure Maintenance and Replacement activity provides support of business applications and services for SCE's: (1) data center infrastructure, (2) end user computing maintenance, and (3) technology adoption. Support for SCE's data centers involves procuring, installing, and maintenance of all enterprise data center hardware infrastructure. End user computing maintenance covers the performance management of SCE's Service Desk that resolves approximately 204,000 service tickets per year as well as management of SCE's smart phone plans, tablet cellular data, air cards, printers, plotters, laptops and desktops, and AV for teleconference rooms across the Company. technology adoption handles retirement of computer, storage, network, and operating software assets and the replacement of these assets with hardware and operating software that may be more operationally efficient with improved price performance to leverage new technologies such as the cloud.	SCE-06 Vol: 1 Pt. 2	WPSCE06V01Pt01A pp. 34 - 40	N/A	N/A
Telecommunication Storm Response O&M	Includes the costs to patrol for and repair storm related damages and toxic waste disposal for Telecommunication lines and facilities. Storm damage can be the result of severe weather conditions such as rain, wind, lightning, and by natural disasters such as earthquakes and forest fires. The storm costs included in this account are: switching, locating and isolating trouble on the system, removal of debris	SCE-04 Vol: 2	WPSCE04V2 pp. 37 - 43	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	from lines or equipment, and securing damaged sites until repairs have been completed. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.				
Training and Development	This activity is composed of training and development programs for employees such as job skills, compliance, leadership, and safety training. Costs within these activities include labor to develop, deliver, and attend (seat-time) the training as well as expenses for materials, transportation, meals, travel, lodging, incidentals and division overheads.	SCE-06 Vol: 3 Pt. 1	WPSCE06V3Pt1BkB, pp. 127-132	Physical Security, Employee, Contractor and Public Safety	Asset Protection, Insider Threat Program Enhancement - Information Analysis – Base and Safety Culture Transformation
Training Delivery and Development - Transmission and Distribution	The cost of labor, materials used, and expenses incurred to develop and deliver training to transmission personnel.	SCE-06 Vol: 3 Pt. 1	WPSCE06V3Pt1BkB pp. 127 - 135	N/A	N/A
Training Seat-Time - Transmission and Distribution	This activity is composed of the seat-time (labor costs) for employees to attend training and informational meetings for distribution employees. Non-labor costs include related costs such as transportation expenses, meals, travel, lodging, and incidental expenses, as well as division overhead.	SCE-06 Vol: 3: Pt. 1	WPSCE06V3Pt1BkB pp. 136 - 144	N/A	N/A
Training, Drills and Exercises	Costs incurred for the training of employee, conducting drills and exercises, for the Company's response capabilities for various hazards, such as earthquakes, wildfires, and cyber attacks.	SCE-04 Vol: 2	WPSCE04V2 pp. 1 - 10	Building Safety	Emergency Management and Facility Emergency Management Program
Transmission Pole Loading Work Order Related Expense	Expenses incurred for work that must be done when capital additions or replacements are being performed. These activities do not qualify for capitalization according to standard accounting guidelines.	SCE-02 Vol: 2	WPSCE02V02A	N/A	N/A
Transmission/Substation Storm Response O&M	Includes the costs to patrol for and repair storm related damages and toxic waste disposal for Transmission lines and substation facilities. Storm damage can be	SCE-04 Vol: 2	WPSCE04V2 pp. 30 - 26	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	the result of severe weather conditions such as rain, wind, lightning, and by natural disasters such as earthquakes and forest fires. The storm costs included in this account are: switching, locating and isolating trouble on the system, removal of debris from lines or equipment, and securing damaged sites until repairs have been completed. Includes related costs such as: transportation expenses; meals, traveling, lodging, and incidental expenses; division overhead; and supply and tool expense.				

2. GRC Activities Dollar and Unit Variance Calculations

Table XII-37 and Table XII-38 below provide the authorized and recorded costs, and variance and percentage change values for each Other expense activity in terms of dollars and units. These tables also indicate whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table XII-37
Other Expense Category Activity Dollar Variance Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
All Hazards Assessment, Mitigation and Analytics	Building Safety	Seismic Building Safety Program	No	On-Going	Annual	$2,749	$2,800	$5,549	$1,634	$1,298	$2,932	($1,115)	($1,502)	($2,617)	-41%	-54%	-47%	N/A	N/A
All Hazards Assessment, Mitigation and Analytics	Climate Change	Climate Adaptation & Severe Weather	No	On-Going	Annual	$882	$898	$1,780	$766	$940	$1,706	($116)	$42	($74)	-13%	5%	-4%	N/A	N/A
All Hazards Assessment, Mitigation and Analytics	N/A	Non-RAMP	No	On-Going	Annual	$562	$572	$1,134	$4,067	$1,276	$5,343	$3,505	$703	$4,208	624%	123%	371%	N/A	N/A
All Hazards Assessment, Mitigation and Analytics	N/A	Total	Yes	On-Going	Annual	$4,194	$4,272	$8,466	$6,467	$3,514	$9,981	$2,273	($758)	$1,515	54%	-18%	18%	No	No
Customer Contact Center	N/A	N/A	Yes	On-Going	Annual	$48,360	$49,916	$98,276	$51,802	$42,976	$94,778	$3,442	($6,940)	($3,498)	7%	-14%	-4%	No	No
Cyber Software License and Maintenance	Cyber Attack	Data Protection	No	On-Going	Annual	$180	$183	$363	$117	$397	$514	($63)	$214	$151	-35%	117%	42%	N/A	N/A
Cyber Software License and Maintenance	Cyber Attack	Grid Modernization Cybersecurity	No	On-Going	Annual	$2,100	$2,136	$4,236	$1,363	$488	$1,851	($737)	($1,647)	($2,384)	-35%	-77%	-56%	N/A	N/A
Cyber Software License and Maintenance	Cyber Attack	Interior Protection	No	On-Going	Annual	$1,089	$1,108	$2,197	$707	$488	$1,195	($382)	($619)	($1,001)	-35%	-56%	-46%	N/A	N/A
Cyber Software License and Maintenance	Cyber Attack	Non-RAMP	No	On-Going	Annual	$0	$0	$0	$528	$0	$528	$528	$0	$528	-	-	-	N/A	N/A
Cyber Software License and Maintenance	Cyber Attack	Perimeter Defense	No	On-Going	Annual	$2,496	$2,538	$5,034	$1,620	$877	$2,497	($876)	($1,661)	($2,537)	-35%	-65%	-50%	N/A	N/A
Cyber Software License and Maintenance	Cyber Attack	SCADA Cybersecurity	No	On-Going	Annual	$139	$141	$280	$90	$99	$189	($49)	($42)	($91)	-35%	-30%	-32%	N/A	N/A
Cyber Software	N/A	Total	Yes	On-Going	Annual	$6,004	$6,106	$12,110	$4,425	$2,351	$6,776	($1,579)	($3,756)	($5,335)	-26%	-62%	-44%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
License and Maintenance																			
Cybersecurity Delivery and IT Compliance	Cyber Attack	Data Protection	No	On-Going	Annual	$3,716	$3,815	$7,531	$1,908	$3,213	$5,121	($1,808)	($602)	($2,410)	-49%	-16%	-32%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	Grid Modernization Cybersecurity	No	On-Going	Annual	$4,497	$4,617	$9,114	$2,396	$3,240	$5,636	($2,101)	($1,377)	($3,478)	-47%	-30%	-38%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	Interior Protection	No	On-Going	Annual	$3,839	$3,942	$7,781	$1,955	$3,090	$5,045	($1,884)	($851)	($2,735)	-49%	-22%	-35%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	Non-RAMP	No	On-Going	Annual	$2,859	$2,936	$5,795	$7,003	$2,594	$9,597	$4,144	($342)	$3,802	145%	-12%	66%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	Perimeter Defense	No	On-Going	Annual	$4,332	$4,448	$8,780	$3,511	$6,623	$10,134	($821)	$2,175	$1,354	-19%	49%	15%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	SCADA Cybersecurity	No	On-Going	Annual	$3,370	$3,460	$6,830	$1,751	$1,173	$2,924	($1,619)	($2,287)	($3,906)	-48%	-66%	-57%	N/A	N/A
Cybersecurity Delivery and IT Compliance	N/A	Total	Yes	On-Going	Annual	$22,613	$23,218	$45,831	$18,523	$19,933	$38,456	($4,090)	($3,285)	($7,375)	-18%	-14%	-16%	No	No
Develop and Manage Policy and Initiatives	N/A	N/A	Yes	On-Going	Annual	$16,730	$17,233	$33,963	$14,469	$16,021	$30,490	($2,261)	($1,212)	($3,473)	-14%	-7%	-10%	No	No
Distribution Storm Response O&M	N/A	N/A	Yes	On-Going	Annual	$14,424	$14,917	$29,341	$12,580	$14,936	$27,516	($1,844)	$19	($1,825)	-13%	0%	-6%	No	No
Education, Safety and Operations	N/A	N/A	Yes	On-Going	Annual	$7,736	$7,958	$15,694	$5,898	$6,193	$12,091	($1,838)	($1,765)	($3,603)	-24%	-22%	-23%	No	No
Emergency Preparedness and Response	Climate Change	Emergency Management	No	On-Going	Annual	$2,068	$2,124	$4,191	$2,367	$1,657	$4,024	$299	($466)	($167)	14%	-22%	-4%	N/A	N/A
Emergency Preparedness and Response	Climate Change	Fire Management	No	On-Going	Annual	$613	$630	$1,244	$728	$1,400	$2,128	$115	$770	$885	19%	122%	71%	N/A	N/A
Emergency Preparedness and Response	N/A	Total	Yes	On-Going	Annual	$2,862	$2,940	$5,802	$3,095	$3,058	$6,153	$233	$118	$351	8%	4%	6%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Employee and Contractor Safety	Employee, Contractor and Public Safety	Contractor Safety Program	No	On-Going	Annual	$200	$205	$405	$40	$8	$48	($160)	($197)	($357)	-80%	-96%	-88%	N/A	N/A
Employee and Contractor Safety	Employee, Contractor and Public Safety	Industrial Ergonomics	No	On-Going	Annual	$15	$15	$30	$0	$0	$0	($15)	($15)	($30)	-100%	-100%	-100%	N/A	N/A
Employee and Contractor Safety	N/A	Non-RAMP	No	On-Going	Annual	$4,396	$4,506	$8,902	$14,982	$12,745	$27,727	$10,586	$8,238	$18,824	241%	183%	211%	N/A	N/A
Employee and Contractor Safety	N/A	Total	Yes	On-Going	Annual	$4,611	$4,727	$9,338	$15,022	$12,745	$27,767	$10,411	$8,018	$18,429	226%	170%	197%	No	Yes
Enhanced Situational Awareness	Wildfire	N/A	Yes	On-Going	Annual	$3,786	$3,857	$7,643	$5,411	$5,534	$10,945	$1,625	$1,677	$3,302	43%	43%	43%	No	No
Environmental Management and Development	N/A	N/A	Yes	On-Going	Annual	$10,569	$10,865	$21,434	$13,041	$16,531	$29,572	$2,472	$5,666	$8,138	23%	52%	38%	No	**Yes**
Environmental Programs	N/A	N/A	Yes	On-Going	Annual	$18,358	$19,040	$37,398	$14,082	$15,163	$29,245	($4,276)	($3,876)	($8,152)	-23%	-20%	-22%	No	No
Ethics and Compliance	N/A	N/A	Yes	On-Going	Annual	$15,283	$15,666	$30,949	$12,829	$12,936	$25,765	($2,454)	($2,730)	($5,184)	-16%	-17%	-17%	No	No
External Communications	Contact with Energized Equipment	Public Outreach	No	On-Going	Annual	$6,821	$6,960	$13,781	$6,051	$5,530	$11,581	($770)	($1,429)	($2,199)	-11%	-21%	-16%	N/A	N/A
External Communications	N/A	Non-RAMP	No	On-Going	Annual	$5,155	$5,260	$10,415	$5,513	$5,609	$11,122	$358	$349	$707	7%	7%	7%	N/A	N/A
External Communications	N/A	Total	Yes	On-Going	Annual	$11,976	$12,220	$24,196	$11,563	$11,139	$22,702	($413)	($1,080)	($1,493)	-3%	-9%	-6%	No	No
Facility and Land Operations	Building Safety	Electrical Inspections	No	On-Going	Annual	$1,628	$1,661	$3,289	$1,020	$1,481	$2,501	($608)	($180)	($788)	-37%	-11%	-24%	N/A	N/A
Facility and Land Operations	Building Safety	Fire Life Safety Portfolio Assessment	No	On-Going	Annual	$179	$183	$362	$12	$17	$29	($167)	($166)	($333)	-93%	-91%	-92%	N/A	N/A
Facility and Land Operations	Employee, Contractor and	Office Ergonomics - Core Program	No	On-Going	Annual	$50	$51	$101	$0	$0	$0	($50)	($51)	($101)	-100%	-100%	-100%	N/A	N/A

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
	Public Safety																		
Facility and Land Operations	N/A	Non-RAMP	No	On-Going	Annual	$59,815	$61,010	$120,825	$54,205	$60,850	$115,055	($5,610)	($161)	($5,771)	-9%	0%	-5%	N/A	N/A
Facility and Land Operations	N/A	Total	Yes	On-Going	Annual	$61,672	$62,904	$124,576	$55,237	$62,348	$117,585	($6,435)	($557)	($6,992)	-10%	-1%	-6%	No	No
Fire Science and Advanced Modeling	N/A	N/A	Yes	On-Going	Annual	$4,135	$4,205	$8,340	$5,770	$7,477	$13,247	$1,635	$3,272	$4,907	40%	78%	59%	No	No
Grid Mod Cybersecurity	Cyber Attack	Grid Modernization Cybersecurity	Yes	On-Going	Annual	$652	$665	$1,317	$627	$762	$1,389	($25)	$97	$72	-4%	15%	6%	No	No
Organizational Support	N/A	N/A	Yes	On-Going	Annual	$3,484	$3,555	$7,039	$10,653	$8,181	$18,834	$7,169	$4,626	$11,795	206%	130%	168%	No	No
Physical Security	Physical Security	Asset Protection and Insider Threat Program Enhancement - Information Analysis - Base	Yes	On-Going	Annual	$24,995	$25,511	$50,506	$21,826	$21,575	$43,401	($3,169)	($3,936)	($7,105)	-13%	-15%	-14%	No	No
Planning, Continuity and Governance	N/A	N/A	Yes	On-Going	Annual	$1,436	$1,480	$2,916	$838	$842	$1,680	($598)	($637)	($1,235)	-42%	-43%	-42%	No	No
PSPS Customer Support	Wildfire	PSPS Protocol and Support Functions	Yes	On-Going	Annual	$13,833	$14,286	$28,119	$33,981	$29,026	$63,007	$20,148	$14,740	$34,888	146%	103%	124%	**Yes**	**Yes**
PSPS Execution	Wildfire	PSPS Protocol and Support Functions	Yes	On-Going	Annual	$14,938	$15,425	$30,363	$41,677	$35,216	$76,893	$26,739	$19,790	$46,529	179%	128%	153%	**Yes**	**Yes**
Public Safety	N/A	N/A	Yes	On-Going	Annual	$655	$674	$1,329	$531	$424	$955	($124)	($250)	($374)	-19%	-37%	-28%	No	No
Safety Activities - Transmission & Distribution	Employee, Contractor and Public Safety	Safety Controls	No	On-Going	Annual	$2,266	$2,338	$4,604	$0	$0	$0	($2,266)	($2,338)	($4,604)	-100%	-100%	-100%	N/A	N/A
Safety Activities - Transmission & Distribution	N/A	Non-RAMP	No	On-Going	Annual	$15,680	$16,178	$31,858	$7,700	$10,551	$18,251	($7,980)	($5,627)	($13,607)	-51%	-35%	-43%	N/A	N/A

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Safety Activities - Transmission & Distribution	N/A	Total	Yes	On-Going	Annual	$17,946	$18,516	$36,462	$7,700	$10,551	$18,251	($10,246)	($7,965)	($18,211)	-57%	-43%	-50%	No	**Yes**
Safety Culture Transformation	Employee, Contractor and Public Safety	Safety Culture Transformation	Yes	On-Going	Annual	$2,413	$2,463	$4,876	$1,800	$2,325	$4,125	($613)	($138)	($751)	-25%	-6%	-15%	No	No
Software Maintenance and Replacement	N/A	N/A	Yes	On-Going	Annual	$102,261	$104,123	$206,384	$84,098	$101,807	$185,905	($18,163)	($2,316)	($20,479)	-18%	-2%	-10%	No	No
Technology Delivery	N/A	N/A	Yes	On-Going	Annual	$11,920	$12,187	$24,107	$6,403	$8,265	$14,668	($5,517)	($3,922)	($9,439)	-46%	-32%	-39%	No	No
Technology Infrastructure Maintenance and Replacement	N/A	N/A	Yes	On-Going	Annual	$23,055	$23,660	$46,715	$20,140	$21,754	$41,894	($2,915)	($1,907)	($4,822)	-13%	-8%	-10%	No	No
Telecommunication Storm Response O&M	N/A	N/A	Yes	On-Going	Annual	$23	$23	$46	$122	$21	$143	$99	($2)	$97	430%	-8%	210%	No	No
Training and Development	Employee, Contractor and Public Safety	Safety Culture Transformation	No	On-Going	Annual	$3,956	$4,052	$8,008	$1,223	$1,551	$2,774	($2,733)	($2,501)	($5,234)	-69%	-62%	-65%	N/A	N/A
Training and Development	N/A	Non-RAMP	No	On-Going	Annual	$16,268	$16,661	$32,929	$14,274	$15,878	$30,152	($1,994)	($784)	($2,778)	-12%	-5%	-8%	N/A	N/A
Training and Development	Physical Security	Asset Protection	No	On-Going	Annual	$21	$22	$43	$5	$11	$16	($16)	($11)	($27)	-76%	-49%	-63%	N/A	N/A
Training and Development	Physical Security	Insider Threat Program Enhancement - Information Analysis - Base	No	On-Going	Annual	$183	$187	$370	$7	$16	$23	($176)	($171)	($347)	-96%	-91%	-94%	N/A	N/A
Training and Development	N/A	Total	Yes	On-Going	Annual	$20,428	$20,922	$41,350	$15,509	$17,455	$32,964	($4,919)	($3,467)	($8,386)	-24%	-17%	-20%	No	No
Training Delivery and Development - Transmissio	N/A	N/A	Yes	On-Going	Annual	$18,899	$19,501	$38,400	$14,409	$15,824	$30,233	($4,490)	($3,677)	($8,167)	-24%	-19%	-21%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Roll-up	Project Life (years)	Project Year	Year 1 - 2021	Year 2 - 2022	Authorized Imputed Cost to Date	Year 1 - 2021	Year 2 - 2022	Actual Cost to Date	Year 1 - 2021	Year 2 - 2022	Cost Diff. to Date	Year 1 - 2021	Year 2 - 2022	Percent Cost Diff. to Date	$ Threshold Variance Explanation	% / $ Variance Explanation
n and Distribution																			
Training Seat-Time - Transmission and Distribution	N/A	N/A	Yes	On-Going	Annual	$28,301	$29,186	$57,487	$18,954	$21,234	$40,188	($9,347)	($7,952)	($17,299)	-33%	-27%	-30%	No	Yes
Training, Drills and Exercises	Building Safety	Emergency Management	No	On-Going	Annual	$2,100	$2,150	$4,250	$1,199	$1,343	$2,542	($901)	($807)	($1,708)	-43%	-38%	-40%	N/A	N/A
Training, Drills and Exercises	Building Safety	Facility Emergency Management Program	No	On-Going	Annual	$260	$266	$526	$645	$804	$1,449	$385	$538	$923	148%	202%	175%	N/A	N/A
Training, Drills and Exercises	N/A	Total	Yes	On-Going	Annual	$2,359	$2,415	$4,774	$1,844	$2,147	$3,991	($515)	($268)	($783)	-22%	-11%	-16%	No	No
Transmission Pole Loading Work Order Related Expense	N/A	N/A	Yes	On-Going	Annual	$278	$286	$564	$19	$1,296	$1,315	($259)	$1,010	$751	-93%	354%	133%	No	No
Transmission/Substation Storm Response O&M	N/A	N/A	Yes	On-Going	Annual	$2,092	$2,152	$4,244	$1,119	$2,813	$3,932	($973)	$660	($313)	-47%	31%	-7%	No	No

Table XII-38
Other Expense Category Activity Unit Variance Calculations

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Unit Description / Rationale for No Work Units	Year 1 - 2021	Year 2 - 2022	Imputed Units to Date	Year 1 - 2021	Year 2 - 2022	Actual Units to Date	Year 1 - 2021	Year 2 - 2022	Unit Difference to Date	Year 1 - 2021	Year 2 - 2022	Percent Unit Diff. to Date	Unit Variance Explanation Triggered?
All Hazards Assessment, Mitigation and Analytics	Building Safety	Seismic Building Safety Program	Unable to identify a single unit due to multiple activities supporting this activity													No
All Hazards Assessment, Mitigation and Analytics	Climate Change	Climate Adaptation & Severe Weather														No
All Hazards Assessment, Mitigation and Analytics	N/A	Non-RAMP														No
All Hazards Assessment, Mitigation and Analytics	N/A	Total														No
Customer Contact Center	N/A	N/A	Unable to identify a single unit due to multiple activities supporting this activity.													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Cyber Software License and Maintenance	Cyber Attack	Data Protection	Unable to identify a single unit due to multiple activities supporting this activity.													No
Cyber Software License and Maintenance	Cyber Attack	Grid Modernization Cybersecurity														No
Cyber Software License and Maintenance	Cyber Attack	Interior Protection														No
Cyber Software License and Maintenance	Cyber Attack	Non-RAMP														No
Cyber Software License and Maintenance	Cyber Attack	Perimeter Defense														No
Cyber Software License and Maintenance	Cyber Attack	SCADA Cybersecurity														No
Cyber Software License and Maintenance	N/A	Total														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Data Protection	Unable to identify a single unit due to multiple activities supporting this activity.													No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Grid Modernization Cybersecurity														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Interior Protection														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Non-RAMP														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Perimeter Defense														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	SCADA Cybersecurity														No
Cybersecurity Delivery and IT Compliance	N/A	Total														No
Develop and Manage Policy and Initiatives	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Distribution Storm Response O&M	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Education, Safety and Operations	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Emergency Preparedness and Response	Climate Change	Emergency Management	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Emergency Preparedness and Response	Climate Change	Fire Management														No
Emergency Preparedness and Response	N/A	Total														No
Employee and Contractor Safety	Employee, Contractor and Public Safety	Contractor Safety Program	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Employee and Contractor Safety	Employee, Contractor and Public Safety	Industrial Ergonomics														No
Employee and Contractor Safety	N/A	Non-RAMP														No
Employee and Contractor Safety	N/A	Total														No
Enhanced Situational Awareness	Wildfire	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Environmental Management and Development	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Environmental Programs	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Ethics and Compliance	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement													No
External Communications	Contact with Energized Equipment	Public Outreach	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
External Communications	N/A	Non-RAMP														No
External Communications	N/A	Total														No
Facility and Land Operations	Building Safety	Electrical Inspections	The variety of projects in this category makes it infeasible to identify a single unit of measurement.													No
Facility and Land Operations	Building Safety	Fire Life Safety Portfolio Assessment														No
Facility and Land Operations	Employee, Contractor and Public Safety	Office Ergonomics - Core Program														No
Facility and Land Operations	N/A	Non-RAMP														No
Facility and Land Operations	N/A	Total														No
Fire Science and Advanced Modeling	N/A	N/A	The variety of projects in this category makes it infeasible to identify a single unit of measurement.													No
Grid Mod Cybersecurity	Cyber Attack	Grid Modernization Cybersecurity	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Organizational Support	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Physical Security	Physical Security	Asset Protection and Insider Threat Program Enhancement - Information Analysis – Base	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Planning, Continuity and Governance	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
PSPS Customer Support	Wildfire	PSPS Protocol and Support Functions	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
PSPS Execution	Wildfire	PSPS Protocol and Support Functions	PSPS Execution is comprised of several sub activities that are not unit based and will be unable to identify a single unit due to multiple activities in this workpaper.													No
Public Safety	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Safety Activities - Transmission & Distribution	Employee, Contractor and Public Safety	Safety Controls	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Safety Activities - Transmission & Distribution	N/A	Non-RAMP														No
Safety Activities - Transmission & Distribution	N/A	Total														No
Safety Culture Transformation	Employee, Contractor and Public Safety	Safety Culture Transformation	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Software Maintenance and Replacement	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Technology Delivery	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Technology Infrastructure Maintenance and Replacement	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Telecommunication Storm Response O&M	N/A	N/A	Storm events are driven by weather and other environmental factors outside of SCE's control and that can vary significantly from year to year. Accordingly, the capital forecast for Storm Response is based on a five-year average of recorded expenditures and is not unit based.													No
Training and Development	Employee, Contractor and Public Safety	Safety Culture Transformation	The variety of non-labor activities in this category makes it infeasible to identify a single unit of measurement.													No
Training and Development	N/A	Non-RAMP														No
Training and Development	N/A	Total														No
Training and Development	Physical Security	Asset Protection														No
Training and Development	Physical Security	Insider Threat Program Enhancement - Information Analysis – Base														No
Training Delivery and Development - Transmission and Distribution	N/A	N/A	The variety of non-labor activities in this category makes it infeasible to identify a single unit of measurement. (													No
Training Seat-Time - Transmission and Distribution	N/A	N/A	The variety of non-labor activities in this category makes it infeasible to identify a single unit of measurement.													No
Training, Drills and Exercises	Building Safety	Emergency Management	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Training, Drills and Exercises	Building Safety	Facility Emergency Management Program														No
Training, Drills and Exercises	N/A	Total														No
Transmission Pole Loading Work Order Related Expense	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Transmission/Substation Storm Response O&M	N/A	N/A	Storm events are driven by weather and other environmental factors outside of SCE's control and that can vary significantly from year to year. Accordingly, the capital forecast for Storm Response is based on a historical average and is not unit based.													No

3. Variance Explanations

Table XII-39 below provides the variance explanations for those GRC activities meeting the established thresholds.

Table XII-39
Other Expense Category Activity Variance Explanations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Employee and Contractor Safety	No	**Yes**	No	Above authorized spend was driven by essential COVID costs and/or associated requirements from Cal/OSHA, California Department of Public Health, and local requirements, which were not included in GRC authorized. Costs include those for employee testing; COVID-related protective apparatus, including consumables (masks, hand sanitizers, etc.); usage and salvage of expired consumables; response team case managers to handle employee and contractor COVID illnesses and exposures and required quarantine, isolation and contact tracing; ergonomic office equipment for remote employees; and public health advisors (external expert consultants to advise on all COVID safety precautions and procedures).
Environmental Management and Development	No	**Yes**	No	Environmental Services incurred an over-run of $5.7 million for GRC Activity Environmental Management and Development for 2022 authorized versus 2022 recorded spend. The Environmental Services Business Planning Element (BPE) includes two GRC activities, Environmental Management and Development and Environmental Programs. In 2022, Environmental Management and Development recorded higher labor costs primarily due to allocating more staff to Environmental Management and Development versus Environmental Programs work activities. This resulted in higher labor spend to Environmental Management and Development and lower labor spend to Environmental Programs in 2022 and is reflected by an under-run in 2022 recorded spend for Environmental Programs. In addition to the labor shifts, 2022 also included higher costs for continued improvement of the Environmental Management System and air quality compliance program improvements. Environmental Management System improvement costs in 2022 included an evaluation of any necessary changes needed to keep pace with increasing complexity of environmental regulations, and volume of operational work to support important grid resiliency and green energy transformation initiatives. Additional air quality compliance costs were necessary to enhance internal oversight of programs and provide support for new rules and regulations, including, but not limited to, the South Coast Air Quality Management District rule amendments related to fossil fuel generating stations, stationary emergency generators, mobile fuelers, NOx cap-and-trade program, as well as California Air Resources Board regulation amendments related to sulfur hexafluoride, advance clean fleet, and Low Carbon Fuel Standard.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	$ Threshold Variance Explanation	% / $ Variance Explanation	Unit Variance Explanation	Variance Explanation
PSPS Customer Support	**Yes**	**Yes**	No	The 2022 recorded amount for PSPS Customer Support exceeded the 2022 GRC authorized amount primarily due to the Critical Care Backup Battery (CCBB) program, which was not included in the 2021 GRC request. The CCBB program addresses the needs of SCE's income-qualified Medical Baseline (MBL) customers residing in high fire risk areas (HFRA) by fully funding the cost of a battery-powered portable backup solution to operate medical equipment during PSPS events. In July of 2020, SCE launched the CCBB program to provide a battery-powered portable backup solution to operate critical medical equipment during power outages due to PSPS events or other emergencies. Beginning in 2021, SCE expanded the CCBB program to include customers who are 1) enrolled in MBL; 2) enrolled in either the CARE or FERA program; and 3) that reside in the HFRA. Additionally, SCE increased program awareness through marketing and outreach by utilizing direct mail, outbound phone calls, door knocking, and through increased engagement with community-based organizations (CBOs) to help inform and educate their community members. In August of 2022, to align with guidance issued in D.21-06-034 and to administer a program to support resiliency for customers that rely on electricity to maintain necessary life functions, SCE again expanded the program eligibility to include all customers enrolled in MBL that reside in HFRA (i.e., SCE removed the requirement for CARE or FERA enrollment).
PSPS Execution	**Yes**	**Yes**	No	Similar to 2021, SCE spent more than authorized for PSPS Execution due to approximately $18 million in aerial suppression costs. These costs were not forecasted or included in SCE's 2021 GRC but are crucial to our wildfire mitigation efforts. Due to the limited availability of fire suppression resources available statewide, SCE partnered with Los Angeles, Ventura, and Orange Counties to support their proposal to fund the stand-by time of aerial suppression resources to reduce wildfire risk to SCE's system and help protect SCE's infrastructure and communities. These include helitankers, a reconnaissance aircraft and equipment to bolster firefighting capabilities to reduce a fire's consequence, provide service resilience to our customers and protect electrical infrastructure during fires. In 2021 and 2022, the quick reaction force (QRF) of aerial resources was effective at suppressing fire activity based on performance reports and feedback from local fire agencies. These resources are capable of being rapidly deployed in SCE's service area and have proven to be extremely

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				effective during an extended attack phase, reducing the area burned and number of structures damaged or destroyed.
Safety Activities - Transmission & Distribution	No	**Yes**	No	SCE began increasing the number of in-person meetings and events as COVID protocols progressively relaxed over 2022; however, the number of in-person meetings and events was still lower than anticipated compared to the 2021 GRC. Similar to the 2021 RSAR variance explanation then, the 2022 underrun compared to authorized includes the reduced frequency of in-person events from COVID-19 impacts towards safety-related events (meals, mileage, lodging, etc.) and the need to transition to a virtual environment. SCE also did not spend on Functional Movement Screening (FMS) work due to COVID related policies and concerns. For additional information, please reference SCE's 2025 GRC A.23-05-010 testimony SCE-06 Vol. 6 Section III.D.3.d (page 73).
Training Seat-Time - Transmission and Distribution	No	**Yes**	No	In 2022, SCE recorded a variance of $7.9M less than authorized in the T&D Seat Time – Transmission and Distribution activity. Longstanding COVID-19 impacts remaining from prior years continued to carry into 2022 as capacity and volume returned to a more traditional state throughout the year. Some of these factors resulted in scheduling changes, class deferrals, project delays and/or continued use of virtual delivery reducing in-person seat time costs in 2022 and increase volume in 2023, and beyond. As a result, training demand is forecasted to increase into 2023 and beyond as identified in the 2025 GRC.

4. Activity Status

Table XII-40 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

Table XII-40
Other Expense Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
All Hazards Assessment, Mitigation and Analytics	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Customer Contact Center	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Cyber Software License and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Cybersecurity Delivery and IT Compliance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Develop and Manage Policy and Initiatives	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Distribution Storm Response O&M	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Education, Safety and Operations	On-Going	Annual	On Target	On-Target	On Target	Proceeding as Planned	N/A
Emergency Preparedness and Response	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Employee and Contractor Safety	On-Going	Annual	Over	On-Target	Over	Emergent	As noted in our variance explanation, above authorized spend was driven by essential COVID costs and/or associated requirements from Cal/OSHA, California Department of Public Health, and local requirements, which were not included in GRC authorized
Enhanced Situational Awareness	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Environmental Management and Development	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	SCE is generally proceeding as planned. Please refer to the variance explanation for rationale in spending variance.
Environmental Programs	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Ethics and Compliance	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
External Communications	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Facility and Land Operations	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Fire Science and Advanced Modeling	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Grid Mod Cybersecurity	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Organizational Support	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Physical Security	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Planning, Continuity and Governance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
PSPS Customer Support	On-Going	Annual	On-Target	On-Target	Over	Emergent	As noted in our variance explanation, SCE exceeded the 2022 GRC authorized amount primarily due to the Critical Care Backup Battery (CCBB) program, which was not included in the 2021 GRC request. The CCBB program addresses the needs of SCE's income-qualified Medical Baseline (MBL) customers residing in high fire risk areas (HFRA) by fully funding the cost of a battery-powered portable backup solution to operate medical equipment during PSPS events.
PSPS Execution	On-Going	Annual	On-Target	On-Target	Over	Emergent	As noted in our variance explanation, SCE spent more than authorized for PSPS Execution due to approximately $18 million in aerial suppression costs. These costs were not forecasted or included in SCE's 2021 GRC but are crucial to our wildfire mitigation efforts.
Public Safety	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Safety Activities - Transmission & Distribution	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanation, SCE began increasing the number of in-person meetings and events as COVID protocols

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
							progressively relaxed over 2022; however, the number of in-person meetings and events was still lower than anticipated compared to the 2021 GRC. However, the COVID impacts are subsiding as seen by the increase in year over year spending from 2021 to 2022.
Safety Culture Transformation	On-Going	Annual	On Target	On Target	On Target	Proceeding as Planned	N/A
Software Maintenance and Replacement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Technology Delivery	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Technology Infrastructure Maintenance and Replacement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Telecommunication Storm Response O&M	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Training and Development	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Training Delivery and Development - Transmission and Distribution	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Training Seat-Time - Transmission and Distribution	On-Going	Annual	Under	Under	Under	Partially Delayed	Longstanding COVID-19 impacts remaining from prior years continued to carry into 2022 as capacity and volume returned to a more traditional state throughout the year. Some of these factors resulted in scheduling changes, class deferrals, project delays and/or continued use of virtual delivery reducing in-person seat time costs in 2022 and increase volume in 2023, and beyond. As a result, training demand is forecasted to increase into 2023 and beyond as identified in the 2025 GRC.
Training, Drills and Exercises	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Transmission Pole Loading Work Order Related Expense	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Transmission/Substation Storm Response O&M	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A

B. Capital Expenditure Programs

1. GRC Activity and Unit Description Table

For the Other capital activities that are SAR-eligible, Table XII-41 below provides the 2021 GRC testimony citation and activity description and indicates whether there are any RAMP controls or mitigations associated with that activity.

Table XII-41
Other Capital Expenditure Category Activity Description

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Air Operations	Aircraft Operations includes capital supporting aircraft components, overhauls, tools and helicopter lease buy-outs. Aircraft plays a critical role in SCE's system reliability by gathering critical information about electric infrastructure situated in locations that are remote and present significant challenges for access by traditional means. Their use also mitigates safety risks to workers and damages to vehicles and equipment that would otherwise be employed to inspect infrastructure at such locations.	SCE-06 Vol: 5	WPSCE06V5BKC pp. 10 - 17	N/A	N/A
All Hazards Assessment, Mitigation and Analytics	All Hazards, Assessment, Mitigation & Analytics includes costs to assess and mitigate hazards such as seismic events, climate change, severe weather and other hazards.	SCE-04 Vol: 1	WPSCE04V1 pp. 21 - 40	Building Safety	Seismic Building Safety Program
Asset Reliability Risk Analytics	Asset Reliability Risk Analytics includes costs for predicting wildfire risk of an asset in order to prioritize work repairs and replacements to minimize wildfire ignitions.	SCE-04 Vol: 5	N/A - SCE did not request any expenditures in 2021	N/A	N/A
Climate Adaptation and Severe Weather	SCE's Climate Adaptation and Severe Weather Program involves a cross functional team coordinated by the Business Resiliency department to facilitate and develop a consistent approach across the company to analyze climate hazards, identify and implement adaptive measures. Program activities also include analyzing and assessing climate change impacts and related climate science and data to develop a foundational understanding of those impacts and how to address those impacts.	SCE-04 Vol: 1	WPSCE04V1 pp. 41 - 42	N/A	N/A
Communications	SCE's new Communications System is a mission-critical component of the Grid Modernization Program. It provides the essential capability to communicate cyber-securely and in real-time between grid devices (including DERs), distribution substations, and SCE's operations control centers. This communications capability is a direct enabler for various grid management functions, including real-time situational awareness, analyzing and resolving grid	SCE-02 Vol: 4 Pt. 1	WPSCE02V4P1ChIIBkA pp. 145 -160	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	reliability issues, and integrating and controlling DERs. SCE's new communications system will also enable secure integration with DER aggregators and other 3rd parties, which will support the use of DERs to provide reliability services to the distribution system. The Communications Program includes four components: (1) FAN: The new wireless radio network that will replace SCE's aging NetComm system. (2) Distribution System Efficiency Enhancement Program (DSEEP): Support of SCE's NetComm system to ensure it supports SCE's communications needs until the new FAN is fully deployed, (3) CSP: The computing platform that enables secure communication between the operations control centers, substation equipment, and distribution circuit devices and (4) WAN: The fiber optic cable that provides the crucial communications link between the FAN, CSP, substations and SCE's operations control centers.				
Communications Equipment	Communication Equipment includes emergency satellite phone systems at all SCE-owned and contracted generation station locations in its portfolio. Integration of these emergency phone systems allows SCE to contact personnel at critical generation resources facilitating a quick response to emergencies. Specialized communication data links are installed at every generation resource to meet contractual obligations and CAISO telemetry requirements.	SCE-05 Vol: 2	WPSCE05V2, pp. 7-8	N/A	N/A
CRE Project Management	CRE Project Management includes large capital projects in the SCE facility portfolio including infrastructure upgrades, facility repurpose, and substation reliability upgrades.	SCE-06 Vol: 5	WPSCE06V5BKA, pp. 235 - 241	Employee Safety	Office Ergonomics (CORE Program)
Cybersecurity Delivery and IT Compliance	This activity includes expenditures associated with delivering cybersecurity services that consists of multiple layers of protection and proactive vulnerability testing to prevent unauthorized access and control of SCE systems, as well as monitoring compliance with key cybersecurity related regulations. This activity also includes expenditures related to SCE's ongoing cybersecurity five capital programs: (1) Perimeter Defense (2) Interior Defense (3)	SCE-04 Vol: 3	WPSCE04V3 pp. 86 - 96	Cyber Attack	Data Protection, Interior Protection, Perimeter Defense and SCADA Cybersecurity

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	Data Protection (4) SCADA Cybersecurity (5) NERC CIP Compliance.				
Enhanced Situational Awareness	This activity includes costs associated with the Situational Awareness Center, primarily to improve SCE's ability to monitor weather and forest situations by deploying new weather stations and high definition cameras.	SCE-04 Vol: 5	WPSCE04V5Pt2 pp. 71 - 77	Wildfire / Climate Change	Situational Awareness
Environmental Programs	This activity involves securing and demolishing wells no longer in use in accordance with applicable environmental, safety, regulatory, and engineering standards. SCE developed the Well Decommission Program in 2013 to address the environmental, health and safety requirements for the safety of the public and protection of the environment. It also includes programmatic permits.	SCE-06 Vol: 4	WPSCE06V4 pp. 17 - 22	N/A	N/A
Facility Asset Management	The Facility Capital Management Program includes 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).	SCE-06 Vol: 5	WPSCE06V5BkB, pp. 179 - 214	Building Safety	Fire Life Safety Portfolio Assessment, Electrical Inspections
Fire Science and Advanced Modeling	Fire Science and Advanced Modeling includes costs for gathering and the integration of science and technology to support wildfire mitigation across the SCE service territory. The sub-activities are: Advanced Modeling Computer Hardware, Fuel Sampling Program, Remote Sensing Satellite, etc.	SCE-04 Vol: 5	WPSCE04V5Pt2 pp. 93 - 101	N/A	N/A
Fleet Asset Management	Fleet Asset Management (FAM) includes the planning and strategy of vehicle replacements, dispositions and additions, and the design and delivery of SCE fleet vehicle assets, fleet telematics administration, and vehicle rentals. FAM covers both long- and short-term planning for the fleet and evaluates the impact of financial, design and regulatory requirements to support SCE's fleet needs accordingly. This includes annual vehicle replacements and additions planned through real-time evaluation of organizational requirements. These efforts also manage emerging vehicle resource needs and disposal of vehicles when they have reached the end of useful life or are rendered obsolete by regulation. The FAM team also includes several technical and engineering	SCE-06 Vol: 5	WPSCE06V5BKC pp. 20 -22	N/A	N/A

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	functions. This unit creates, maintains, and updates vehicle specifications, incorporates work method requirements, prescribes safety standards, fleet electrification options, and fuel efficiency and emissions goals, and addresses regulatory compliance requirements in vehicle designs. The team also analyzes product failures and ways to mitigate such failures, and works with vehicle manufacturers to deliver useful and dependable products and solutions to SCE..				
Fleet Operations and Maintenance	Fleet Operations and Maintenance (FOM) performs maintenance, repairs, and fueling tasks to uphold the safety and dependability of SCE's vehicles and equipment and comply with applicable regulations. FOM manages SCE's 41 vehicle maintenance facilities supporting approximately 6,100 vehicles and equipment. FOM also includes the Crane Operations unit, which plays an integral role in constructing and maintaining SCE's infrastructure. Crane Operations provides 24-hour support for SCE crews throughout our 50,000 square mile service territory. This is accomplished with five SCE-owned cranes and a network of external crane vendors to serve the territory. FOM operates under a "fit to need" model, which optimizes the types and capabilities of cranes owned by SCE for work assignment to maximize SCE crane utilization and minimize use of typically higher cost external vendors.	SCE-06 Vol: 5	WPSCE06V5BKC pp. 23 - 24	N/A	N/A
Grid Management System	SCE’s Grid Management System (GMS) is an advanced software platform that will integrate multiple systems designed to manage our increasingly dynamic grid. It will replace the legacy DMS, which was deployed in 2010, has exceeded its useful life, and is no longer supported by the vendor. The GMS will also replace the existing OMS to provide an integrated grid management functionality. The Advanced Distribution Management System (ADMS), as one of the GMS systems, will provide combined DMS/OMS functionality.	SCE-02 Vol: 4 Pt. 1	WPSCE02V4P1ChIIBkA pp. 161 - 168	N/A	N/A
Grid Mod Cybersecurity	Cybersecurity programs related to the implementation of the Grid Modernization Program. This includes addressing the	SCE-04 Vol: 3	WPSCE04V3 pp. 123 - 126	Cyber Attack	Grid Modernization Cybersecurity

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
	comprehensive security and data protection needs of all new infrastructure and application assets being added through the program including the following: Field Area Network (FAN), Common Substation Platform (CSP), Wide Area Network (WAN), Grid Management System (GMS), DRP External Portal (DRPEP), and Grid Interconnection Processing Tool (GIPT). This work addresses the critical need for modern and robust cybersecurity measures and controls by detecting, isolating, fixing or removing, and restoring electric distribution grid systems and devices as quickly and efficiently as possible. The program seeks to accomplish this through a combination of infrastructure, applications, and threat intelligence initiatives.				
Laboratory Operations	The Grid Technology Laboratories allow SCE to safely evaluate, test, and pilot new and emerging technologies that support SCE in complying with public policies such as modernizing the grid, providing clean energy, enabling customer choice, and integrating distributed resources. The facilities also provide a means to test newer versions of existing technologies to support increased operating capabilities when we are replacing equipment that has reached the end of its lifecycle. SCE maintains and operates test facilities at three locations in southern California: the Westminster Test Facility in Westminster, the Pomona Test Facility in Pomona, and the Equipment Demonstration and Evaluation Facility (EDEF) located in Westminster.	SCE-02 Vol: 4 Pt. 1	WPSCE02V4P1ChIII-IVBkB pp. 8 - 29	N/A	N/A
Oil Containment Diversion System	The goal of this program is to prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil. Maintaining/repairing these containment/security structures is the responsibility of the site manager.	SCE-02 Vol: 3	WPSCE02V3 – pp. 246 - 247	N/A	N/A
PSPS Customer Support	Technology investments to improve the PSPS programs and protocols.	N/A	SCE did not request any capital associated with this activity in the TY 2021 GRC.	Wildfire	PSPS Protocol and Support Functions

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
Software Maintenance and Replacement	The Software Maintenance and Replacement work activity maintains SCE's operating software assets through on-premise license, cloud, subscription, and maintenance agreements. Operating Software includes operating systems, business intelligence systems, database management systems, cross-system integration tools, IT monitoring tools and end-user productivity and collaboration software which enable business applications to take advantage of the underlying hardware features and functions.	SCE-06 Vol: 1 Pt. 1	WPSCE06V01Pt01A pp. 43 - 47, 68 - 74	N/A	N/A
Substation Switchrack Rebuild	This capital activity relates to rebuilding existing substation racks based on conditions found in the field, as well as through various analyses including structural and seismic analysis. A substation switchrack is the skeletal/structural system used to support substation assets such as circuit breakers, disconnects, and conductors.	SCE-02 Vol: 3	WPSCE02V3 pp. 171 - 173	N/A	N/A
Technology Infrastructure Maintenance and Replacement	The Technology Infrastructure Maintenance and Replacement activity includes expenditure for: (1) data center infrastructure, (2) end user computing maintenance, and (3) technology adoption. Support for SCE's data centers involves procuring, installing, and maintenance of all enterprise data center hardware infrastructure. End user computing maintenance covers the performance management of SCE's Service Desk that resolves approximately 204,000 service tickets per year as well as management of SCE's smart phone plans, tablet cellular data, air cards, printers, plotters, laptops and desktops, and AV for teleconference rooms across the Company. Technology adoption relates to retirement of computer, storage, network, and operating software assets and the replacement of these assets with hardware and operating software that may be more operationally efficient with improved price performance to leverage new technologies such as the cloud.	SCE-06 Vol: 1 Pt. 1	WPSCE06V01Pt01A pp. 82 - 88, 92 - 105, 125 - 127	N/A	N/A
Technology Solutions	Costs incurred for capitalized software solutions in support of OU work efforts at SCE.	SCE-06 Vol: 1 Pt. 2	WPSCE06V01Pt02A pp. 10 - 228	Physical Security	Non-Electric Facilities/Protection of Major Business Functions,

A	B	C	D	F	G
GRC Activity	**GRC 2021 Activity Description**	**GRC Testimony Location**	**GRC Workpaper Reference**	**RAMP Risk**	**RAMP Control/Mitigation**
					Protection of Generation Capabilities

2. GRC Activities Variance Calculations

Table XII-42 and Table XII-43 below provide the authorized, recorded, variance and percentage change values for each Other expenditure category activity in terms of dollars and units. These tables also indicate whether a variance explanation was triggered based on the established thresholds for each GRC activity.

Table XII-42
Other Capital Expenditure Category Activity Dollar Variance Calculations

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Air Operations	N/A	N/A	Yes	On-Going	Annual	$798	$798	$1,596	$870	$1,176	$2,046	$72	$378	$450	9%	47%	28%	No	No
All Hazards Assessment, Mitigation and Analytics	Building Safety	Seismic Building Safety Program	No	On-Going	Annual	$5,369	$5,369	$10,738	$3,761	$10,194	$13,955	($1,608)	$4,825	$3,217	-30%	90%	30%	N/A	N/A
All Hazards Assessment, Mitigation and Analytics	N/A	Non-RAMP	No	On-Going	Annual	$29,267	$29,267	$58,534	$26,052	$22,178	$48,230	($3,215)	($7,089)	($10,304)	-11%	-24%	-18%	N/A	N/A
All Hazards Assessment, Mitigation and Analytics	N/A	Total	Yes	On-Going	Annual	$34,636	$34,636	$69,272	$29,813	$32,372	$62,185	($4,823)	($2,264)	($7,087)	-14%	-7%	-10%	No	No
Asset Reliability Risk Analytics	N/A	N/A	Yes	Completed	Completed	$0	$0	$0	$1,161	$0	$1,161	$1,161	$0	$1,161	-	-	-	No	No
Climate Adaptation and Severe Weather	N/A	N/A	Yes	On-Going	Annual	$1,393	$1,393	$2,786	$72	$571	$643	($1,321)	($821)	($2,142)	-95%	-59%	-77%	No	No
Communications	N/A	N/A	Yes	On-Going	Annual	$74,107	$74,107	$148,214	$15,086	$27,643	$42,729	($59,021)	($46,464)	($105,485)	-80%	-63%	-71%	**Yes**	**Yes**
Communications Equipment	N/A	N/A	Yes	On-Going	Annual	$1,398	$1,398	$2,796	$676	$688	$1,364	($722)	($710)	($1,432)	-52%	-51%	-51%	No	No
CRE Project Management	Employee Safety	Office Ergonomics	No	On-Going	Annual	$2,512	$2,512	$5,024	$1,975	$2,622	$4,597	($537)	$110	($427)	-21%	4%	-9%	N/A	N/A
CRE Project Management	N/A	Non-RAMP	No	On-Going	Annual	$81,563	$81,563	$163,126	$46,537	$44,850	$91,387	($35,026)	($36,712)	($71,738)	-43%	-45%	-44%	N/A	N/A
CRE Project Management	N/A	Total	Yes	On-Going	Annual	$84,075	$84,075	$168,150	$48,512	$47,472	$95,984	($35,563)	($36,603)	($72,166)	-42%	-44%	-43%	**Yes**	**Yes**
Cybersecurity Delivery and IT Compliance	Cyber Attack	Data Protection	No	On-Going	Annual	$8,776	$8,776	$17,552	$7,153	$10,767	$17,920	($1,623)	$1,991	$368	-18%	23%	2%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	Interior Protection	No	On-Going	Annual	$8,302	$8,302	$16,604	$13,065	$5,172	$18,237	$4,763	($3,130)	$1,633	57%	-38%	10%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	Non-RAMP	No	On-Going	Annual	$5,610	$5,610	$11,220	$71	$2,157	$2,228	($5,539)	($3,453)	($8,992)	-99%	-62%	-80%	N/A	N/A

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
Cybersecurity Delivery and IT Compliance	Cyber Attack	Perimeter Defense	No	On-Going	Annual	$38,479	$38,479	$76,958	$31,083	$46,395	$77,478	($7,396)	$7,916	$520	-19%	21%	1%	N/A	N/A
Cybersecurity Delivery and IT Compliance	Cyber Attack	SCADA Cybersecurity	No	On-Going	Annual	$2,613	$2,613	$5,226	$2,290	$2,342	$4,632	($323)	($271)	($594)	-12%	-10%	-11%	N/A	N/A
Cybersecurity Delivery and IT Compliance	N/A	Total	Yes	On-Going	Annual	$63,779	$63,779	$127,558	$53,663	$66,833	$120,496	($10,116)	$3,054	($7,062)	-16%	5%	-6%	No	No
Enhanced Situational Awareness	Wildfire	Situational Awareness	Yes	On-Going	Annual	$0	$0	$0	$5,607	$3,514	$9,121	$5,607	$3,514	$9,121	-	-	-	No	No
Environmental Programs	N/A	N/A	Yes	On-Going	Annual	$1,721	$1,721	$3,442	$429	$839	$1,268	($1,292)	($882)	($2,174)	-75%	-51%	-63%	No	No
Facility Asset Management	Building Safety	Electrical Inspections	No	On-Going	Annual	$1,000	$1,000	$2,000	$1,942	$2,814	$4,756	$942	$1,814	$2,756	94%	181%	138%	N/A	N/A
Facility Asset Management	Building Safety	Fire Life Safety Portfolio Assessment	No	On-Going	Annual	$1,000	$1,000	$2,000	$688	$1,549	$2,237	($312)	$549	$237	-31%	55%	12%	N/A	N/A
Facility Asset Management	N/A	Non-RAMP	No	On-Going	Annual	$56,042	$56,042	$112,084	$65,635	$74,098	$139,733	$9,593	$18,056	$27,649	17%	32%	25%	N/A	N/A
Facility Asset Management	N/A	Total	Yes	On-Going	Annual	$58,042	$58,042	$116,084	$68,265	$78,461	$146,726	$10,223	$20,419	$30,642	18%	35%	26%	**Yes**	**Yes**
Fire Science and Advanced Modeling	N/A	N/A	Yes	On-Going	Annual	$1,129	$0	$1,129	$2,340	$766	$3,106	$1,211	$766	$1,977	107%	-	175%	No	No
Fleet Asset Management	N/A	N/A	Yes	On-Going	Annual	$2,190	$2,190	$4,380	$1,444	$938	$2,382	($746)	($1,252)	($1,998)	-34%	-57%	-46%	No	No
Fleet Operations and Maintenance	N/A	N/A	Yes	On-Going	Annual	$512	$512	$1,024	$510	$521	$1,031	($2)	$9	$7	0%	2%	1%	No	No
Grid Management System	N/A	N/A	Yes	On-Going	Annual	$43,633	$43,633	$87,266	$67,704	$50,137	$117,841	$24,071	$6,504	$30,575	55%	15%	35%	No	No
Facility Asset Management	Cyber Attack	Grid Modernization Cybersecurity	Yes	On-Going	Annual	$46,330	$46,330	$92,660	$35,256	$29,018	$64,274	($11,074)	($17,312)	($28,386)	-24%	-37%	-31%	No	**Yes**
Laboratory Operations	N/A	N/A	Yes	On-Going	Annual	$2,227	$2,227	$4,454	$1,937	$3,778	$5,715	($290)	$1,551	$1,261	-13%	70%	28%	No	No
Oil Containment Diversion System	N/A	N/A	Yes	On-Going	Annual	$403	$403	$806	$1,162	$699	$1,861	$759	$296	$1,055	188%	73%	131%	No	No

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
						Authorized Imputed Annual Cost ($000s)			Actual Annual Cost ($000s)			Annual Cost Difference ($000s)			Annual Percent Cost Difference (%)			Variance Explanation Trigger Calculation	
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Roll-up**	**Project Life (years)**	**Project Year**	**Year 1 - 2021**	**Year 2 - 2022**	**Authorized Imputed Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Cost to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Cost Diff. to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Cost Diff. to Date**	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**
PSPS Customer Support	Wildfire	PSPS Protocol and Support Functions	Yes	On-Going	Annual	$0	$0	$0	$11,217	$13,266	$24,483	$11,217	$13,266	$24,483	-	-	-	No	No
Software Maintenance and Replacement	N/A	N/A	Yes	On-Going	Annual	$62,012	$62,012	$124,024	$88,583	$55,377	$143,960	$26,571	($6,635)	$19,936	43%	-11%	16%	No	No
Substation Switchrack Rebuild	N/A	N/A	Yes	On-Going	Annual	$80,517	$80,517	$161,034	$37,216	$61,284	$98,500	($43,301)	($19,233)	($62,534)	-54%	-24%	-39%	No	**Yes**
Technology Infrastructure Maintenance and Replacement	N/A	N/A	Yes	On-Going	Annual	$78,139	$78,139	$156,278	$62,535	$65,743	$128,278	($15,604)	($12,396)	($28,000)	-20%	-16%	-18%	No	No
Technology Solutions	N/A	Non-RAMP	No	On-Going	Annual	$100,350	$100,350	$200,700	$113,627	$129,288	$242,915	$13,277	$28,938	$42,215	13%	29%	21%	N/A	N/A
Technology Solutions	Physical Security	Non-Electric Facilities/Protection of Major Business Functions	No	Cancelled	Cancelled	$2,543	$2,543	$5,086	$0	$0	$0	($2,543)	($2,543)	($5,086)	-100%	-100%	-100%	N/A	N/A
Technology Solutions	Physical Security	Protection of Generation Capabilities	No	Cancelled	Cancelled	$1,024	$1,024	$2,048	$0	$0	$0	($1,024)	($1,024)	($2,048)	-100%	-100%	-100%	N/A	N/A
Technology Solutions	N/A	Total	Yes	On-Going	Annual	$100,350	$100,350	$200,700	$113,627	$129,288	$242,915	$13,277	$28,938	$42,215	13%	29%	21%	**Yes**	**Yes**

Table XII-43
Other Capital Expenditure Category Activity Unit Variance Calculations

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Air Operations	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
All Hazards Assessment, Mitigation and Analytics	Building Safety	Seismic Building Safety Program	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
All Hazards Assessment,	N/A	Non-RAMP														No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	RAMP Risk	RAMP Control / Mitigation	Unit Description / Rationale for No Work Units	Year 1 - 2021	Year 2 - 2022	Imputed Units to Date	Year 1 - 2021	Year 2 - 2022	Actual Units to Date	Year 1 - 2021	Year 2 - 2022	Unit Difference to Date	Year 1 - 2021	Year 2 - 2022	Percent Unit Diff. to Date	Unit Variance Explanation Triggered?
Mitigation and Analytics																
All Hazards Assessment, Mitigation and Analytics	N/A	Total														No
Asset Reliability Risk Analytics	N/A	N/A	N/A - SCE did not request any expenditures in 2021													No
Climate Adaptation and Severe Weather	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Communications	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Communications Equipment	N/A	N/A	Communication Units	32	32	64	19	14	33	-13	-18	-31	-41%	-56%	-48%	**Yes**
CRE Project Management	Employee Safety	Office Ergonomics (CORE Program)														No
CRE Project Management	N/A	Non-RAMP	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
CRE Project Management	N/A	Total														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Data Protection														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Interior Protection														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Non-RAMP	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Cybersecurity Delivery and IT Compliance	Cyber Attack	Perimeter Defense														No
Cybersecurity Delivery and IT Compliance	Cyber Attack	SCADA Cybersecurity														No
Cybersecurity Delivery and IT Compliance	N/A	Total														No
Enhanced Situational Awareness	N/A	Situational Awareness	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Environmental Programs	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement													No
Facility Asset Management	Building Safety	Electrical Inspections														No
Facility Asset Management	Building Safety	Fire Life Safety Portfolio Assessment	The variety of projects in this category makes it infeasible to identify a single unit of measurement.													No
Facility Asset Management	N/A	Non-RAMP														No
Facility Asset Management	N/A	Total														No
Fire Science and Advanced Modeling	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Fleet Asset Management	N/A	N/A	This activity comprises multiple different work activities and providing one work unit is not feasible.													No
Fleet Operations and Maintenance	N/A	N/A	This activity comprises multiple different work activities and providing one work unit is not feasible.													No
Grid Management System	N/A	N/A	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No

A	F	G	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
				Imputed Units			Actual Units			Annual Unit Difference			Annual Unit Percent Difference			
GRC Activity	**RAMP Risk**	**RAMP Control / Mitigation**	**Unit Description / Rationale for No Work Units**	**Year 1 - 2021**	**Year 2 - 2022**	**Imputed Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Actual Units to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Unit Difference to Date**	**Year 1 - 2021**	**Year 2 - 2022**	**Percent Unit Diff. to Date**	**Unit Variance Explanation Triggered?**
Grid Mod Cybersecurity	Cyber Attack	Grid Modernization Cybersecurity	This activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Laboratory Operations	N/A	N/A	This activity comprises multiple different work activities and different laboratories and providing one work unit is not feasible.													No
Oil Containment Diversion System	N/A	N/A	Forecast is driven by weather and other environmental factors outside of SCE's control and that can vary significantly from year to year. Accordingly, the capital forecast is based on a five-year average of recorded expenditures and is not unit based.													No
PSPS Customer Support	Wildfire	PSPS Protocol and Support Functions	This activity comprises multiple different work activities and different laboratories and providing one work unit is not feasible.													No
Software Maintenance and Replacement	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Substation Switchrack Rebuild	N/A	N/A	# of Substation Switchrack Rebuilds	3	3	6	0	0	0	(3)	(3)	(6)	-100%	-100%	-100%	**Yes**
Technology Infrastructure Maintenance and Replacement	N/A	N/A	The variety of work activities in this category makes it infeasible to identify a single unit of measurement.													No
Technology Solutions	N/A	Non-RAMP	his activity comprises multiple projects or types of projects that vary in size and scope, and therefore providing a single work unit is not feasible.													No
Technology Solutions	N/A	Total														No
Technology Solutions	Physical Security	Non-Electric Facilities/Protection of Major Business Functions														No
Technology Solutions	Physical Security	Protection of Generation Capabilities														No

3. Variance Explanations

Table XII-44 below provides the variance explanations for those GRC activities meeting the established thresholds.

Table XII-44
Other Capital Expenditure Category Activity Variance Explanations

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
Communications	**Yes**	**Yes**	No	Similar to the under-authorized spend in 2021, the underrun in 2022 for Communications is due to SCE's decision in mid-2020 to select Private LTE (PLTE) technology as the solution for the new Field Area Network (FAN) instead of the Mesh Radio Network (MRN) technology. At the time of the filing for the 2021 GRC, SCE's evaluation of PLTE as a solution for the FAN was still ongoing. SCE's evaluation of PLTE continued until July 2020. As such, SCE proceeded with using the data based on the MRN plan that was available at the time of the GRC filing, in August 2019. The MRN plan assumed costs for equipment and field deployment in 2022 which did not materialize due to SCE's decision in 2020 to pursue a PLTE solution instead. Consequently, the FAN scope for 2022 was focused on PLTE platform selection through RFP and equipment delivery for the PLTE core and did not include installation or field deployment. This resulted in significantly lower capital costs in 2022 for FAN.
Communications Equipment	No	No	**Yes**	For the Communications Equipment GRC Activity, 32 resources were authorized in 2022, compared to the 14 resources that SCE actually onboarded. New resources in the portfolio included solar resources, stand-alone energy storage, and energy storage co-located with solar. The variance can be attributed to a reduced number of contracts entering into the SCE portfolio, where SCE is the scheduling coordinator, and achieving CAISO commercial operation within the calendar year.
CRE Project Management	**Yes**	**Yes**	No	SCE's underspend is mainly driven by the following: • Underrun in workplace upgrades driven by city permit requirements and dependencies on other projects. Delays in permitting from the city caused delays in issuance of the purchase order (PO). Design delays in remodel caused delays in construction commencement. Several months of construction were pushed to 2023 because of these circumstances. • Underrun in Alhambra Master Plan project due to bids coming back higher than expected. which resulted in the need for additional bids causing a 3–4-month delay into 2023. • Underrun in Material Supply Warehouse project driven by need to repurpose land and remains on-going. • Underrun in Westminster Combined Facility (WCF) Admin Building and parking improvement projects driven by decoupling the scope of the projects. The Admin Building

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				scope of the project was put on hold while the parking improvements scope finalized. • Underrun in Employee Accessible EV Charging Program due to delays in design and permitting causing construction at those sites to get pushed to 2023. • Net Overrun in all other projects mainly driven by Nevada 2nd floor tenant improvements, on-going furniture modifications, Fleet Charging Program, and various other infrastructure upgrade projects. Business cases for the projects were developed and approved to support ongoing SCE operations requirements.
Facility Asset Management	No	**Yes**	No	SCE recorded over the authorized amount in 2022 due to acceleration of work from future years to maintain deteriorating assets. SCE anticipates this acceleration will be within the GRC period and will be accounted for to stay within the 2021 GRC cycle forecast.
Grid Mod Cybersecurity	No	Yes	No	The variance in this activity is largely driven by the CPUC's authorized escalation methodology authorized in SCE's 2021 GRC as compared to SCE's 2022 forecast presented in its 2021 GRC, as stated in WPSCE0403 pp. 124-126. The forecast for 2022 presented in SCE's 2021 GRC was $28.9 M, therefore the perceived variance of ($17.3M) is driven by the authorized capital addition escalation percentage vs. the specific needs for grid mod cyber for 2022. This perceived underspend, therefore, would not impact safety and reliability to the grid. Note that in its 2021 RSAR, SCE mentioned delays in specific Grid Mod programs, FAN and CSP, as the primary drivers of the underspend in that year. Moving forward, SCE plans to complete these efforts by 2024 by accelerating procurement of hardware and allocation of contract resources. SCE has made efforts to prioritize FAN and CSP to ensure the delays are mitigated.
Substation Switchrack Rebuild	No	Yes	Yes	Due to material supply, construction, Fire Climate Zone (FCZ), and permitting constraints, SCE was unable to fully complete or execute the full scope of work originally forecast for the Substation Switchrack Rebuild Program in 2022. Energy Division requested that SCE provide an assessment of the delayed work and the resulting impact on overall spending. When completing large, complex projects, SCE may experience project impacts outside of SCE's control such as FCZ, permitting, and supply constraints. In order to continue needed system work, SCE may proactively begin execution on additional units requiring mitigation. In addition, these projects take multiple years to complete and the absence of completed units should not be taken as no progress is being made.

A	W	X	AL	AM
	Variance Explanation Trigger			
GRC Activity	**$ Threshold Variance Explanation**	**% / $ Variance Explanation**	**Unit Variance Explanation**	**Variance Explanation**
				While SCE has not fully executed all projected scope, these rebuilds are multi-year projects and therefore as noted, SCE experienced material and supply constraints which are contributing to an overall higher spend. At this time, SCE cannot project with reasonable accuracy when such supply constraints may subside.
Technology Solutions	Yes	Yes	No	In the 2021 GRC, SCE requested, and received approval for, a hybrid forecasting approach for the 2021-2023 period. SCE provided a forecasted spending allocation by Business Planning Group (BPG), but did not provide an itemized listing of individual projects. With the exception of six projects that did include detailed spend forecasts in the 2021-2023 period, SCE's focus was on defining high-level business capabilities we planned to support. Based on our forecasted portfolio-based spending allocation by BPG in 2022, SCE recorded more than anticipated in the following BPGs: Enterprise Support, Distribution Grid, System Augmentation, Resiliency, Customer Interactions, and Distributed Energy Resources. SCE recorded less than anticipated in the following BPGs: Energy Procurement, Generation, and Substation. SCE's 2022 recorded allocation by BPG deviated from our forecasted allocation for a variety of reasons, including: shifting operational priorities and business needs, changes to project execution schedules resulting in project delays and extensions, and the identification of technical/solution efficiencies.

4. Activity Status

Table XII-45 below provides the forecast scope, schedule and cost, status and status completion statement as applicable.

Table XII-45
Other Expenditure Category Activity Status

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Air Operations	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
All Hazards Assessment, Mitigation and Analytics	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Asset Reliability Risk Analytics	Completed	Completed	On-Target	On-Target	On-Target	Completed	N/A
Climate Adaptation and Severe Weather	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Communications	On-Going	Annual	On-Target	On-Target	Under	Proceeding as Planned	As noted in our variance explanation, the under-authorized spend in 2021, the underrun in 2022 for Communications is due to SCE's decision in mid-2020 to select Private LTE (PLTE) technology as the solution for the new Field Area Network (FAN) instead of the Mesh Radio Network (MRN) technology.
Communications Equipment	On-Going	Annual	Under	On-Target	Under	Proceeding as Planned	SCE is generally proceeding as planned, however as noted in our variance explanation, the lower of number or executed units can be attributed to a reduced number of contracts entering into the SCE portfolio, where SCE is the scheduling coordinator, and achieving CAISO commercial operation within the calendar year.
CRE Project Management	On-Going	Annual	Under	Under	Under	Partially Delayed	As noted in our variance explanations there are multiple projects experiencing delays.

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Cybersecurity Delivery and IT Compliance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Enhanced Situational Awareness	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Environmental Programs	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Facility Asset Management	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	SCE recorded over the authorized amount in 2022 due to acceleration of work from future years to maintain deteriorating assets. SCE anticipates this acceleration will be within the GRC period and will be accounted for to stay within the 2021 GRC cycle forecast.
Fire Science and Advanced Modeling	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Fleet Asset Management	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Fleet Operations and Maintenance	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Grid Management System	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Grid Mod Cybersecurity	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	As noted in our variance explanation, the variance in this activity is largely driven by the CPUC's authorized escalation methodology authorized in SCE's 2021 GRC as compared to SCE's 2022 forecast presented in its 2021 GRC. The perceived variance of is driven by the authorized capital addition escalation percentage vs. the specific needs for grid mod cyber for 2022. This perceived underspend, therefore, would not impact safety and reliability to the grid.

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	**Project Life**	**Project Year**	**Scope**	**Schedule**	**Cost**	**Status**	**Status Completion Statement**
Laboratory Operations	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Oil Containment Diversion System	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
PSPS Customer Support	On-Going	Annual	Over	Over	Over	Emergent	SCE did not request any capital associated with PSPS Customer Support in the TY 2021 GRC.
Software Maintenance and Replacement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Substation Switchrack Rebuild	On-Going	Annual	Under	Under	Over	Partially Delayed	As noted in our variance explanation, the perceived underspend and execution is a result of the Post Test Year Escalation methodology. SCE is proceeding as generally planned with our Test Year 2021 GRC forecast. While SCE has not fully executed all projected scope, these rebuilds are multi-year projects and therefore as noted, SCE experienced material and supply constraints which are contributing to an overall higher spend. At this time, SCE cannot project with reasonable accuracy when such supply constraints may subside.
Technology Infrastructure Maintenance and Replacement	On-Going	Annual	On-Target	On-Target	On-Target	Proceeding as Planned	N/A
Technology Solutions	On-Going	Annual	On-Target	On-Target	Over	Proceeding as Planned	As noted in our variance explanation, in the 2021 GRC, SCE requested, and received approval for, a hybrid forecasting approach for the 2021-2023 period. SCE provided a forecasted

A	I	J	AO	AP	AQ	AR	AS
			Forecast				
GRC Activity	Project Life	Project Year	Scope	Schedule	Cost	Status	Status Completion Statement
							spending allocation by Business Planning Group (BPG), but did not provide an itemized listing of individual projects. With the exception of six projects that did include detailed spend forecasts in the 2021-2023 period, SCE's focus was on defining high-level business capabilities we planned to support. Therefore, SCE would expect to see some variation in year to year spending.

XIII.

SAFETY, RELIABILITY & MAINTENANCE SPENDING RECORDED IN NON-GRC BALANCING OR MEMORANDUM ACCOUNTS

A. Background

Consistent with the April 10, 2020 guidance from Energy Division, SCE has excluded the balancing and memorandum account costs from the comparison of 2022 authorized and recorded safety, reliability and maintenance capital and O&M costs presented in Chapters IX to XII. As further requested by Energy Division, SCE is identifying the balancing or memorandum accounts where the spending for those programs is recorded, the recorded year balances, and the disposition of any request for cost recovery. Table XIII-46 below lists the beginning and ending balances in each applicable balancing and memorandum account and the associated cost-recovery mechanism.

Table XIII-46
Balancing and Memorandum Account Balance

Balancing / Memorandum Account	*2022 Beginning Balance*	*2022 Ending Balance*	*Mechanism for Disposition*
Mobilehome Park Master Meter Balancing Account (MMMBA)	$0	$0 ($14,357 million prior to transfer)	December 31 transfer to BRRBA-D for recovery in 1/1 rate change
2022 CEMA Events[38]	$0	$2.159 million	StandaloneApplication

B. MMMBA: Mobilehome Park Master Meter Balancing Account

On March 13, 2014, the Commission issued D.14-03-021. This decision adopted a three-year "living pilot" program to incentivize voluntary conversions of master-metered service to direct service at mobile home parks (MHP) and authorized the creation of a balancing account for recording MHP program costs. On July 9, 2014, SCE submitted Advice 3072-E to establish the Mobilehome Park Master Meter Balancing Account (MMMBA) where the incremental costs associated with the conversion of the master-metered service would be recorded. Incremental

[38] Please note that these amounts are preliminary and subject to change prior to SCE submitting its application for recovery of these costs.

costs include the incremental revenue requirement associated with "to the meter" costs capitalized and placed in service upon system cutover to direct utility service and incremental O&M start-up costs such as customer outreach, administrative expenses, and other ongoing costs to implement the three-year pilot program. The MMMBA also records the incremental revenue requirement for the regulatory asset associated with "beyond the meter" costs incurred. The regulatory asset is amortized over a ten-year period, earning a rate of return at SCE's currently authorized rate of return. SCE submits an advice letter in the fourth quarter of each year concerning the operation of the MMMBA. SCE transfers the year-end MMMBA balance to the distribution sub-account of the Base Revenue Requirement Balancing Account (BRRBA) to be collected from customers in distribution rates.

SCE submitted Advice 4909-E on November 18, 2022 addressing the operation of the MMMBA in 2022. Table XIII-47 below provides the 2022 recorded O&M and capital expenditures associated with the MHP conversion pilot program. Table XIII-47 also summarizes the expenses and capital expenditures for 2022 for the MHP conversion pilot program.

Table XIII-47
2022 O&M Expense and Capital Expenditures for Mobile Home Parks

Activity	O&M Expense	Capital Expenditure	Ratemaking Account
Mobile Home Park	$0.108 million	$19.65 million	MMMBA

C. CEMA Events – Fires and Heat Waves

SCE's Catastrophic Event Memorandum Account (CEMA) tracks the costs of restoring service and repairing apparatus and facilities after a defined catastrophic event or the costs of complying with government orders issued in connection with a catastrophic event. The costs recorded in the CEMA are shown below in Table XIII-48. In Resolution E-3238 dated July 24, 1991, the Commission authorized SCE to establish a CEMA to record costs associated with: (1) restoring utility service to its customers; (2) repairing, replacing, or restoring damaged utility facilities; and (3) complying with governmental agency orders from declared disasters. SCE plans to file a CEMA cost recovery application in the future that seeks recovery of costs

recorded in the 2022 storm CEMA for 2022 CEMA fire, monsoonal rain and heat storms that are incremental to SCE's 2021 GRC authorized storm activity.

Table XIII-48
2022 O&M Expense and Capital Expenditures for CEMA Events – (Total Company)

Activity	O&M Expense	Capital Expenditure
2022 CEMA Storm Events[39]	$27.2 million	$31.3 million

[39] Please note that these amounts are preliminary and subject to change prior to SCE submitting its application for recovery of these costs.

Appendix A

Risk Mitigation Mapping

RAMP to GRC Activity Mapping

SCE 2021 GRC Activity	SCE 2021 Exhibit	SCE 2021 Volume	SCE 2018 RAMP Risk	SCE 2018 RAMP ID	SCE 2018 RAMP Control / Mitigation Name
External Communications	3	2	Contact with Energized Equipment	C2	Public Outreach
Cable Life Extension (CLE) Program	2	1	Underground Equipment Failure	C2	Cable Replacement Programs (CIC)
Cable-in-Conduit (CIC) Replacement Program	2	1	Underground Equipment Failure	C2	Cable Replacement Programs (CIC)
Overhead Conductor Program (OCP)	2	1	Contact with Energized Equipment / Wildfire	C1 / C1a	Overhead Conductor Program (OCP)
Underground Structure Replacements	2	1	Underground Equipment Failure	M1	Cover Pressure Relief and Restraint (CPRR) Program
Underground Switch Replacements	2	1	Underground Equipment Failure	C3	UG Oil Switch Replacement Program
Worst Circuit Rehabilitation (WCR)	2	1	Underground Equipment Failure	C1	Cable Replacement Programs (WCR)
Expanded Wildfire Vegetation Management	2	6	Wildfire	M5	Expanded Vegetation Management
Recognition	6	3	Employee, Contractor & Public Safety	C1	Safety Controls
Talent Solutions	6	3	Physical Security	C4	Asset Protection
Training and Development	6	3	Employee, Contractor & Public Safety	M1a	Safety Culture Transformation (Core Program)
Training and Development	6	3	Physical Security	C4	Asset Protection
Training and Development	6	3	Physical Security	M1a	Insider Threat Program Enhancement & Information Analysis - Base
Technology Solutions	6	1. Pt. 2	Physical Security	C2	Protection of Generation Capabilities
Technology Solutions	6	1. Pt. 2	Physical Security	C3b	Non-Electric Facilities/Protection of Major Business Functions - Enhanced
Facility & Land Operations	6	5	Building Safety	M1	Fire Life Safety Portfolio Assessment
Facility & Land Operations	6	5	Building Safety	M2	Electrical Inspections
Facility & Land Operations	6	5	Employee, Contractor & Public Safety	M3a	Office Ergonomics (Core Program)
Workers' Compensation	6	2	Employee, Contractor & Public Safety	C1	Safety Controls
Safety Activities - T&D	6	4	Employee, Contractor & Public Safety	C1	Safety Controls
Employee and Contractor Safety	6	4	Employee, Contractor & Public Safety	C2	Contractor Safety Program
Safety Culture Transformation	6	4	Employee, Contractor & Public Safety	M1a	Safety Culture Transformation (Core Program)
Employee and Contractor Safety	6	4	Employee, Contractor & Public Safety	M2	Industrial Ergonomics
Hydro	5	1	Hydro Asset Safety	C1	Seismic Retrofit
Hydro	5	1	Hydro Asset Safety	C2	Dam Surface Protection
Hydro	5	1	Hydro Asset Safety	C3	Spillway Remediation and Improvement
Hydro	5	1	Hydro Asset Safety	C4	Low Level Outlet Improvements
Hydro	5	1	Hydro Asset Safety	C5	Seepage Mitigation
Hydro	5	1	Hydro Asset Safety	C6	Instrumentation / Communication Enhancements
All Hazards Assessment, Mitigation & Analytics	4	1	Building Safety	C1	Seismic Building Safety Program
All Hazards Assessment, Mitigation & Analytics	4	1	Climate Change	M1	Climate Adaptation & Severe Weather
Cybersecurity Delivery and IT Compliance	4	3	Cyber Attack	C1a	Perimeter Defense
Cybersecurity Delivery and IT Compliance	4	3	Cyber Attack	C2a	Interior Protection
Cybersecurity Delivery and IT Compliance	4	3	Cyber Attack	C3a	Data Protection
Cybersecurity Delivery and IT Compliance	4	3	Cyber Attack	C4a	SCADA Cybersecurity

SCE 2021 GRC Activity	SCE 2021 Exhibit	SCE 2021 Volume	SCE 2018 RAMP Risk	SCE 2018 RAMP ID	SCE 2018 RAMP Control / Mitigation Name
Cybersecurity Delivery and IT Compliance	4	3	Cyber Attack	C5a	Grid Modernization Cybersecurity
Cyber Software License & Maint	4	3	Cyber Attack	C1a	Perimeter Defense
Cyber Software License & Maint	4	3	Cyber Attack	C2a	Interior Protection
Cyber Software License & Maint	4	3	Cyber Attack	C3a	Data Protection
Cyber Software License & Maint	4	3	Cyber Attack	C4a	SCADA Cybersecurity
Cyber Software License & Maint	4	3	Cyber Attack	C5a	Grid Modernization Cybersecurity
Grid Mod Cybersecurity	4	3	Cyber Attack	C5a	Grid Modernization Cybersecurity
Emergency Preparedness & Response	4	2	Climate Change	C1	Emergency Mgmt.
Emergency Preparedness & Response	4	2	Climate Change	C2	Fire Mgmt.
Training, Drills and Exercises	4	2	Building Safety	C2	Facility Emergency Management Program
Training, Drills and Exercises	4	2	Climate Change	C1	Emergency Mgmt.
Protection of Generation Assets	4	4	Physical Security	C2	Protection of Generation Capabilities
Protection of Grid Infrastructure Assets	4	4	Physical Security	C1b	Grid Infrastructure Protection - Enhanced
Protection of Major Business Functions	4	4	Physical Security	C3b	Non-Electric Facilities/Protection of Major Business Functions - Enhanced
Physical Security	4	4	Physical Security	C4	Asset Protection
Physical Security	4	4	Physical Security	M1a	Insider Threat Program Enhancement & Information Analysis - Base
Fusing Mitigation	4	5	Wildfire	M8	Fusing Mitigation
HFRA Sectionalizing Devices	4	5	Wildfire	M2	Remote-Controlled Automatic Reclosers and Fast Curve Settings
Infrared Inspections	4	5	Contact with Energized / Wildfire Equipment	M4	Infrared Inspections
PSPS Protocol Support Functions	4	5	Wildfire	M3	PSPS Protocol and Support Functions
Situational Awareness	4	5	Wildfire / Climate Change	M7 / M2a	Enhanced Situational Awareness
Wildfire Covered Conductor Program	4	5	Contact with Energized Equipment / Wildfire	M5 / M1	Wildfire Covered Conductor Program
Wildfire Covered Conductor Program	4	5	Wildfire	C2	FR3 Overhead Distribution Transformer
Wildfire Covered Conductor Program	4	5	Wildfire	M9	Fire Resistant Poles (M1 Scope)