SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations

July 23, 2019

ADVICE 4042-E
(U 338-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: **Information Only Advice Letter**
Southern California Edison Company's 2018 Interim Risk Spending Accountability Report

PURPOSE

The purpose of this advice letter is to submit Southern California Edison Company's (SCE) interim 2018 Risk Spending Accountablity Report, as attached hereto as Attachment A.

BACKGROUND

On January 3, 2019, Energy Division Director Edward Randolph sent a letter to SCE requesting Interim Spending Accountability Reports for specified activities[1] covering years 2016, 2017, and 2018 ("Spending Accountability Report Letter").[2] SCE filed its Interim Spending Accountability Reports for 2016 and 2017 on March 14, 2019. In a May 31, 2019 letter, Energy Division requested that SCE submit its 2018 Interim Spending Accountability Report as an information-only advice letter.

No cost information is required for this advice letter.

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1 Specifically, the Energy Division required that SCE 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."

2 The Spending Accountability Report Letter directed that the 2018 Interim Spending Accountability Report be filed and served by May 31, 2019. On May 21st, SCE requested an extension to file the Report. The request was granted by the Energy Division on May 31st, via a letter from Edward Randolph, Deputy Executive Director of Energy and Climate Policy/Director, Energy Division. The letter extended SCE's deadline to file the 2018 Interim Spending Accountability Report to July 23rd.

This advice letter will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule.

TIER DESIGNATION

Pursuant to General Order (GO) 96-B, Energy Industry Rule 5.1, this advice letter is submitted with a Tier 1 designation.

NOTICE

In accordance with GO 96-B, General Rule 6.2, this information-only advice letter is not subject to protest.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this advice letter to the interested parties shown on the attached GO 96-B, A.16-09-001 and I.18-11-006 service lists. Address change requests to the GO 96-B service list should be directed by electronic mail to AdviceTariffManager@sce.com or at (626) 302-4039. For changes to all other service lists, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

Further, in accordance with Public Utilities Code Section 491, notice to the public is hereby given by submitting and keeping the advice letter at SCE's corporate headquarters. To view other SCE advice letters submitted with the Commission, log on to SCE's web site at https://www.sce.com/wps/portal/home/regulatory/advice-letters.

For questions, please contact Doug Snow at (626) 302-2035 or by electronic mail at Douglas.Snow@sce.com.

Southern California Edison Company

/s/ Gary A. Stern, Ph.D.
Gary A. Stern, Ph.D.

GAS:ds:jm
Enclosures

California Public Utilities Commission

ADVICE LETTER SUMMARY

ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:
☑ ELC ☐ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person: Darrah Morgan
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EXPLANATION OF UTILITY TYPE
ELC = Electric GAS = Gas WATER = Water
PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 4042-E

Tier Designation: 1

Subject of AL: Information Only Advice Letter Southern California Edison Company's 2018 Interim Risk Spending Accountability Report (No protest period)

Keywords (choose from CPUC listing): Compliance

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? ☐ Yes ☑ No

If yes, specification of confidential information:
Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? ☐ Yes ☑ No

Requested effective date:

No. of tariff sheets: -0-

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: None

Service affected and changes proposed[1]:

Pending advice letters that revise the same tariff sheets: None

[1]Discuss in AL if more space is needed.

Clear Form

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

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Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov

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Clear Form

ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtailable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	

Clear Form

Attachment A

Southern California Edison Company's Interim Risk Spending Accountability Report for 2018

July 23, 2019

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) INTERIM RISK SPENDING ACCOUNTABILITY REPORT FOR 2018

TABLE OF CONTENTS

Section			Page
I.	INTRODUCTION		1
II.	BACKGROUND		3
III.	OVERVIEW OF AGGREGATE SPENDING VERSUS AUTHORIZED IN SELECT SAFETY, RELIABILITY AND MAINTENANCE PROGRAMS		4
	A.	O&M	4
	B.	Capital	6
IV.	SCE'S INTERIM REPORT, PLACED IN CONTEXT		9
V.	APPLICABLE SAFETY, RELIABILITY, AND MAINTENANCE-RELATED PROGRAMS		11
VI.	DERIVATION OF AUTHORIZED DOLLARS		13
VII.	PROGRAMS RECORDED IN BALANCING OR MEMORANDUM ACCOUNTS		13

APPENDIX 1 TO ATTACHMENT A SPENDING ACCOUNTABILITY REPORT VARIANCES FOR ACTIVITIES MEETING VARIANCE THRESHOLDS

APPENDIX 2 TO ATTACHMENT A VARIANCES FOR ALL O&M AND CAPITAL ACTIVITIES, REGARDLESS OF THRESHOLD

APPENDIX 2A: 2018 O&M

APPENDIX 2B: 2018 CAPITAL

APPENDIX 3 TO ATTACHMENT A 2018 GRC ACTIVITY WALKOVER TO 2021 GRC ACTIVITY

APPENDIX 3A: 2018 O&M ACTIVITY TO 2021 O&M ACTIVITY MAPPING

APPENDIX 3B: 2018 CAPITAL ACTIVITY TO 2021 CAPITAL ACTIVITY MAPPING

APPENDIX 4 TO ATTACHMENT A PROJECTS NOT PRESENTED IN THE 2018 GRC BUT WERE TAKEN UP

APPENDIX 5 TO ATTACHMENT A LIST OF PROJECTS THAT WERE CANCELED OR DEFERRED

I.

INTRODUCTION

Southern California Edison Company's (SCE's) Interim Risk Spending Accountability Report for 2018 (sometimes abbreviated in this report as SAR) is organized into six sections and five appendices (with subparts). The six sections are organized as follows: First, the Background section summarizes the regulatory background giving rise to the report, including Energy Division's guidance to SCE regarding the content and format of this report.

Second, SCE presents graphs of the recorded aggregate operations and maintenance (O&M) expenses and capital expenditures for 2018, relative to what the Commission authorized in the SCE's Test Year 2018 General Rate Case (GRC) for the safety, reliability and maintenance activities covered in this report. SCE spent approximately $46 million (4.5%) over authorized on O&M for these safety, reliability and maintenance activities. For capital spending, SCE overspent on the applicable safety, reliability and maintenance activities by approximately $83 million (2.4%) in 2018.

Third, SCE offers important context that applies because the Commission's guidance on what SCE was authorized to spend in 2018 was not issued until nearly halfway through 2019. *The Energy Division's review of the variability between authorized and actual spending must take into account that SCE had to make its spending decisions prior to and throughout 2018 without knowing what it was actually authorized to spend in that year.*

Fourth, SCE describes how it chose the activities covered in this report. Fifth, consistent with direction from the Energy Division, SCE explains the process it used to derive authorized dollars for activities in the attrition years. Finally, the last section covers considerations specific to balancing and memo accounts.

The five appendices provide the following:

- Appendix 1 contains the required variance explanation 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.[1]

- Appendix 2 contains *all* applicable activities, regardless of the materiality threshold. The subparts break this material down by O&M and capital.
- Appendix 3 displays the authorized amounts for all 2018 GRC Activities and maps these amounts to the associated activity names presented in the 2021 GRC. Again, the subparts break this material down by O&M and capital.
- Appendix 4 provides a list of all projects that were not presented in the 2018 GRC but were taken up.
- Appendix 5 lists all activities that were canceled or deferred.

During 2018, SCE continued to focus on delivering safe and reliable service to its customers and to the communities it is privileged to serve. SCE prudently prioritized overall authorized spending on behalf of its customers. At times, SCE appropriately varied from what the Commission authorized when circumstances changed, needs emerged, or new and better solutions later appeared.

In addition, over the last seven years SCE has undertaken several initiatives to improve the effectiveness and efficiency of its work processes. This has helped SCE temper cost increases despite increasing workload. For example, SCE's GRC operating expense request in the 2018 GRC (for year 2018) was nearly $130 million lower than what was previously authorized for 2015.[2]

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[1] For these activities meeting the materiality thresholds, the Energy Division also directed that SCE provide (a) a description of the programs, (b) location in SCE's Test Year 2021 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 either rate case but that were taken up anyway. Items (a) and (b) are in Appendix 2 where the balance of programs (even those not meeting the materiality threshold) are listed; item (c) is in Appendix 5; item (d) is in Appendix 4.

[2] *See* A.16-09-001, Exhibit SCE-01, pp. 7-8 (testimony of SCE CEO Kevin Payne).

II.

BACKGROUND

In D.14-12-025, the Commission revised the Rate Case Plan to incorporate a risk-based decision-making framework. The Commission adopted a new framework encompassing two new proceedings to support developing and implementing risk-based methodologies in the rate case filing. In addition, the Commission required that utilities file risk spending accountability reports to "assist in the goal of improving utility accountability for the ratepayer money spent on risk mitigation efforts."[3] The Energy Division was given the responsibility to develop the requirements and, ultimately, to review the filed reports.

Throughout 2018, the Energy Division conducted a series of workshops to refine the scope and nature of the Spending Accountability Reports. Among other things, the Energy Division expanded the scope of the report beyond the 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 591. On January 3, 2019, Energy Division Director Edward Randolph sent a letter to SCE requesting Interim Spending Accountability Reports for specified activities[4] covering years 2016, 2017, and 2018 ("Spending Accountability Report Letter," or "Letter").[5] In addition to showing authorized versus actual spending for the record year (expressed in terms of dollars and percentages), the Spending Accountability Report

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

[4] 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."

[5] The Spending Accountability Report Letter directed that the 2018 Interim Spending Accountability Report be filed and served by May 31, 2019. On May 21, SCE requested an extension to file the Report. The request was granted by the Energy Division on May 31st, via a letter from Edward Randolph, Deputy Executive Director of Energy and Climate Policy/Director, Energy Division. The letter extended SCE's deadline to file the 2018 Interim Spending Accountability Report to July 23.

Letter asks SCE to include a derivation of authorized amounts,[6] and to discuss (where applicable) related balancing or memorandum accounts.[7]

The Letter attached a suggested template for presenting tables and other information in the interim reports. SCE has adhered to the general structure of the suggested template. For example, the tables found in the appendices are organized by functional area (generation, transmission, distribution, and other),[8] for both O&M and Capital. The material contained in the appendices, as described above, provides the various categories of information requested by the Energy Division.[9]

III.

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

A. O&M

For 2018, SCE spent approximately $46 million (4.5%) *over authorized* on O&M for the applicable safety, reliability and maintenance activities in all categories, as we show in the table below.

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6 *See* Section V. below.
7 *See* Section VI. below.
8 SCE uses the category of "other" because that terminology is found in Attachment A of the Spending Accountability Report Letter.
9 In its letter dated May 31, 2019, Energy Division directed that SCE file its Spending Accountability Report as an information-only advice letter with Energy Division's Tariff Unit and serve it on the service lists for SCE's 2018 GRC (A.16-09-001) and SCE's RAMP OII (I.18-11-006).

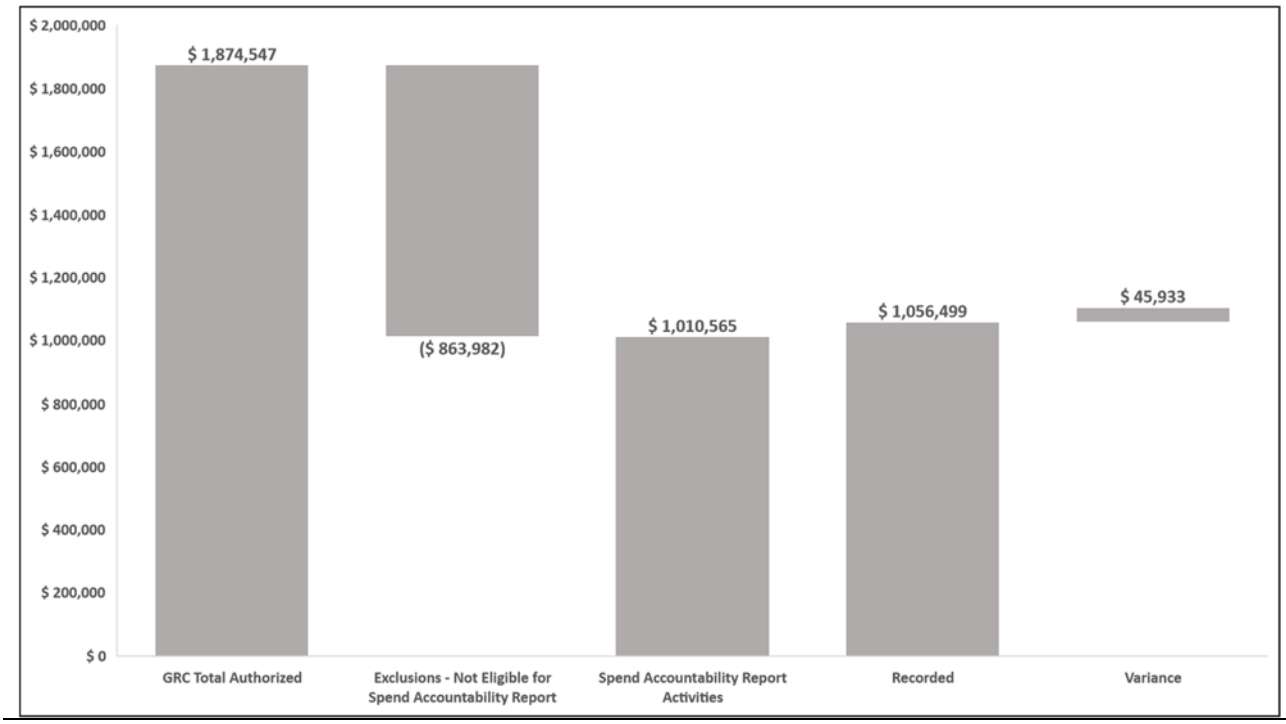
Table III-1
O&M Spending Accountability Report Variances by Function

$ in Thousands ($000)

Category	Authorized	Recorded	Variance
Distribution	304,580	359,426	54,846
Generation	164,302	161,377	-2,925
Other	442,443	451,769	9,326
Transmission	99,240	83,927	-15,313
Grand Total	**1,010,565**	**1,056,499**	**45,933**

The figure below depicts the same information within the context of the "total company authorized spending for each record year."[10]

Figure III-1
2018 O&M GRC Authorized vs. Recorded
$ in Thousands ($000)



In the absence of a 2018 GRC decision, SCE developed and executed its O&M plan which allowed it to continue to provide safe and reliable electric service to customers while minimizing the potential for overspend versus authorized. Additionally, in 2018, management

[10] Spending Accountability Letter, p. 2.

reprioritized work that allowed SCE to focus efforts to help mitigate the emerging wildfire threat.

Due to the increased focus on wildfire mitigation activities, a greater emphasis was placed on vegetation management in high-fire risk areas and removal of dead, dying, and diseased trees. This resulted in increased spend of $65 million with no amounts authorized in the 2018 GRC. In order to provide the necessary resources (both SCE and contractor personnel), a certain level of distribution preventative maintenance activities was deferred, resulting in a $22 million reduction when compared to what was ultimately authorized.

In addition, there was a shift of priorities mainly within two areas: Information Technology (IT) activities and Security/Workforce protection activities. Within IT, SCE overspent software maintenance and infrastructure work by $25 million compared to authorized. This overspend was offset by underspending in IT OU Technology solutions work by $25 million compared to authorized. For Security/Workforce protection activities, adjustments were made for a risk-based assessment and prioritization between security officer services and security technology operations/workforce protection. This reprioritization resulted in an underspend of $6 million compared to authorized for Security/Workforce protection activities.

B. Capital

With respect to capital spending in 2018, SCE *overspent* on the applicable safety, reliability and maintenance activities by approximately $83 million (2.4%) in 2018. Please refer to the table below.

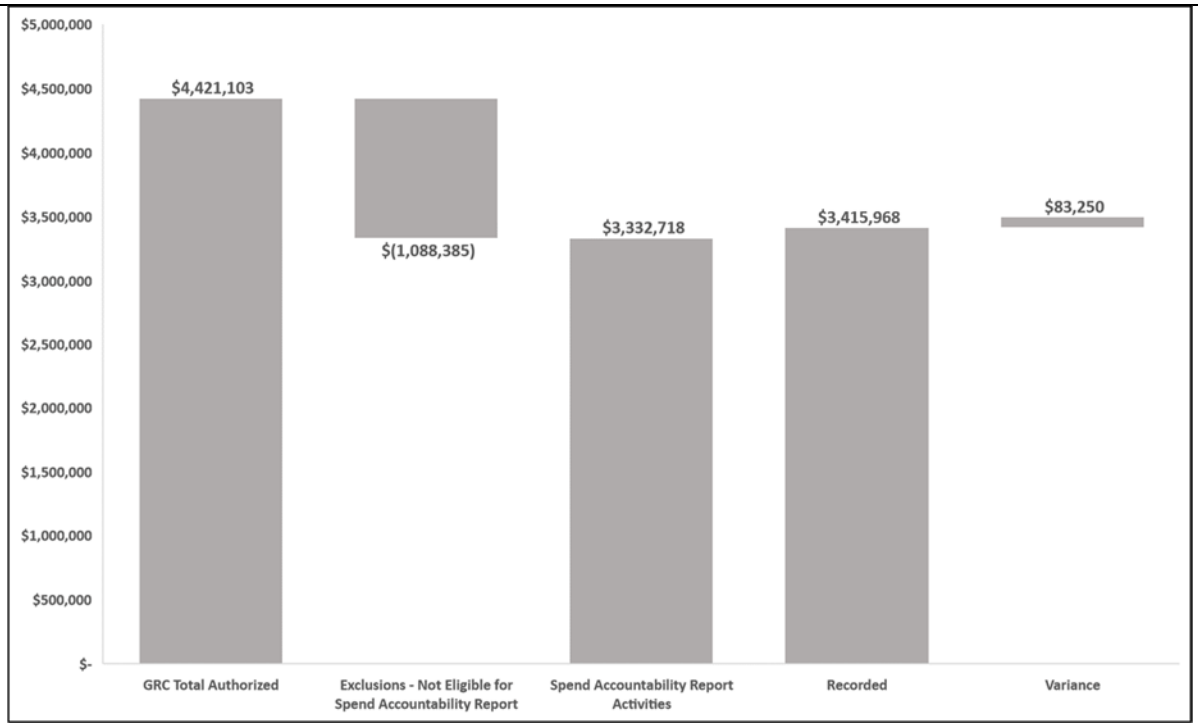
Table III-2
Capital Spending Accountability Report Variances by GRC Category

$ in Thousands ($000)

Category	Authorized	Recorded	Variance
Distribution	$ 1,701,064	$ 1,842,345	$ 141,282
Generation	$ 104,531	$ 101,376	-$ 3,156
Other	$ 481,832	$ 573,355	$ 91,523
Transmission	$ 1,045,290	$ 898,892	-$ 146,399
Grand Total	**$ 3,332,718**	**$ 3,415,968**	**$ 83,250**

The graphs below present the same information within the context of the total company GRC-authorized spending for each record year.

Figure III-2
2018 Capital GRC Authorized vs. Recorded
$ in Thousands ($000)



In the absence of a 2018 GRC decision, SCE developed and executed against a capital plan that will allow it to manage capital spending over the three-year GRC period to meet what would be ultimately authorized while minimizing the risk of unauthorized spending.

In 2018, SCE allocated additional resources to critical programs associated with wildfire mitigation. The Overhead Conductor Program was managed at approximately the level that SCE had requested (approximately $140 million), and SCE completed approximately $30 million in incremental planning (scoping, engineering assessments, designing, etc.) for future Overhead Conductor Program scope in 2018 and completed approximately 10% more circuit miles. These factors, combined with a lower authorized amount than anticipated, resulted in an approximately $83 million variance over authorized for the program.

In addition, there were incremental repairs and remediations in high fire areas of approximately $66 million over the authorized amount associated with the Plant Betterment program. (Future filings will have this classified as covered conductor.) Lastly, an increase in volume of pole replacements as well as costs to comply with the Commission's Fire Mapping Decision,[11] among other things, contributed to increased costs of approximately $36 million over authorized in 2018 for the Distribution Deteriorated Pole Replacement program.

In 2018, SCE invested $77 million for a new customer relationship and billing system that will perform several critical customer service-related functions, such as generating customer bills and providing account management, overall customer care, credit and collections and account receivables. The 2018 GRC decision mandated that the project be tracked in a separate memorandum account, and no spending amounts were authorized.

Despite spending above authorized levels in these critical programs, SCE's total capital spend was within 2.4% of authorized; this was primarily achieved by reduced spending on prudent but less time-sensitive programs.

Recorded expenditures for Transmission Line Rating Remediation (TLRR) were approximately $46 million below authorized levels due to delays from permitting, outage restrictions, and resourcing constraints that limited SCE's ability to complete the work originally forecast. Also, approximately $102 million of spending below authorized for the System Augmentation - Load Growth, Transmission Projects, and Engineering program occurred. This was due to multiple factors, such as:

- Delays in several projects. For example, the Johanna substation experienced delays resulting from an RV park condemnation process. In addition, approximately $65 million of the variance is related to Alberhill, where the Commission issued a decision in August 2018 that denied the Certificate of Public Convenience and Necessity.

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[11] D.17-12-024.

- Lower load growth affected the commencement of Transmission Substation Plan projects.

IV.

SCE'S INTERIM REPORT, PLACED IN CONTEXT

SCE appreciates the opportunity to present the data contained in this report and looks forward to further dialogue with Energy Division and with interested parties regarding the information. SCE respectfully notes that it is important to place this report in its proper context. The report compares SCE's recorded spending for selected activities with the amounts that the Commission had authorized. The key starting point in the Commission's oversight here is the Commission's examination of SCE's GRC forecasts. The Commission has confirmed, in an unbroken line of cases, that GRC forecasts only represent reasonable **estimates** of what the utility expects to spend in a given area.[12]

SCE's 2018 GRC encompassed test year 2018, and attrition years 2019 and 2020. SCE followed the schedule established by the Commission and submitted its forecasts on September 1, 2016. The forecasts were necessarily developed in the months prior to that September 1 date. The Commission issued its final GRC decision on May 16, 2019.[13] 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 approximately three years old. In the intervening years, conditions changed, new opportunities to improve operations and gain efficiencies were found, and additional needs emerged.

Moreover, SCE respectfully notes that the Commission's guidance on what SCE was authorized to spend in 2018 was not issued until nearly halfway through 2019. Thus, the Energy Division's examination of the variability between authorized and actual 2018 spending must take

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[12] *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.").

[13] D.15-11-021.

into account that SCE had to make its spending decisions throughout 2018 without knowing what it was actually authorized to spend in that year.

The Commission has repeatedly recognized that actual spending can differ from authorized spending, and that utilities have the flexibility to apply their best judgment in managing the business.[14] In providing guidance on spending accountability reports, the Energy Division has confirmed that "a utility is allowed the flexibility to reprioritize the authorized funds in order to ensure safe and reliable operations."[15] 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. Recognizing that the utilities may need to re-prioritize spending 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."[16] Moreover, the Commission has specifically recognized that "new programs or projects may come up, others may be cancelled, and there may be reprioritization. This process is expected and is necessary for the utility to manage its operations in a safe and reliable manner."[17]

Lastly, the Energy Division itself has noted that it is requesting an "interim" report, and has confirmed that this is an evolving area for the Energy Division.[18]

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[14] *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.

[15] 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

[16] CPUC Resolution E-4464 (May 10, 2012) at p. 7.

[17] D.11-05-018, at p. 27.

[18] *See* Spending Accountability Report Letter ("The Energy Division continues to refine its proposal for the outline and template for these reports. Meanwhile, the Energy Division endeavors to prepare SCE to comply with the risk spending verification requirements of the new GRC framework by directing SCE, via this letter, to file annual 'interim' Risk Spending Accountability Reports for the years between the Energy Division's Safety Action Plan report covering 2015 and the first Risk Spending Accountability Report covering 2021.").

V.

APPLICABLE SAFETY, RELIABILITY, AND MAINTENANCE-RELATED PROGRAMS

The Spending Accountability Report Letter directed that SCE include a list of all 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, as well as programs with a maintenance activity."

In referring to SCE's 2018 GRC, the Energy Division appears to be pointing to the risk mapping of GRC activities to risk events, outcomes and impacts, as shown by SCE in A.16-09-001.[19]

This mapping:

- Examined each GRC activity;
- Identified what type of risk event it would be able to mitigate; 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 basis for the Energy Division's report on Safety Related Spending for 2015. The Energy Division submitted that report in connection with A.16-09-001. Consistent with the prior report on 2016-2017 spending, SCE continues to utilize the Risk Mapping from A.16-09-001 for purposes of defining its 2018 Spending Accountability Report. First, SCE identified the appropriate safety-related programs by selecting any activity that scored in the Safety Impact dimension. Then SCE expanded these criteria to include programs that scored in the Reliability Impact Dimension. Because the Risk Mapping does not capture a Maintenance Impact dimension, SCE conducted a manual review of all programs that had not

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[19] *See* A.16-09-001, p. 37 (sub-section regarding workpaper).

scored as either Safety- or Reliability-related. SCE has included any program that met the criteria specified by the Spending Accountability Report Letter.

Since filing its 2018 GRC Application, SCE has carefully considered feedback from stakeholders regarding the occasional inconsistency between how our rate case showing is organized and how work is performed. The efforts to improve here have resulted in SCE developing a new activity structure that will underpin SCE's 2021 GRC Application. The aim of the new structure is to provide greater visibility into how spending impacts the achievement of company goals, and enhance SCE's ability to prioritize work and allocate resources more effectively on a company-wide basis. To create consistency and alignment with the 2021 GRC,[20] where 2018 authorized to recorded variances will also be discussed, SCE has adopted this new structure when preparing this Spending Accountability Report.

As discussed above, activities qualifying for the Spending Accountability Report were based on the risk modeling of GRC activities as presented in the 2018 GRC. Implementing this new structure, SCE has necessarily made certain changes to its GRC presentation. In some cases, this resulted in an imperfect match of authorized to recorded numbers for 2018 GRC activities. SCE has attempted to reconcile these items by matching GRC accounts as closely as possible. Recognizing the need to compare SCE's current structure to its 2018 GRC Application showing, we developed Appendix 3 to, among other things, provide a roadmap of Spending Accountability Report activities in the new structure and the associated location in the prior rate case.

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[20] Under the Commission's Rate Case Plan, SCE's 2021 GRC application is to be filed by September 1, 2019.

VI.

DERIVATION OF AUTHORIZED DOLLARS

On November 1, 2016, SCE filed Application (A.)16-09-001 requesting, among other things, an increase in its base revenue requirements for the Test Year 2018 and Post-Test Years 2019 and 2020.[21]

The Commission issued the 2018 SCE GRC Decision (D.19-05-020) on May 24, 2019. The authorized amounts for 2018 are outputs from the Results of Operations model used by the Commission's Energy Division to calculate the 2018 authorized revenue requirement. The Spending Accountability Report generally does not include costs for activities that currently are recovered outside the GRC. A few examples of such costs are Charge Ready, mobile home park capital investments, and Aliso Canyon. The Spending Accountability Report does, however, include FERC-jurisdictional capital and O&M reviewed in the GRC.

VII.

PROGRAMS RECORDED IN BALANCING OR MEMORANDUM ACCOUNTS

The Spending Accountability Report Letter required SCE to provide, if applicable, the balancing or memorandum account(s) where the spending for each program is recorded, the recorded year balances, and the disposition of any request for cost recovery. SCE has identified five regulatory mechanisms that are relevant.

First, in SCE's 2018 GRC decision, the Commission required SCE to continue using the Pole Loading and Deteriorated Pole Programs Balancing Account (PLDPBA).[22] This account covers certain, but not all, pole-related activities. The balancing account is subject to a cap of 15% above authorized revenue requirement for the cumulative total over the years 2018 through

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[21] 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.

[22] *See* D.19-05-020, p. 99.

2020. Because activity variances are expressed in direct dollars rather than revenue requirements, this aspect of the PLDPBA directly impacts how the variances for the PLDPBA activities can be interpreted. SCE is not managing to the individual activities, but both O&M expense and capital expenditures recorded to the PLDPBA on that three-year, cumulative revenue requirement basis. The table below outlines the activity recorded in the PLDPBA for 2018.

Table VII-3
Pole Loading & Deteriorated Pole Programs Balancing Accounts

Pole Loading & Deteriorated Pole Balancing Accounts

	A Beginning Balance	B Transfer To Base Bal Account	C Authorized	D Recorded 1/	E (Over)/ Under Collection A+B+C+D	F Interest	G Ending Balance E+F
2018	2,617	(2,617)	(35,612)	196,800	161,188	1,704	162,892

1/ Includes any prior year adjustments

Second, in SCE's 2018 GRC decision the Commission required that SCE continue using the Safety Reliability Investment Incentive Mechanism (SRIIM), with modifications.[23] The aspect of this mechanism that is relevant here is the capital expenditures for ten key activities (previously there were six core areas) covering major safety and reliability-related expenditures. Under the SRIIM, the revenue requirement resulting from any underspending of the capital expenditures on a cumulative basis (cumulative across all three years of the rate case cycle and across all ten activities) will be refunded. SCE will submit an advice letter by April 2021 that will report SCE's adjusted recorded SRIIM capital additions for calendar years 2018 through 2020 and will include support for the calculation of a base revenue requirement reduction, if any.

Third, there are costs reflected in this report that are recorded in the Catastrophic Event Memorandum Account (CEMA). 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

[23] *See* D.19-05-020, pp. 27-28.

(3) complying with governmental agency orders from declared disasters. SCE plans to file an application in 2019 to seek recovery of costs recorded in the CEMA for the 2017-2018 Drought costs and for 2017 catastrophic Firestorms (Pier, Canyon #1 and Canyon #2, Thomas, Creek & Rye).

Fourth, there are costs reflected in this report that are recorded in the Fire Hazard Prevention Memorandum Account (FHPMA). In Decision 17-12-024, dated December 14, 2017, the Commission adopted new regulations to enhance the fire safety of overhead electric power lines and communication lines in high fire-threat areas. This decision allowed SCE and other electric IOUs to track and record their costs to implement these new regulations in the FHPMAs established pursuant to Commission decisions issued in Order Instituting Rulemaking (R.) 08-11-005. SCE is inspecting and pruning trees to meet the Commission's new 48-inch clearance requirement in the expanded Tier 2 and Tier 3 areas and increasing the trimming distance to reflect the Commission's new recommended time-of-trim clearances. The incremental costs of both activities are being recorded in the FHPMA. SCE will seek recovery of its 2018 costs recorded in the FHPMA in its 2021 GRC.

Finally, there are costs reflected in this report that are recorded in the Grid Safety and Resiliency Program Memorandum Account (GSRPMA). In compliance with D.19-01-019, SCE submitted an advice letter to establish the GSRPMA to allow SCE to track the incremental costs of its proposed Grid Safety and Resiliency Program (GS&RP) during the pendency of SCE's GS&RP Application (A.)18-09-002. As described in SCE's Prepared Testimony, SCE's GS&RP primarily consists of deploying new technologies (e.g., replacing standard "bare" overhead conductors with "covered" conductors and installing new fuses that activate quickly to reduce the energy transmitted to faults) and activities (e.g., reducing outage impacts during wildfire events and Public Safety Power Shutoff events) that are not included in SCE's 2018 GRC or eligible to be tracked in the CEMA or FHPMA, and are thus, by definition, all incremental. The only GS&RP activity that represents an expansion of proposed or existing activities is vegetation

management. SCE will commence recovery of its 2018 GSRPMA costs subsequent to the issuance of a Commission decision in A.18-09-002.

Appendix 1 to Attachment A

Spending Accountability Report Variances for Activities Meeting Variance Thresholds

Generation 2018 O&M

There were no SAR-eligible items in Generation that met the SAR variance threshold

Generation 2018 Capital

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Hydro - Prime Movers	$24,266	$7,503	-$16,763	-69%	Variance in 2018 Hydro capital expenditures occurred because several Hydro capital projects originally forecast to occur in 2018 were deferred to 2019 and 2020. This includes Big Creek 8 Unit 1 Generator Rewind and Big Creek 2 Unit 6 Generator Rewind.
Mountainview	$322	$13,194	$12,872	3992%	Other deferred projects allowed Generation to perform emergent work at the Mountainview Generation Station to preserve equipment reliability and safety. Projects include Mountainview: Superheat Attemperation System Repairs, Storage Building, Unit 3 Main Transformer Replacement, and Generator Excitation Upgrades.

Transmission 2018 O&M

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Transmission Line Rating Remediation (TLRR)	7,883	471	-7,412	-94%	In 2018, recorded expenses for TLRR were below authorized levels due to delays from permitting, outage restrictions, and resourcing constraints that limited SCE's ability to complete the work as originally forecast. In addition, the time required for Agency review and approval of projects has been longer than originally anticipated.

Transmission 2018 Capital

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Monitoring Bulk Power System	$41,035	$59,541	$18,506	45%	Monitoring Bulk Power System recorded approximately $19 million more in 2018 than authorized to accelerate refresh of critical communication equipment that was at or past their useful lives
Protection of Grid Infrastructure Assets	$27,716	$12,806	-$14,910	-54%	NERC V6 Low project delays occurred due to extended lead times to procure security equipment. The project was completed in early 2019.
Relays, Protection and Control Replacements	$56,144	$32,245	-$23,899	-43%	Recorded expenditures in 2018 were less than authorized due to fewer replacements of bulk (220kV & 500kV) and non-bulk relays (115kV & below), and fewer Substation Automation System projects due to project delays caused by outage and engineering constraints, as well as other factors. In addition, SCE executed a more gradual deployment of Digital Fault Recorders to evaluate and reconsider the vendor/manufacturer being used.
Substation Transformer Bank Replacement	$68,528	$84,588	$16,060	23%	In 2018, recorded expenditures exceeded authorized amounts generally due to: (1) incremental work at Hinson substation, (2) carryover work at Alamitos (2 units) and Center (2 units), and (3) SCE performing more engineering and reaching more material milestones for an additional seven units.

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Transmission Deteriorated Pole Replacement	$59,897	$77,002	$17,105	29%	In 2018, SCE expenditures exceeded authorized levels due to a higher volume of poles replaced. In addition, costs to comply with the Commission's 2017 Fire Mapping Decision (D.17-12-024), new environmental requirements, and provision of generators during outages drove increased unit costs.
Transmission Line Rating Remediation (TLRR)	$162,635	$116,693	-$45,942	-28%	In 2018, recorded expenditures for TLRR were below authorized levels due to delays from permitting, outage restrictions, and resourcing constraints that limited SCE's ability to complete the work as originally forecast. In addition, the time required for Agency review and approval of projects has been longer than originally anticipated. This has changed the timing of both material procurement and project construction relative to what we originally forecast in the 2018 GRC.
Transmission Substation Plan (TSP)	$221,150	$118,829	-$102,320	-46%	2018 expenditures are below authorized levels due to the following: (1) Delays in several projects. For example, the Johanna substation experienced delays resulting from an RV park condemnation process. (2) Approximately $65 million (including FERC and CPUC jurisdictional costs) is related to Alberhill, where the Commission issued a decision that denied the Certificate of Public Convenience and Necessity in August 2018. (3) lower load growth affecting commencement of Transmission Substation Plan projects.

Distribution 2018 O&M

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($)	Variance %	Variance Explanation
Dead, Dying and Diseased Tree Removal	1,369	35,621	34,252	2502%	Recorded represents CEMA Drought costs (memo account), which were not part of 2018 GRC request.
Distribution Preventive and Breakdown O&M Maintenance	99,716	78,215	-21,502	-22%	In the last quarter of 2018, SCE accelerated wildfire mitigation efforts that impacted maintenance work performed by both SCE and contractor personnel. Some work previously scheduled to be completed in 2018 was rescheduled to future periods.
Fire Hazard Prevention	0	30,824	30,824	N/A	Recorded represents Fire Hazard Prevention Memorandum Account, which was not part of 2018 GRC request.

Distribution 2018 Capital

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
4 kV Cutovers	$89,809	$116,586	$26,777	30%	4 kV Cutovers is a program grouping that encompasses three activities. We presented separate forecasts for each of these three activities in our 2018 GRC: (1) 4kV Overload-Driven Cutovers (Load Growth); (2) 4 kV Substation Elimination (4 kV Substation Removal); and (3) 4 kV Substation Elimination (4 kV Cutovers). Annual costs for these activities vary due to specific scope of work completed in any given year. The specific scope of work completed in 2018 generally aligned to levels experienced in 2016-2017, although it resulted in higher-than-authorized recorded costs. This program also enables higher penetration levels of distributed energy resources.
Distribution Deteriorated Pole Replacement	$159,638	$195,887	$36,249	23%	In 2018, recorded expenditures exceeded authorized levels due to an increase in volume of pole replacements. In addition, costs to comply with the Commission's Fire Mapping Decision in 2017 (D.17-12-024), among other things, contributed to increased unit costs in 2018.
Distribution Plant Betterment	$15,950	$82,172	$66,222	415%	In order to expeditiously address the wildfire threat in 2018, SCE used the Plant Betterment program to record much of the expenditures related to repairs and remediations in the high fire areas until the grid resiliency programs

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
					could be established with their own accounting. This primarily drove our spending more than authorized for this program in 2018.
Distribution Preventive and Breakdown Capital Maintenance	$276,069	$255,748	-$20,321	-7%	In the last quarter of 2018, SCE accelerated wildfire mitigation efforts that impacted capital maintenance work performed by both SCE and contractor personnel. Some work previously scheduled to be completed in 2018 was rescheduled to future periods.
Distribution Substation Plan (DSP) Circuits	$60,903	$43,580	-$17,323	-28%	2018 expenditures are below authorized levels due to: (1) a delay in the construction of the Safari Substation and pending permits, including Railroads, (2) construction delays due to permitting, (3) resource constraints related to the prioritization of wildfire mitigation efforts, and (4) the Circle City project was forecast in the 2018 GRC but had an in-service date outside the 2018 GRC period.
Engineering and Planning Software Tools	$13,544	$24,490	$10,946	81%	2018 recorded expenditures were higher than authorized for a number of reasons, including but not limited to: greater than anticipated complexity in integrating the various Engineering & Planning software applications. These higher expenditures were offset to a degree by lower-than-anticipated levels of authorized spending in certain areas because GRC Decision did not issue in 2018.

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Overhead Conductor Program (OCP)	$98,081	$181,503	$83,422	85%	In 2018, without a 2018 GRC decision, SCE continued to manage the OCP program at approximately the SCE request level (approximately $140M). SCE completed an additional approximately $30M in incremental planning (scoping, engineering assessments, designing, etc.) for future OCP scope in 2018. In addition, SCE completed approximately 10% more circuit miles. These two items are the primary drivers for recorded costs that were higher than requested. The remainder of the variance is due to a lower authorized amount than SCE anticipated.
Underground Structure Replacements	$73,292	$56,730	-$16,561	-23%	SCE performed fewer underground structure replacements and vault shoring projects relative to forecast, contributing to a reduced level of spending against authorized levels. Because SCE could not replace all identified structures, we prioritized replacements based on risk reduction.

Other 2018 O&M

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Distribution Storm Response O&M	7,585	19,421	11,836	156%	SCE has spent above authorized as a result of unpredictable events (wildfire, rain, etc.). For 2018, the Commission authorized ~$7 million, a 2012-2016 recorded average for Distribution Storm O&M. The Commission indicated it did so because SCE has "significantly underspent the budgets authorized by the Commission in its 2012 GRC and its 2016 GRC."
Environmental Programs	14,641	23,016	8,375	57%	The Environmental Services Department (ESD) incurred higher spend in 2018 for TRTP 4-11 post-construction restoration activities. These costs were driven by regulatory and permitting requirements. There were environmental conditions (such as drought, Phytophthora water mold, and fires) that created unanticipated challenges to restoration and contributed to increased costs (additional regulations, supplemental watering, monitoring, weeding, etc.) for this project. ESD incurred higher spend in 2018 for activities resulting from new agency requirements and SCE's wildfire mitigation plan for enhanced vegetation management. These items were not included in SCE's 2018 GRC request (which was submitted in 2016). Changes to environmental compliance procedures included expansion of Environmental Sensitive Areas (ESAs),

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
					environmental screening for pole/tower brushing activities, new Region 5 Forest Service Master Special Use Permit (MSUP) requirements, increasing local jurisdictional requirements for routine utility activities in coastal zone areas, and permitting and implementation of SCE's Integrated Vegetation Management (IVM) Program. ESD incurred higher spend in 2018 for Ash Canyon landfill repairs at the Mohave site due to storms and other weather conditions. These repair costs were not contemplated when SCE prepared its 2018 GRC request.
Safety Activities - Transmission & Distribution	13,027	18,182	5,155	40%	In 2018, SCE spent more than authorized on safety activities within the T&D organization, as we experienced greater-than-expected participation in safety meetings. We also saw additional expense for Functional Movement System (FMS) exercise, stretching and warm-up programs, and larger-than-anticipated safety recognition expenses.
Security Technology Operations and Maintenance	4,031	22,547	18,516	459%	Variance is attributable to a risk-based re-assessment and prioritization of the security officer services across SCE’s service territory. This is for protection services at the most vulnerable facilities.

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Software Maintenance and Replacement	61,474	73,213	11,739	19%	Increased costs of $6.1M in Service Management Office & Operations/Application Refresh primarily resulted from increased staffing from other departments as part of the 2017 re-organization. Increased SW maintenance of $5.6M due to increased maintenance costs in support of projects. The increases were primarily due to changes in decommission plans and increases in project scope. These items drove the need for additional maintenance support.
Technology Delivery	36,347	10,941	-25,405	-70%	Decreased costs of ($16M) in Business Integration Services primarily resulting from the movement of resources to other departments as part of the 2017 re-organization. In addition, the reduction reflects more O&M projects being charged to capital expenditures vs. O&M expense as a result of SCE's accounting policy lowering the capitalization threshold from $1M to $0.25M ($5.1M) and reduced organizational change management (OCM) activities and lower capital related expenses ($4.3M).
Technology Infrastructure Maintenance and Replacement	14,049	26,681	12,632	90%	Change in IT chargeback methodology occurred. IT IMM O&M costs that previously were billed to the OUs are now recording directly to IT O&M. This resulted in an increased spend of approximately $8.7M. Increased hardware maintenance costs of $3.9M were primarily due to the impact of the

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
					accounting change moving costs from Capital to O&M.
Work Force Protection/Insider Threat	24,251	166	-24,085	-99%	Variance is attributed to a risk-based re-assessment and prioritization of the security officer services across SCE's service territory. We sought to optimize protection services at the most vulnerable facilities.

Other 2018 Capital

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
CRE Project Management	$94,438	$36,882	-$57,556	-61%	Variance is driven by multiple items. First, T&D Training Center was not started so that we could undertake further review with respect to the lowest-cost option. Second, the Santa Barbara Service Center was not started because SCE was unable to find a suitable plot of land. Third, Vehicle Maintenance Facility Modernization was reprioritized due to wildfire and postponed to determine impact of Fleet Electrification at the sites. Fourth, Long Beach Regional Office infrastructure upgrade project was cancelled due to expected sale of property.
CS Replatform	$0	$77,422	$77,422	N/A	The Commission did not authorize any spending for CS Re-Platform. SCE incurred spending because the CS Re-Platform project will implement a new customer relationship and billing system that will perform several critical customer-service-related functions, such as generating customer bills and providing account management, overall customer care, credit and collections and account receivables. The CS Re-Platform project is needed to meet changing customer needs and to replace legacy systems that are outdated, obsolete, costly to maintain, and have increasing risk of failure.

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Facility Asset Management	$29,422	$69,456	$40,034	136%	Non-Electric and Substation Capital Projects that were previously deferred were completed in 2018.
Grid Management System	$39,760	$18,726	-$21,034	-53%	Expenditures below authorized amounts in 2018 is partially a result of the timing impact from the 2018 GRC decision. Prior to receiving this decision, SCE proceeded with limited project activities. This included engaging with other large utilities to learn from their deployment efforts and gauge the availability and maturity of vendor products. Then, SCE conducted a competitive solicitation for the GMS solution. The results of this competitive solicitation highlighted the need to adjust the timing and chronology of the phased releases. Consequently, part of the program scope initially planned for 2018 was deferred to 2019 and beyond. This further reduced the 2018 expenditures to below the authorized amount.

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
Grid Mod Cybersecurity	$8,138	$21,267	$13,128	161%	Variance was partly due to the complexity of documentation of Grid Modernization Cybersecurity configurations, and newer technology. This required external contractors, additional support from Grid Services as well as increased expenditures for Hardware purchases. Also, there were unforeseen and unplanned professional services to build and configure cybersecurity tools.
Software Maintenance and Replacement	$11,387	$65,912	$54,524	479%	This spending over authorized amount is primarily attributable to executing a major upgrade/refresh of our SAP portfolio at a cost of $47 million. SCE purchased a completely new set of replacement products. The purchase included five years of maintenance. This was a strategic spending choice, premised on a conversion from the legacy SAP software products to a new product line that is functionally, technically, and architecturally superior to the legacy products. In addition to the SAP transaction, SCE did not seek authorization for any Application Refresh capital expenditures, but spend was $7.1M. As applications neared end of life, the refresh of these applications became critical in order to prevent technology obsolescence and to mitigate business impact to customers by making sure applications were available and were reliable. The 2018 capital spend also reflected the accumulation of application

Activity	2018 Authorized ($000)	2018 Recorded ($000)	Variance ($) ($000)	Variance (%)	Variance Explanation
					refreshes which were not performed in prior years.

Appendix 2 to Attachment A

Variances for All O&M and Capital Activities, Regardless of Threshold

Appendix 2A: 2018 O&M

2021 Authorized vs Recorded Comparison
O&M (GRC Only)
$ In '000s

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Other	All Hazards Assessment, Mitigation and Analytics	Resiliency - All Hazards, Assessment, Mitigation & Analytics - includes cost to assess and mitigate hazards such as seismic, climate change, severe weather and other hazards	SCE-4 Vol. 1	2,254	2,271	17	1%	Yes	No	No	No
Other	Asset Reliability Risk Analytics	Resiliency - Asset Reliability Risk Analytics - includes cost for predicting wildfire risk of an asset in order to prioritize work repairs, replacements to minimize wildfire ignitions.	SCE-4 Vol. 5	-	128	128	N/A	No	Yes	No	No
Other	Business Planning	Business Planning encompasses functions to build and operationalize integrated, risk-informed planning for the enterprise, and includes strategic planning, business planning and financial planning.	SCE-6 Vol. 2	36,089	36,319	230	1%	Yes	Yes	Yes	No
Generation	Catalina - Diesel	Maintenance: Labor and non-labor expenses for engineering related to the technical support and analysis of station activities; air-quality monitoring and reporting; effluent water quality control and reporting; and hazardous material control. Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services. Operations: Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services.	SCE-5 Vol. 1	4,720	5,166	446	9%	Yes	Yes	Yes	No
Distribution	Circuit Breaker Inspections and Maintenance	Substation Construction & Maintenance - Inspection and Maintenance of Distribution and Transmission Substation Equipment - 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-2 Vol. 3	5,712	4,803	(909)	-16%	No	Yes	Yes	No
Other	Customer Contact Center	This activity consists of costs associated with the Customer Contact Center to provide our customers with telephone access to a SCE representative covering a full array of routine services and the costs for telephone billings and related expenses.	SCE-3 Vol. 4	47,479	45,394	(2,085)	-4%	Yes	No	No	No
Other	Cyber Software License and Maintenance	Expenses incurred for licensing and ongoing maintenance of Cyber Security software.	SCE-4 Vol. 3	3,322	2,367	(954)	-29%	No	Yes	Yes	No
Other	Cybersecurity Delivery and IT Compliance	Expenses associated with deliveirng cybersecurity services and monitoring compliance with key cybersecurity related regulations.	SCE-4 Vol. 3	15,467	14,872	(595)	-4%	No	Yes	Yes	No
Distribution	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-2 Vol. 6	1,369	35,621	34,252	2502%	Yes	Yes	Yes	Yes
Other	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 energy, environmental, and wildfire mitigation policies, as well as other policies instituted by state, federal, and local agencies.	SCE-6 Vol. 6	17,263	14,744	(2,519)	-15%	Yes	Yes	Yes	No
Distribution	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-2 Vol. 1 Pt. 2	5,576	5,697	121	2%	No	No	Yes	No
Distribution	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-2 Vol. 5	5,077	5,003	(74)	-1%	Yes	Yes	No	No
Distribution	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-2 Vol. 1 Pt. 2	7,582	8,027	446	6%	Yes	Yes	No	No
Distribution	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 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-2 Vol. 5	21,121	21,877	756	4%	Yes	Yes	No	No
Distribution	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-2 Vol. 5	3,202	2,562	(640)	-20%	Yes	Yes	Yes	No
Distribution	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. Unplanned activities, referred to as breakdown maintenance, include the repair of SCE equipment and structures that are damaged or fail in service. These items are typically identified as Priority 1 conditions under SCE's DIMP. Breakdown maintenance is typically performed in response to damage caused by equipment failures, degradation, metallic balloons, rodents, birds, or other causes. Unplanned maintenance does not include the costs for repairs performed as a result of a storm or a claim, such as a vehicle damaging SCE poles.	SCE-2 Vol. 1 Pt. 2	99,716	78,215	(21,502)	-22%	Yes	Yes	Yes	Yes
Distribution	Distribution Request for Attachment Inspections	Includes cost for Pre Inspections and Final Inspections of distribution renter attachments to poles.	SCE-2 Vol. 5	-	2,039	2,039	N/A	No	Yes	No	No
Distribution	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-2 Vol. 6	64,212	72,434	8,222	13%	Yes	Yes	Yes	No
Other	Distribution Storm Response O&M	Resiliency - 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-4 Vol. 2	7,585	19,421	11,836	156%	Yes	No	No	Yes

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Distribution	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-2 Vol. 1 Pt. 2	4,473	6,762	2,289	51%	Yes	Yes	No	No
Other	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-6 Vol. 6	8,780	6,768	(2,013)	-23%	Yes	No	No	No
Other	Emergency Preparedness and Response	Costs incurred to maintain expertise and provide direct support to the company and Service territory for emergency management preparedness, response and recovery operations.	SCE-4 Vol. 2	2,177	3,383	1,206	55%	Yes	No	No	No
Other	Employee and Contractor Safety	Includes all costs associated with salaries, expenses, and consultant services of personnel engaged of Employee and Contractor Safety activities.	SCE-6 Vol. 4	3,173	4,330	1,157	36%	Yes	No	No	No
Distribution	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.	SCE-4 Vol. 5	-	4,863	4,863	N/A	Yes	Yes	Yes	No
Other	Enhanced Situational Awareness	Expenses incurred to support the Situational Awareness Center.	SCE-4 Vol. 2	-	(278)	(278)	N/A	Yes	No	No	No
Other	Environmental Management and Development	Environmental Management and Development - Includes salaries and expenses of personnel engaged in Environmental Services activities. Activities relate to management and oversight of environmental programs. This includes coordination activities involving public, private, and governmental agencies and organizations on environmental matters and issues that affect company operations, including legislative, regulatory, compliance trends, and policies. This activity involves administrative and general activities such as training employees and supporting and maintaining the ES organization. This activity also includes costs for vehicle fleet maintenance (fuel, direct and indirect costs associated with use of vehicles), equipment maintenance, operation of Environmental Notification Center (ENC), and other miscellaneous program costs.	SCE-6 Vol. 4	9,316	11,208	1,892	20%	No	No	Yes	No
Other	Environmental Programs	Environmental Programs - Includes the labor, materials used, and costs incurred for distribution, transmission, generation, and hazardous waste environmental programs. Examples include environmental programs related to Biological and Natural Resources, Avian Protection, Wetlands Permitting Support, Water and Air Quality, Vegetation Management and Weed Abatement, Hazardous Materials and Waste, and Environmental Engineering. For Transmission and Substation Toxic Waste Disposal, this includes payroll, automotive, and other expenses incurred in the inspection, sampling, testing, and cleaning of oil products or polychlorinated biphenyl (PCB) contamination caused by leakage and/or spillage, as well as costs incurred to clean-up and dispose of hazardous or toxic waste for distribution equipment. Environmental Programs also include expenses associated with the maintenance and monitoring of the San Dieguito Wetlands and Wheeler North Reef Mitigation Projects.	SCE-6 Vol. 4	14,641	23,016	8,375	57%	No	No	Yes	Yes
Transmission	Equipment Washing	Substation Construction & Maintenance - Inspection and Maintenance of Distribution and Transmission Substation Equipment - Includes the cost of labor, materials used, and expenses incurred in performing the equipment washing activity at distribution and transmission substations.	SCE-2 Vol. 3	1,257	1,100	(157)	-12%	No	Yes	Yes	No
Other	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-3 Vol. 2	10,540	11,139	599	6%	Yes	Yes	Yes	No
Other	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 camp ground 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-6 Vol. 5	58,749	51,796	(6,953)	-12%	Yes	Yes	Yes	No
Distribution	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-2 Vol. 6	-	30,824	30,824	N/A	Yes	Yes	Yes	Yes
Other	Fire Science and Advanced Modeling	Resiliency - 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-4 Vol. 2	-	1,873	1,873	N/A	Yes	No	No	No
Other	Grid Mod Cybersecurity	Expenses incurred in providing Cybersecurity capabilities for the Grid Mod program.	SCE-4 Vol. 3	-	3,193	3,193	N/A	Yes	Yes	No	No
Generation	Hydro	Maintenance: Labor expenses for Supervisors of Operation and Maintenance, and other non-labor expenses incurred in the direct repair supervision of hydraulic generating stations. Includes Major Projects & Engineering and Asset Management & Generation Strategy labor and non-labor expenses incurred in connection with repairs to hydraulic production facilities, structures, and equipment. Also includes services and expenses of these personnel for performing testing, surveys, or inspections, and preparing reports. Labor and non-labor expenses incurred in repairing powerhouse structures, camp structures, cottage structures, camp utilities, camp fences, camp roads, and fire-fighting equipment for general use. Labor and non-labor expenses incurred in repairing reservoirs, dams, waterways, intakes, forebays, penstocks, tailraces, structures (including snow-shelter cabins), and appurtenant facilities used in connection with hydraulic works. Labor and non-labor expenses incurred in repairing and overhauling hydraulic, mechanical, and electrical facilities and appurtenances identified with prime movers and generators from the lower penstock valve to tailrace. Operations: Labor and non-labor expenses incurred in repairing machine-shop tools and work equipment, compressed air systems, signal systems, and other miscellaneous equipment not properly included in other station equipment repair functions. Includes labor and non-labor expenses incurred in repairing powerhouse station cranes and monorail hoists, and other expenses incurred in maintaining and clearing, including snow removal, all production roads, bridges, trails, aerial tramways, inclines, and penstock tramways. Operations: Labor and non-labor expenses incurred in the direct operation and supervision of hydraulic generating stations. This includes all wages (Labor) and miscellaneous expenses (Non-Labor) associated with dispatching, operations supervision, and operational engineering. Labor and non-labor expenses of personnel engaged in routine patrolling of waterways, cleaning trash racks, removing debris and sluicing storage reservoirs, cutting and removing brush along waterways, operating intake gates, and other hydraulic works. Also includes supplies used or consumed in connection with operation of above. Labor and non-labor expenses incurred in operating prime movers, generators, auxiliary apparatus, switchboards, and other electrical equipment at hydraulic generating stations. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, and union activities. Includes payroll and other costs incurred by employees, in performing routine janitor service in hydraulic-power generating stations and appurtenant structures such as machine shops and welding shops. Also includes miscellaneous costs such as small tools, gaskets, packing waste, hoses, indicating lamps, first-aid supplies, and employee's service facilities expense. Also includes payroll and other costs incurred in performing camp duties such as care of grounds, hoeing weeds, collecting and disposing of garbage and trash, removing snow within the camp area including the camp roads, trimming trees in camp areas, sewer-plant operation and cleaning, water-quality testing, and other incidental work in connection with operating the camp. Also includes supplies used or consumed in performance of above duties. Fees: Non-labor expenses incurred in connection with hydraulic-power generation including such items as: Annual payments made to governmental agencies for water quality certifications and water rights licenses and permits, Headwater Benefit fee's, FERC Administration fee's, Department of Dam Safety fee's, USGS fee's and contract costs incurred in conducting weather-modification programs (cloud seeding). Non-labor rent expenses in connection with hydraulic-power generation including such items as: Annual payments made to governmental agencies for rent payments for SCE's use of federal lands upon which the majority of our Hydro facilities are located such as the fee's paid for the Special Use Permit (SUP) to the National Park Service (NPS) for SCE's operation of a diversion dam and flowline for Kaweah 3 within Sequoia National Park.	SCE-5 Vol. 1	41,888	44,347	2,459	6%	Yes	No	Yes	No
Distribution	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-4 Vol. 5	-	0	0	N/A	Yes	Yes	Yes	No

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Transmission	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-2 Vol. 2	1,248	664	(585)	-47%	No	Yes	Yes	No
Distribution	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-2 Vol. 4 Pt. 2	1,058	383	(675)	-64%	No	Yes	No	No
Other	Logistics, Graphics, and Center of Excellence	The Fixed Price Technology and Maintenance work activity includes non-labor for IT Services provided primarily by SCE's Managed Services Providers (MSPs). This activity also includes SCE labor and employee related expenses to oversee and govern performance of IT processes, MSPs' contractual performance, and sourcing.	SCE-6 Vol. 1 Pt. 2	4,652	4,170	(482)	-10%	No	No	Yes	No
Distribution	Monitoring and Operating Substations	Grid Operations - Operating Distribution and Transmission Stations - Includes the cost of labor, materials, and expenses incurred in operating transmission and distribution 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-2 Vol. 3	47,397	41,888	(5,509)	-12%	No	Yes	No	No
Transmission	Monitoring Bulk Power System	[Transmission and Distribution] Grid Operations - 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. [Informational Technology] Grid Network Solutions is responsible for the overall health and performance of SCE's communications network and Supervisory Control and Data Acquisition (SCADA) systems used to monitor and control the company's electric grid and conduct daily business operations.	SCE-2 Vol. 3	51,102	46,457	(4,645)	-9%	No	Yes	No	No
Generation	Mountainview	Maintenance: Labor and non-labor expenses of foremen, planners, and maintenance engineers in the direct supervision of routine maintenance of structures, turbines, boilers, and auxiliary equipment not specifically applicable to other maintenance. Includes labor, material, contract and other expenses in the direct management and support of Regulatory Compliance, Technical Support, and Hazardous Material Handling. Includes labor expenses for compliance manager, NERC-CIP regulatory compliance expenses, and contractor support related to regulatory compliance, compliance related documentation expenses, etc. Includes planner labor and non-labor expenses related to control system maintenance/upgrade and maintenance including contingent worker support; and costs related to environmental compliance related to hazardous materials permits/fees and storage and removal of hazardous wastes. Labor and non-labor expenses for major maintenance, repairs, and improvements of structures, facilities, and grounds, general lighting and ventilation, sump pumps, yard drainage, water supply, hydrants, wells, and elevators. Labor and non-labor expenses incurred for the maintenance of Prime Movers, Generators, and Accessory Electric Equipment. This includes expenses such as corrective maintenance on auxiliary electrical systems, fuel-conveying/processing systems, Continuous Emissions Monitoring Systems (CEMS) calibration, water treatment systems and air quality maintenance. Includes labor and non-labor expenses for maintenance on the gas turbine and generator system; the Heat Recovery Steam Generator (HRSG) system; the fuel gas system; the water treatment system; the electrical distribution system; the condensate and feed water system; the cooling water system; the circulating water system; the auxiliary electrical system; the distributed control system and associated devices; and the air quality control equipment; and overhaul costs for previously stated equipment that cannot be done during regularly scheduled annual outages. Also includes costs associated with vendor contractual agreement covering the gas turbine and steam turbine generators. Labor and non-labor expenses incurred in maintenance associated with the balance of plant systems, miscellaneous consumable materials, air compressors and fire systems, maintenance training expenses, vehicle management and major maintenance, repairs, and improvements of structures, facilities, and grounds. Relates to costs associated with the heating systems and auxiliary (non-power producing) boilers, general lighting. Operations: Labor and non-labor expenses for engineering related to the technical support and analysis of station activities; air-quality monitoring and reporting; effluent water quality control and reporting; and hazardous material control. Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services.	SCE-5 Vol. 1	24,418	25,596	1,178	5%	No	Yes	Yes	No
Other	Operational Compliance	Non GRC	SCE-6 Vol. 4	430	-	(430)	-100%	Yes	Yes	Yes	No
Distribution	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-2 Vol. 3	2,786	1,316	(1,470)	-53%	No	Yes	Yes	No
Distribution	Outage Management	This activity consists of costs to implement timely and accurate communications to SCE's business and residential customers before, during, and after outages, including outages associated with Public Safety Power Shutoff (PSPS). Customers, local government agencies and first responders contact the Outage Communications Team, the Customer Contact Center or their assigned business account managers with questions about the outage and restoration status.	SCE-3 Vol. 5	-	991	991	N/A	Yes	Yes	No	No
Generation	Palo Verde	This activity 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-5 Vol. 1	82,860	77,619	(5,241)	-6%	No	Yes	Yes	No
Distribution	Patrolling and Locating Trouble	Troublemen Patrol, Locate, and Repair Activities - 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-2 Vol. 1 Pt. 2	21,050	22,029	979	5%	Yes	Yes	No	No

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Generation	Peakers	Maintenance: Labor and non-labor expenses of foremen, planners, and maintenance engineers in the direct supervision of routine maintenance of structures, turbines, and auxiliary equipment not specifically applicable to other maintenance. Includes labor, material, contract and other expenses in the direct management and support of Regulatory Compliance, Technical Support, and Hazardous Material Handling. Includes labor expenses for compliance manager, NERC-CIP regulatory compliance expenses, and contractor support related to regulatory compliance, compliance related documentation expenses, etc. Includes planner labor and non-labor expenses related to control system maintenance/upgrade and maintenance including contingent worker support; and costs related to environmental compliance related to hazardous materials permits/fees and storage and removal of hazardous wastes. Labor and non-labor expenses for major maintenance, repairs, and improvements of structures, facilities, and grounds, general lighting and ventilation, sump pumps, yard drainage, water supply, hydrants, wells, and elevators. Labor and non-labor expenses incurred for the maintenance of Prime Movers, Generators, and Accessory Electric Equipment. This includes expenses such as corrective maintenance on auxiliary electrical systems, fuel-conveying/processing systems, Continuous Emissions Monitoring Systems (CEMS) calibration, water treatment systems and air quality maintenance. Includes labor and non-labor expenses for maintenance on the gas turbine and generator system; the fuel gas system; the water treatment system; the electrical distribution system; the condensate and feed water system; the cooling water system; the circulating water system; the auxiliary electrical system; the distributed control system and associated devices; and the air quality control equipment; and overhaul costs for previously stated equipment that cannot be done during regularly scheduled annual outages. Labor and non-labor expenses incurred in maintenance associated with the balance of plant systems, miscellaneous consumable materials, air compressors and fire systems, maintenance training expenses, vehicle management and major maintenance, repairs, and improvements of structures, facilities, and grounds. Operations: Labor and non-labor expenses for engineering related to the technical support and analysis of station activities; air-quality monitoring and reporting; effluent water quality control and reporting; and hazardous material control. Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services.	SCE-5 Vol. 1	7,818	7,351	(466)	-6%	No	Yes	Yes	No
Other	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-4 Vol. 1	609	768	159	26%	Yes	No	No	No
Other	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-4 Vol. 5	-	169	169	N/A	Yes	No	No	No
Other	PSPS Protocol Support Functions	Costs on educatings and supporting customers that may be, or are, involved in an outage scheduled under the PSPS program.	SCE-4 Vol. 5	-	-	-	N/A	No	Yes	No	No
Other	Public Safety	Includes all costs associated with salaries, expenses, and consultant services of personnel engaged of Public Safety activities.	SCE-6 Vol. 4	(15)	295	310	-2090%	Yes	No	No	No
Distribution	Relay Inspections and Maintenance	Substation Construction & Maintenance - Inspection and Maintenance of Distribution and Transmission Substation Equipment - 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-2 Vol. 3	2,711	3,723	1,012	37%	No	Yes	Yes	No
Transmission	Reliability Must-Run and Exceptional Dispatch	Non_GRC	Non_G Vol. Non_GRC	-	-	-	N/A	No	Yes	No	No
Transmission	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-2 Vol. 2	3,797	4,665	868	23%	Yes	No	Yes	No
Other	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-6 Vol. 4	13,027	18,182	5,155	40%	Yes	No	No	Yes
Other	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-6 Vol. 4	2,230	1,812	(418)	-19%	Yes	No	No	No
Other	Security Technology Operations and Maintenance	Security Technology, Operations and Maintenance includes two sub-activities: (1) Project Management 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.	SCE-4 Vol. 4	4,031	22,547	18,516	459%	No	No	Yes	Yes
Other	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 business applications to take advantage of the underlying hardware features and functions. In addition, this work activity includes SCE labor and non-labor for application refresh activities, which consist of the management, upgrade, maintenance, optimization, monitoring, and testing of IT applications and interfaces through their lifecycle.	SCE-6 Vol. 1 Pt. 2	61,474	73,213	11,739	19%	No	No	Yes	Yes
Generation	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-5 Vol. 1	1,600	1,298	(303)	-19%	No	No	Yes	No
Generation	SONGS	Non_GRC	Non_G Vol. Non_GRC	998	-	(998)	-100%	Yes	Yes	Yes	No
Distribution	Streetlight Operations, Inspections, and Maintenance	Streetlight Operations, Inspections, and Maintenance O&M Expenses includes all the O&M expenses for SCE's streetlight system. 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-2 Vol. 1 Pt. 2	7,315	6,575	(740)	-10%	Yes	Yes	Yes	No
Distribution	Substation - Inspections and Maintenance	Substation Inspection and Maintenance - Inspections and Maintenance Activities Performed at SCE-Owned Generating Facilities - 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-2 Vol. 3	2,040	1,264	(776)	-38%	No	Yes	Yes	No
Distribution	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 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.	SCE-2 Vol. 3	2,183	2,525	342	16%	Yes	Yes	Yes	No

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Other	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-6 Vol. 1 Pt. 2	36,347	10,941	(25,405)	-70%	No	No	Yes	Yes
Other	Technology Infrastructure Maintenance and Replacement	The Technology Infrastructure Maintenance and Replacement O&M work activity includes labor to manage performance of Managed Services Providers performing acquisition, configuration, installation of infrastructure hardware/software, as well as troubleshooting activities. It also consists of expenses necessary to maintain the IT infrastructure hardware within SCE's production data centers and are provided through support agreements with the respective hardware vendors. The capitalized hardware replacements benefit from purchasing prepaid maintenance agreements, typically over five years. After the five-year period ends, the O&M hardware support expenses are accumulated, tracked, and reported through non-labor expenses in this account. This work activity also includes SCE labor and associated non-labor expenses for monitoring and control of the Managed Services Providers' performance in relation to the Service Desk, management of the third-party vendor contractual obligations and performance for cellular and wireless, product ordering, printing, audio and visual. Finally, it includes the management of cellular devices and monthly plans, printers, software licensing renewals, computer accessories, and printers.	SCE-6 Vol. 1 Pt. 2	14,049	26,681	12,632	90%	No	No	Yes	Yes
Transmission	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-2 Vol. 2	2,901	2,419	(482)	-17%	No	No	Yes	No
Other	Telecommunication Storm Response O&M	Resiliency - Telecommunication Storm - 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 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-4 Vol. 2	-	103	103	N/A	Yes	No	No	No
Other	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-6 Vol. 3	13,265	16,398	3,133	24%	Yes	Yes	Yes	No
Other	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-6 Vol. 3	26,183	21,484	(4,699)	-18%	Yes	Yes	Yes	No
Other	Training, Drills and Exercises	Costs incurred for the training of employee, conducting drills and exercises, for the Company's response capabilities forvarious hazards, such as earthquakes, wildfires, and cyber attacks.	SCE-4 Vol. 2	3,469	2,015	(1,454)	-42%	Yes	No	No	No
Transmission	Transformer Inspections and Maintenance	Substation Construction & Maintenance - Inspection and Maintenance of Distribution and Transmission Substation Equipment - Includes the cost of labor, materials used, and expenses incurred in performing the inspection and maintenance of transformers at distribution and transmission substations.	SCE-2 Vol. 3	1,423	1,048	(375)	-26%	Yes	Yes	Yes	No
Transmission	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-2 Vol. 5	883	592	(290)	-33%	Yes	Yes	No	No
Transmission	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-2 Vol. 2	5,418	4,378	(1,040)	-19%	Yes	Yes	No	No
Transmission	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-2 Vol. 2	7,883	471	(7,412)	-94%	Yes	Yes	Yes	Yes
Transmission	Transmission O&M Maintenance	Includes the cost of labor, materials used and expenses incurred in the maintenance of transmission lines, such as preventive, reactive and breakdown maintenance. Includes related costs such as transportation expenses, meals, traveling, lodging, incidental expenses, division overhead and supply and tool expense.	SCE-2 Vol. 2	8,695	7,358	(1,337)	-15%	No	Yes	Yes	No
Transmission	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-2 Vol. 5	2,139	1,976	(163)	-8%	Yes	Yes	No	No
Transmission	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-2 Vol. 5	354	99	(255)	-72%	No	Yes	Yes	No
Transmission	Transmission Request for Attachment Inspections	Includes cost for Pre Inspections and Final Inspections of transmission renter attachments to poles.	SCE-2 Vol. 5	270	378	108	40%	No	Yes	No	No
Transmission	Transmission Trim and Remove Trees	Costs incurred for pre-inspections, trimming and removal of trees near Transmission facilities, expanded clearance distances, back-end quality assurance/checks; pole-brushing work, supplemental patrols, and substation-associated vegetation management work.	SCE-2 Vol. 6	10,559	10,379	(180)	-2%	Yes	Yes	Yes	No
Transmission	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-2 Vol. 2	1,311	1,943	632	48%	Yes	Yes	No	No
Other	Transmission/Substation Storm Response O&M	Resiliency - Transmission/Substation Storm - 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 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-4 Vol. 2	1,606	628	(978)	-61%	Yes	Yes	No	No
Other	Weather Stations	Capital only N/A	SCE-4 Vol. 5	-	253	253	N/A	Yes	No	No	No
Distribution	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-2 Vol. 6	-	5	5	N/A	Yes	Yes	No	No
Other	Work Force Protection/Insider Threat	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.	SCE-4 Vol. 4	24,251	166	(24,085)	-99%	Yes	No	No	Yes

Appendix 2B: 2018 Capital

2021 Authorized vs Recorded Comparison
Capital (GRC Only)
$ In '000s

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Distribution	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 4kV Cutover Program is a part of the larger 4kV Substation Elimination Program, which has the purpose of addressing equipment obsolescence, safety, and reliability.	SCE-2 Vol. 1 Pt. 1	89,809	116,586	26,777	30%	Yes	Yes	No	Yes
Distribution	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.	SCE-2 Vol. 4 Pt. 2	36,946	38,537	1,591	4%	Yes	Yes	No	No
Distribution	4 kV Substation Eliminations	4 kV Substation Eliminations include substation equipment removal, soil remediation, and removal of associated buildings. 4kV Substation Eliminations is a part of the larger 4kV Substation Elimination Program which has the purpose of addressing equipment obsolescence, safety, and reliability.	SCE-2 Vol. 1 Pt. 1	2,121	5,521	3,401	160%	Yes	Yes	No	No
Distribution	Agricultural New Service Connections	Agricultural service connections are necessary for new agricultural customers to receive service from SCE. Pursuant to SCE's Line Extension Tariff Rule 15 and Service Extension Tariff Rule 16, SCE provides service to agricultural customers within the SCE service territory. Extending service to new agricultural customers may entail the construction of new service connections or distribution line extensions.	SCE-2 Vol. 4 Pt. 3	5,382	3,831	(1,552)	-29%	No	Yes	No	No
Other	Air Operations	Aircraft Operations includes capital supporting aircraft components, overhauls, tools and helicoptor lease buy-outs. Aircraft play 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-6 Vol. 5	6,354	3,109	(3,246)	-51%	No	Yes	Yes	No
Other	All Hazards Assessment, Mitigation and Analytics	Resiliency - All Hazards, Assessment, Mitigation & Analytics - includes cost to assess and mitigate hazards such as seismic, climate change, severe weather and other hazards	SCE-4 Vol. 1	34,183	26,649	(7,534)	-22%	Yes	Yes	Yes	No
Other	Asset Reliability Risk Analytics	Resiliency - Asset Reliability Risk Analytics - includes cost for predicting wildfire risk of an asset in order to prioritize work repairs, replacements to minimize wildfire ignitions.	SCE-4 Vol. 5	-	-	-	N/A	Yes	Yes	No	No
Distribution	Cable Life Extension (CLE) Program	The 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-2 Vol. 1 Pt. 1	24,176	31,258	7,082	29%	Yes	Yes	No	No
Distribution	Cable-in-Conduit (CIC) Replacement Program	The CIC Replacement program proactively replaces segments of SCE's cable-in-conduit (CIC) population 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 to SCE customers.	SCE-2 Vol. 1 Pt. 1	41,964	50,723	8,759	21%	Yes	Yes	No	No
Distribution	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 by 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-2 Vol. 1 Pt. 1	14,126	19,386	5,260	37%	No	Yes	No	No
Generation	Catalina - Diesel	Maintenance: Labor and non-labor expenses for engineering related to the technical support and analysis of station activities; air-quality monitoring and reporting; effluent water quality control and reporting; and hazardous material control. Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services. Operations: Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services.	SCE-5 Vol. 1	451	6,994	6,543	1449%	No	Yes	Yes	No
Transmission	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-2 Vol. 3	45,289	44,467	(823)	-2%	No	Yes	No	No
Other	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 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.	SCE-2 Vol. 4 Pt. 1	28,562	21,493	(7,069)	-25%	No	Yes	No	No
Other	Communications Equipment	Communication equipment including 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-5 Vol. 2	1,897	691	(1,206)	-64%	No	Yes	No	No
Distribution	Community Resiliency Programs	The CRP incentivizes locations within or close to the HTMP to provide back up facilities for customers subject to forced outages as part of the PSPS.	SCE-4 Vol. 5	-	-	-	N/A	Yes	Yes	No	No
Other	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-6 Vol. 5	94,438	36,882	(57,556)	-61%	Yes	Yes	Yes	Yes
Other	CS Replatform	The Customer Service Re-Platform (CS Re-Platform) capitalized software project is designed to implement a new enterprise customer relationship and billing system that will perform core customer-service-related functions such as generating customer bills, enabling customer account management, and providing customers access to SCE rates and programs.	SCE-3 Vol. 3	-	77,422	77,422	N/A	Yes	Yes	No	Yes
Other	Cybersecurity Delivery and IT Compliance	Provides cybersecurity and monitors compliance with key cybersecurity related regulations.	SCE-4 Vol. 3	41,861	33,485	(8,375)	-20%	No	Yes	Yes	No
Other	Digital Enhancements	Digital Accelerator capital investment will fund the development and implementation of digital solutions that meet the SCE capital thresholds.	SCE-6 Vol. 2	-	-	-	N/A	No	Yes	Yes	No
Distribution	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-2 Vol. 4 Pt. 2	60,988	54,378	(6,611)	-11%	No	Yes	No	No

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Distribution	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-2 Vol. 5	159,638	195,887	36,249	23%	Yes	Yes	No	Yes
Distribution	Distribution Plant Betterment	Plant Betterment is an activity that performs system improvements and projects to address local needs that are not covered by the 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.	SCE-2 Vol. 4 Pt. 2	15,950	82,172	66,222	415%	Yes	Yes	No	Yes
Distribution	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-2 Vol. 5	111,903	116,849	4,946	4%	Yes	Yes	No	No
Distribution	Distribution Preventive and Breakdown Capital Maintenance	This maintenance activity captures the labor, equipment, and other material costs to remove and replace failed distribution equipment.	SCE-2 Vol. 1 Pt. 2	276,069	255,748	(20,321)	-7%	Yes	Yes	No	Yes
Distribution	Distribution Storm Response Capital	Repair and replacement performed as part of a storm response on Distribution facilities.	SCE-4 Vol. 2	37,061	32,647	(4,414)	-12%	Yes	Yes	No	No
Distribution	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-2 Vol. 4 Pt. 2	60,903	43,580	(17,323)	-28%	No	Yes	No	Yes
Distribution	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-2 Vol. 4 Pt. 2	98,100	87,084	(11,016)	-11%	No	Yes	No	No
Distribution	Distribution Tools and Work Equipment	This activity 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-2 Vol. 1 Pt. 2	4,888	3,256	(1,632)	-33%	No	Yes	No	No
Distribution	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-2 Vol. 1 Pt. 2	96,207	86,811	(9,396)	-10%	No	Yes	No	No
Distribution	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-2 Vol. 4 Pt. 2	11,513	2,451	(9,062)	-79%	No	Yes	No	No
Distribution	Engineering and Planning Software Tools	These 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-2 Vol. 4 Pt. 1	13,544	24,490	10,946	81%	Yes	Yes	No	Yes
Other	Environmental Programs	Environmental Programs - Includes the labor, materials used, and costs incurred for distribution, transmission, generation, and hazardous waste environmental programs. Examples include environmental programs related to Biological and Natural Resources, Avian Protection, Wetlands Permitting Support, Water and Air Quality, Vegetation Management and Weed Abatement, Hazardous Materials and Waste, and Environmental Engineering. For Transmission and Substation Toxic Waste Disposal, this includes payroll, automotive, and other expenses incurred in the inspection, sampling, testing, and cleaning of oil products or polychlorinated biphenyl (PCB) contamination caused by leakage and/or spillage, as well as costs incurred to clean-up and dispose of hazardous or toxic waste for distribution equipment. Environmental Programs also include expenses associated with the maintenance and monitoring of the San Dieguito Wetlands and Wheeler North Reef Mitigation Projects.	SCE-6 Vol. 4	678	706	29	4%	Yes	No	No	No
Other	Facility Asset Management	The Facility Capital Management Program was established to request funds for ongoing expenditures of routine 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-6 Vol. 5	29,422	69,456	40,034	136%	Yes	Yes	Yes	Yes
Other	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-6 Vol. 5	467	468	1	0%	No	Yes	Yes	No
Other	Grid Management System	SCE's 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-2 Vol. 4 Pt. 1	39,760	18,726	(21,034)	-53%	Yes	Yes	No	Yes
Other	Grid Mod Cybersecurity	Cybersecurity programs related to the implementation of the Grid Mod program.	SCE-4 Vol. 3	8,138	21,267	13,128	161%	No	Yes	Yes	Yes
Transmission	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-2 Vol. 4 Pt. 2	265,332	252,786	(12,546)	-5%	No	Yes	Yes	No
Transmission	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-4 Vol. 5	-	-	-	N/A	Yes	No	No	No
Generation	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-5 Vol. 1	15,086	14,422	(665)	-4%	Yes	Yes	No	No
Generation	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-5 Vol. 1	3,023	575	(2,449)	-81%	Yes	No	No	No
Generation	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 efficiently control processes at powerhouses and ancillary facilities.	SCE-5 Vol. 1	5,583	8,127	2,544	46%	Yes	Yes	No	No
Generation	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-5 Vol. 1	24,266	7,503	(16,763)	-69%	Yes	Yes	No	Yes
Generation	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-5 Vol. 1	11,707	4,452	(7,255)	-62%	Yes	No	No	No
Generation	Hydro - Structures and Grounds	This category 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-5 Vol. 1	1,265	4,093	2,828	224%	Yes	No	No	No
Other	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-2 Vol. 4 Pt. 1	3,594	2,566	(1,028)	-29%	Yes	Yes	No	No
Distribution	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-2 Vol. 1 Pt. 3	907	228	(678)	-75%	No	No	Yes	No

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Transmission	Monitoring Bulk Power System	[Transmission and Distribution] Grid Operations - 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. [Informational Technology] Grid Network Solutions is responsible for the overall health and performance of SCE's communications network and Supervisory Control and Data Acquisition (SCADA) systems used to monitor and control the company's electric grid and conduct daily business operations.	SCE-2 Vol. 3	41,035	59,541	18,506	45%	No	Yes	No	Yes
Generation	Mountainview	Maintenance: Labor and non-labor expenses of foremen, planners, and maintenance engineers in the direct supervision of routine maintenance of structures, turbines, boilers, and auxiliary equipment not specifically applicable to other maintenance. Includes labor, material, contract and other expenses in the direct management and support of Regulatory Compliance, Technical Support, and Hazardous Material Handling. Includes labor expenses for compliance manager, NERC-CIP regulatory compliance expenses, and contractor support related to regulatory compliance, compliance related documentation expenses, etc. Includes planner labor and non-labor expenses related to control system maintenance/upgrade and maintenance including contingent worker support; and costs related to environmental compliance related to hazardous materials permits/fees and storage and removal of hazardous wastes. Labor and non-labor expenses for major maintenance, repairs, and improvements of structures, facilities, and grounds, general lighting and ventilation, sump pumps, yard drainage, water supply, hydrants, wells, and elevators. Labor and non-labor expenses incurred for the maintenance of Prime Movers, Generators, and Accessory Electric Equipment. This includes expenses such as corrective maintenance on auxiliary electrical systems, fuel-conveying/processing systems, Continuous Emissions Monitoring Systems (CEMS) calibration, water treatment systems and air quality maintenance. Includes labor and non-labor expenses for maintenance on the gas turbine and generator system; the Heat Recovery Steam Generator (HRSG) system; the fuel gas system; the water treatment system; the electrical distribution system; the condensate and feed water system; the cooling water system; the circulating water system; the auxiliary electrical system; the distributed control system and associated devices; and the air quality control equipment; and overhaul costs for previously stated equipment that cannot be done during regularly scheduled annual outages. Also includes costs associated with vendor contractual agreement covering the gas turbine and steam turbine generators. Labor and non-labor expenses incurred in maintenance associated with the balance of plant systems, miscellaneous consumable materials, air compressors and fire systems, maintenance training expenses, vehicle management and major maintenance, repairs, and improvements of structures, facilities, and grounds. Relates to costs associated with the heating systems and auxiliary (non-power producing) boilers, general lighting. Operations: Labor and non-labor expenses for engineering related to the technical support and analysis of station activities; air-quality monitoring and reporting; effluent water quality control and reporting; and hazardous material control. Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services.	SCE-5 Vol. 1	322	13,194	12,872	3992%	Yes	Yes	No	Yes
Distribution	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-2 Vol. 4 Pt. 2	7,379	8,752	1,374	19%	No	Yes	No	No
Distribution	New DER-Driven DSP Circuits	High DER penetration also drives the need for new circuits. Unlike traditional load growth, the impacts of DERs (due to the proportion of photovoltaic technology) tends to be highest during periods of minimum daytime loading. Accordingly, increased DER growth and penetration can cause power to reverse back to the substation. This amount of reverse power flow can cause equipment to exceed its planned loading limit, which leads to that equipment exceeding its thermal rating and voltage moving outside of criteria. This can lead to compromising the operational flexibility required to maintain a dynamic distribution system. Accordingly, new circuit projects are required to minimize reverse power flow through the distribution circuits, ensure that planned loading limit is not exceeded, and to ensure adequate flexibility is maintained in the distribution system.	SCE-2 Vol. 4 Pt. 2	-	-	-	N/A	No	Yes	No	No
Other	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-2 Vol. 3	544	423	(121)	-22%	Yes	No	No	No
Transmission	Other Transmission Projects	The Transmission Projects Business Plan Element includes work SCE completes on its high voltage transmission system (500 kV and 220 kV). SCE's high voltage transmission system, which includes transmission lines, substations, and 500/220 kV transformers, are under the operational control of the California Independent System Operator (CAISO) and subject to Federal Energy Regulatory Commission (FERC) jurisdiction.	SCE-2 Vol. 4 Pt. 2	-	344	344	N/A	No	Yes	No	No
Distribution	Overhead Conductor Program (OCP)	Overhead Conductor Program (OCP) is SCE's program to replace small overhead conductor that does not meet present standards with larger size conductor, and to install protective devices to improve protection of overhead conductor.	SCE-2 Vol. 1 Pt. 1	98,081	181,503	83,422	85%	Yes	Yes	No	Yes
Generation	Palo Verde	This activity 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-5 Vol. 1	39,805	37,824	(1,980)	-5%	No	No	Yes	No
Distribution	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-2 Vol. 1 Pt. 1	1,460	2,533	1,073	73%	Yes	No	No	No
Generation	Peakers	Maintenance: Labor and non-labor expenses of foremen, planners, and maintenance engineers in the direct supervision of routine maintenance of structures, turbines, and auxiliary equipment not specifically applicable to other maintenance. Includes labor, material, contract and other expenses in the direct management and support of Regulatory Compliance, Technical Support, and Hazardous Material Handling. Includes labor expenses for compliance manager, NERC-CIP regulatory compliance expenses, and contractor support related to regulatory compliance, compliance related documentation expenses, etc. Includes planner labor and non-labor expenses related to control system maintenance/upgrade and maintenance including contingent worker support; and costs related to environmental compliance related to hazardous materials permits/fees and storage and removal of hazardous wastes. Labor and non-labor expenses for major maintenance, repairs, and improvements of structures, facilities, and grounds, general lighting and ventilation, sump pumps, yard drainage, water supply, hydrants, wells, and elevators. Labor and non-labor expenses incurred for the maintenance of Prime Movers, Generators, and Accessory Electric Equipment. This includes expenses such as corrective maintenance on auxiliary electrical systems, fuel-conveying/processing systems, Continuous Emissions Monitoring Systems (CEMS) calibration, water treatment systems and air quality maintenance. Includes labor and non-labor expenses for maintenance on the gas turbine and generator system; the fuel gas system; the water treatment system; the electrical distribution system; the condensate and feed water system; the cooling water system; the circulating water system; the auxiliary electrical system; the distributed control system and associated devices; and the air quality control equipment; and overhaul costs for previously stated equipment that cannot be done during regularly scheduled annual outages. Labor and non-labor expenses incurred in maintenance associated with the balance of plant systems, miscellaneous consumable materials, air compressors and fire systems, maintenance training expenses, vehicle management and major maintenance, repairs, and improvements of structures, facilities, and grounds. Operations: Labor and non-labor expenses for engineering related to the technical support and analysis of station activities; air-quality monitoring and reporting; effluent water quality control and reporting; and hazardous material control. Labor and non-labor expenses incurred in operating prime movers, generators and electric equipment to the point where electricity leaves for conversion for transmission or distribution. This includes water chemistry management, environmental air compliance, and equipment monitoring and developing operating procedures in relation to the prime movers, generator and auxiliary electrical systems. Labor and non-labor expenses incurred by Field Division Management and Home Office staff necessary to accomplish administrative tasks that support the generation operations, including regulatory proceedings, regulatory and safety compliance activities, union activities, etc. This includes general management and administration, safety, noise and water compliance, labor relations costs, community information technology costs, reliability and efficiency expenses, training and grounds management, communications and computing equipment expenses, office supplies, reimbursable employee expenses, safety and training costs, and facilities' janitorial services.	SCE-5 Vol. 1	2,822	4,194	1,372	49%	Yes	Yes	No	No
Distribution	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-2 Vol. 1 Pt. 2	14,559	16,789	2,230	15%	No	No	Yes	No
Distribution	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-2 Vol. 3	47,041	42,975	(4,066)	-9%	Yes	Yes	Yes	No
Transmission	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-4 Vol. 4	27,716	12,806	(14,910)	-54%	Yes	Yes	No	Yes
Transmission	Protection of Major Business Assets	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-4 Vol. 4	-	-	-	N/A	Yes	Yes	No	No
Transmission	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-4 Vol. 4	10,837	13,022	2,185	20%	No	No	Yes	No
Transmission	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-2 Vol. 3	56,144	32,245	(23,899)	-43%	Yes	Yes	No	Yes
Distribution	Reliability-Driven Distribution Automation	Incorporating automation equipment, technologies, and operations into our electric system allows SCE to (1) provide system operators the flexibility to safely 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	SCE-2 Vol. 4 Pt. 1	69,373	64,081	(5,292)	-8%	Yes	Yes	No	No

Category (Function)	2021 GRC Activity	Activity Description	GRC 2021 Exhibit	2018 Authorized	2018 Recorded	2018 Variance ($)	2018 Variance (%)	Safety	Reliability	Maintenance	2018 Variance Explanation Required (Yes/No)
Other	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 business applications to take advantage of the underlying hardware features and functions. In addition, this work activity includes SCE labor and non-labor for application refresh activities, which consist of the management, upgrade, maintenance, optimization, monitoring, and testing of IT applications and interfaces through their lifecycle.	SCE-6 Vol. 1 Pt. 2	11,387	65,912	54,524	479%	No	Yes	Yes	Yes
Generation	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-5 Vol. 1	202	-	(202)	-100%	No	Yes	No	No
Distribution	Streetlight Maintenance and LED Conversions	SCE owns and maintains over 680,000 lights in our service territory. Most street lights on SCE's system are concrete electroliers with High Pressure Sodium Vapor (HPSV) luminaires. SCE plans to install LED technology that is more energy efficient and requires less maintenance as compared to HPSV luminaires.	SCE-2 Vol. 1 Pt. 1	50,450	54,833	4,383	9%	No	No	Yes	No
Transmission	Substation Capital Breakdown Maintenance	This maintenance activity captures the labor, equipment, and other material costs to remove and replace failed substation equipment.	SCE-2 Vol. 3	8,552	11,376	2,823	33%	No	Yes	Yes	No
Transmission	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-2 Vol. 3	938	295	(643)	-69%	No	No	Yes	No
Distribution	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 minimize interruption caused by an unplanned major equipment failure.	SCE-2 Vol. 3	4,700	7,953	3,253	69%	No	Yes	No	No
Distribution	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-2 Vol. 4 Pt. 2	26,931	19,378	(7,553)	-28%	No	Yes	Yes	No
Distribution	Substation Load Information Monitoring System	Substation Loading Information & Monitoring System (SLIMS) is intended to electronically log the loading on lines and transformer banks.	SCE-2 Vol. 4 Pt. 2	-	3	3	N/A	No	Yes	No	No
Other	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-2 Vol. 3	18,970	21,096	2,125	11%	Yes	Yes	No	No
Distribution	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. This activity also includes the costs to replacem obsolete work equipment. These tool expenditures include the costs for acquiring and retiring portable tools and equipment whose cost exceeds $1,000.	SCE-2 Vol. 3	5,623	7,379	1,756	31%	No	Yes	No	No
Transmission	Substation Transformer Bank Replacement	This activity planned includes the preemptive replacement of transformers approaching the end of their service lives	SCE-2 Vol. 3	68,528	84,588	16,060	23%	Yes	Yes	No	Yes
Other	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-6 Vol. 1 Pt. 2	2,636	-	(2,636)	-100%	No	Yes	Yes	No
Other	Technology Infrastructure Maintenance and Replacement	The Technology Infrastructure Maintenance and Replacement O&M work activity includes labor to manage performance of Managed Services Providers performing acquisition, configuration, installation of infrastructure hardware/software, as well as troubleshooting activities. It also consists of expenses necessary to maintain the IT infrastructure hardware within SCE's production data centers and are provided through support agreements with the respective hardware vendors. The capitalized hardware replacements benefit from purchasing prepaid maintenance agreements, typically over five years. After the five-year period ends, the O&M hardware support expenses are accumulated, tracked, and reported through non-labor expenses in this account. This work activity also includes SCE labor and associated non-labor expenses for monitoring and control of the Managed Services Providers' performance in relation to the Service Desk, management of the third-party vendor contractual obligations and performance for cellular and wireless, product ordering, printing, audio and visual. Finally, it includes the management of cellular devices and monthly plans, printers, software licensing renewals, computer accessories, and printers.	SCE-6 Vol. 1 Pt. 2	52,401	52,155	(246)	0%	No	Yes	Yes	No
Other	Technology Solutions	Costs incurred for Capitalized Software solutions in support of the distribution business planning	SCE-2 Vol. 1 Pt. 2	106,539	120,850	14,311	13%	Yes	Yes	No	No
Transmission	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, strom response, claims resolution and relocation activities. Includes related costs such as transportation expenses, meals, traveling, lodging, and incidental expenses.	SCE-2 Vol. 2	6,526	4,646	(1,880)	-29%	No	No	Yes	No
Transmission	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-2 Vol. 2	36,732	35,959	(773)	-2%	Yes	Yes	Yes	No
Transmission	Transmission Claim	Transmission Claims 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-2 Vol. 2	2,907	3,681	774	27%	No	No	Yes	No
Transmission	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 does a visual inspection of the exterior of the pole to check for damage.	SCE-2 Vol. 5	59,897	77,002	17,105	29%	Yes	Yes	No	Yes
Transmission	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-2 Vol. 2	107	-	(107)	-100%	No	Yes	No	No
Transmission	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-2 Vol. 2	162,635	116,693	(45,942)	-28%	Yes	Yes	No	Yes
Transmission	Transmission Pole Loading Program Replacement	Costs incurred for the assessment of Transmission poles for compliance with safety factors.	SCE-2 Vol. 5	22,900	24,653	1,753	8%	Yes	Yes	No	No
Transmission	Transmission Substation Plan (TSP)	The Transmission Substation Plan (TSP) consists of the Subtransmission Lines Plan, the A-Bank Plan and the Subtransmission VAR Plan. The Subtransmission Lines Plan provides adequate 66 kV or 115 kV line capacity in each of SCE's subtransmission 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 Subtransmission VAR Plan focuses on SCE's system reactive power need to ensure safe and reliable service to customers.	SCE-2 Vol. 4 Pt. 2	221,150	118,829	(102,320)	-46%	No	Yes	No	Yes
Transmission	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-2 Vol. 2	1,968	1,292	(677)	-34%	No	Yes	No	No
Transmission	Transmission/Substation Storm Response Capital	Repair and replacement performed as part of a storm response on Transmission and Substation facilities.	SCE-4 Vol. 2	6,098	4,668	(1,430)	-23%	Yes	Yes	Yes	No
Distribution	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-2 Vol. 1 Pt. 1	73,292	56,730	(16,561)	-23%	Yes	Yes	Yes	Yes
Distribution	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 can damage adjacent electrical equipment (e.g., cable, transformers, switches).	SCE-2 Vol. 1 Pt. 1	12,799	9,714	(3,085)	-24%	Yes	Yes	No	No
Distribution	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-2 Vol. 1 Pt. 1	127,181	118,299	(8,882)	-7%	Yes	Yes	No	No

Appendix 3 to Attachment A

2018 GRC Activity Walkover to 2021 GRC Activity

Appendix 3A: 2018 O&M Activity to 2021 O&M Activity Mapping

2018 Authorized vs. Recorded Walkover
O&M (GRC and Non-GRC)

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
506.013 MOHAVE	Environmental Management and Development	Yes	No	No	Yes
	Environmental Programs	Yes	No	No	Yes
	Mountainview	Yes	No	Yes	Yes
	Peakers	Yes	No	Yes	Yes
506.013 MOHAVE - PART BILLING TRANS	Environmental Programs	Yes	No	No	Yes
536 - WATER FOR POWER	Hydro	Yes	Yes	No	Yes
539 - MISC. HYDRAULIC POWER GENERATION EXPENSES	Facility and Land Operations	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
545 - MAINTENANCE OF MISC. HYDRAULIC PLANT	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
549 - GAS TURBINE PEAKER	Facility and Land Operations	Yes	Yes	Yes	Yes
	Peakers	Yes	No	Yes	Yes
	Solar	Yes	No	No	Yes
549 - MOUNTAINVIEW	Environmental Programs	Yes	No	No	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Mountainview	Yes	No	Yes	Yes
549 - SOLAR PHOTOVOLTAIC PROGRAM	Hydro	Yes	Yes	No	Yes
	Solar	Yes	No	No	Yes
549.140 - CATALINA GENERATION - OPERATIONS AND MAINTENANCE OF GENERATION FACILITIES	Catalina - Diesel	Yes	Yes	Yes	Yes
	Mountainview	Yes	No	Yes	Yes
550 - SOLAR PHOTOVOLTAIC PROGRAM	Solar	Yes	No	No	Yes
554 - GAS TURBINE PEAKER	Peakers	Yes	No	Yes	Yes
554 - MOUNTAINVIEW	Mountainview	Yes	No	Yes	Yes
560.220 - TRANSMISSION PLANNING AND GRID ENGINEERING	Business Planning	Yes	Yes	Yes	Yes
	Education, Safety and Operations	Yes	Yes	No	No
	External Communications	Yes	Yes	Yes	Yes
560.221 - FEDERAL ENERGY REGULATORY COMMISSION (FERC) POLICY AND COMPLIANCE	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Operational Compliance	Yes	Yes	Yes	Yes
560.281 - TRANSMISSION WORK ORDER WRITE-OFFS AND CAPITAL RELATED EXPENSE	Monitoring and Operating Substations	Yes	No	Yes	No
561.170 - GRID OPERATIONS - MANAGEMENT AND OPERATION OF THE GRID CONTROL CENTER	Facility and Land Operations	Yes	Yes	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Monitoring Bulk Power System	Yes	No	Yes	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
562.150 - SUBSTATION INSPECTION AND MAINTENANCE - INSPECTIONS AND MAINTENANCE ACTIVITIES PERFORMED A	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
562.170 - GRID OPERATIONS - OPERATING TRANSMISSION STATIONS	Circuit Breaker Inspections and Maintenance	Yes	No	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Relay Inspections and Maintenance	Yes	No	Yes	Yes
	Substation O&M Breakdown Maintenance	Yes	Yes	Yes	Yes
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
565.281 - ENVIRONMENTAL PROGRAMS - TRANSMISSION	Environmental Programs	Yes	No	No	Yes
566.125 - TRANSMISSION POLE ASSESSMENTS	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Transmission Intrusive Pole Inspections	Yes	Yes	Yes	No
	Transmission Pole Loading Assessments	Yes	Yes	Yes	No
	Transmission Request for Attachment Inspections	Yes	No	Yes	No
566.125 - TRANSMISSION POLE ASSESSMENTS Non-B/A	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Transmission Intrusive Pole Inspections	Yes	Yes	Yes	No
	Transmission Pole Loading Assessments	Yes	Yes	Yes	No
	Transmission Request for Attachment Inspections	Yes	No	Yes	No
566.150 - TRANSMISSION - INSPECTION AND OPERATION OF TRANSMISSION LINES AND STRUCTURES	Facility and Land Operations	Yes	Yes	Yes	Yes
	Telecommunication Inspection and Maintenance	Yes	No	No	Yes
	Transmission Line Patrols	Yes	Yes	Yes	No
	Transmission O&M Maintenance	Yes	No	Yes	Yes
	Transmission Request for Attachment Inspections	Yes	No	Yes	No
	Transmission Underground Structure Inspection	Yes	Yes	Yes	No
566.250 - TRAINING AND SAFETY DELIVERY AND SEAT-TIME FOR TRANSMISSION AND SUBSTATION PERSONNEL	Business Planning	Yes	Yes	Yes	Yes
	Catalina - Diesel	Yes	Yes	Yes	Yes
	Environmental Programs	Yes	No	No	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
566.280 - GRID CONTRACT MANAGEMENT	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
566.280 - GRID CONTRACT MANAGEMENT	Facility and Land Operations	Yes	Yes	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Operational Compliance	Yes	Yes	Yes	Yes
	Transmission Line Rating Remediation (TLRR)	Yes	Yes	Yes	Yes
566.282 - SUBSTATION FACILITY MAINTENANCE - CORPORATE REAL ESTATE	Facility and Land Operations	Yes	Yes	Yes	Yes
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
568.150 - SUBSTATION CONSTRUCTION & MAINTENANCE - SUPERVISION OF TRANSMISSION SUBSTATION MAINTENANCE	Circuit Breaker Inspections and Maintenance	Yes	No	Yes	Yes
	Equipment Washing	Yes	No	Yes	Yes
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Relay Inspections and Maintenance	Yes	No	Yes	Yes
	Substation O&M Breakdown Maintenance	Yes	Yes	Yes	Yes
	Transformer Inspections and Maintenance	Yes	Yes	Yes	Yes
570.281 - TRANSMISSION PARTICIPANT SHARE COSTS	Circuit Breaker Inspections and Maintenance	Yes	No	Yes	Yes
	Equipment Washing	Yes	No	Yes	Yes
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
	Substation O&M Breakdown Maintenance	Yes	Yes	Yes	Yes
	Transformer Inspections and Maintenance	Yes	Yes	Yes	Yes
571.125 - TRANSMISSION POLE REPAIRS AND TRANSMISSION POLE RELATED EXPENSE	Transmission Pole Loading Repairs	Yes	No	Yes	Yes
571.150 - TRANSMISSION - LINE, STRUCTURE, ROAD, AND RIGHT-OF-WAY MAINTENANCE	Facility and Land Operations	Yes	Yes	Yes	Yes
	Insulator Washing	Yes	No	Yes	Yes
	Roads and Rights of Way	Yes	Yes	No	Yes
	Transmission Line Rating Remediation (TLRR)	Yes	Yes	Yes	Yes
	Transmission O&M Maintenance	Yes	No	Yes	Yes
	Transmission Trim and Remove Trees	Yes	Yes	Yes	Yes
	Transmission/Substation Storm Response O&M	Yes	Yes	Yes	No
573.170 - GRID OPERATIONS - TRANSMISSION AND SUBSTATION STORM EXPENSE	Transmission/Substation Storm Response O&M	Yes	Yes	Yes	No
573.250 - CORPORATE ENVIRONMENTAL SERVICES WASTE MANAGEMENT - TRANSMISSION	Environmental Programs	Yes	No	No	Yes
580 - METER SERVICES OPERATIONS AND MANAGEMENT	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
580.260 - DISTRIBUTION GRID TECHNOLOGY	Business Planning	Yes	Yes	Yes	Yes
	Distribution Overhead Detail Inspections	Yes	Yes	Yes	No
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
580.282 - FIELD FACILITY MAINTENANCE - CORPORATE REAL ESTATE	Facility and Land Operations	Yes	Yes	Yes	Yes
582.150 - SUBSTATION INSPECTION AND MAINTENANCE - INSPECTIONS AND MAINTENANCE ACTIVITIES PERFORMED A	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
582.170 - GRID OPERATIONS - SUPERVISING AND OPERATING DISTRIBUTION STATIONS	Circuit Breaker Inspections and Maintenance	Yes	No	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Relay Inspections and Maintenance	Yes	No	Yes	Yes
	Substation O&M Breakdown Maintenance	Yes	Yes	Yes	Yes
582.250 - ENVIRONMENTAL PROGRAMS - DISTRIBUTION	Environmental Programs	Yes	No	No	Yes
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
583.120 - INSPECTION OF DISTRIBUTION OVERHEAD AND UNDERGROUND LINES AND EQUIPMENT	Distribution Overhead Detail Inspections	Yes	Yes	Yes	No
	Distribution Underground Detail Inspections	Yes	Yes	Yes	No
	Enhanced Overhead Inspections and Remediations	Yes	Yes	Yes	Yes
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
583.125 - DISTRIBUTION POLE ASSESSMENTS	Distribution Intrusive Pole Inspections	Yes	Yes	Yes	No
	Distribution Pole Loading Assessments	Yes	Yes	Yes	No
	Distribution Request for Attachment Inspections	Yes	No	Yes	No
	Transmission Pole Loading Assessments	Yes	Yes	Yes	No
	Transmission Request for Attachment Inspections	Yes	No	Yes	No
583.125 - DISTRIBUTION POLE ASSESSMENTS Non-B/A	Distribution Intrusive Pole Inspections	Yes	Yes	Yes	No
	Distribution Pole Loading Assessments	Yes	Yes	Yes	No
	Distribution Request for Attachment Inspections	Yes	No	Yes	No
	Transmission Request for Attachment Inspections	Yes	No	Yes	No
583.170 - GRID OPERATIONS - TROUBLEMEN PATROL, LOCATE, AND REPAIR ACTIVITIES	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
	Distribution Routine Vegetation Management	Yes	Yes	Yes	Yes
	Patrolling and Locating Trouble	Yes	Yes	Yes	No
583.281 - CLAIM AND COLLECTION WRITE-OFF EXPENSE	Distribution Apparatus Inspection and Maintenance	Yes	No	No	Yes
	Distribution Overhead Detail Inspections	Yes	Yes	Yes	No
	Distribution Routine Vegetation Management	Yes	Yes	Yes	Yes
585.170 - GRID OPERATIONS - STREET LIGHT OPERATIONS AND MAINTENANCE	Streetlight Operations, Inspections, and Maintenance	Yes	Yes	Yes	Yes
586.400 - TEST/INSPECT/REPAIR METERS	Patrolling and Locating Trouble	Yes	Yes	Yes	No

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
587 - CS CUSTOMER INSTALLATION EXPENSE	Patrolling and Locating Trouble	Yes	Yes	Yes	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
587.170 - GRID OPERATIONS - SERVICE GUARANTEES - STANDARD 2 AND STANDARD 3	Load Side Support	Yes	No	Yes	No
	Patrolling and Locating Trouble	Yes	Yes	Yes	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
588.140 - DESIGN CONSTRUCTION & MAINTENANCE - CONSTRUCTION SUPPORT ACTIVITIES	Business Planning	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Distribution Overhead Detail Inspections	Yes	Yes	Yes	No
	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
	Distribution Request for Attachment Inspections	Yes	No	Yes	No
	Distribution Routine Vegetation Management	Yes	Yes	Yes	Yes
	Distribution Underground Detail Inspections	Yes	Yes	Yes	No
	Environmental Programs	Yes	No	No	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Fire Hazard Prevention	Yes	Yes	Yes	Yes
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
588.220 - DISTRIBUTION GRID ENGINEERING AND TECHNOLOGY	Load Side Support	Yes	No	Yes	No
588.250 - TRAINING AND SAFETY DELIVERY AND SEAT-TIME FOR DISTRIBUTION PERSONNEL	Business Planning	Yes	Yes	Yes	Yes
	Catalina - Diesel	Yes	Yes	Yes	Yes
	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
588.260 - GRID MODERNIZATION AND SUPPORT ACTIVITIES	Business Planning	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	External Communications	Yes	Yes	Yes	Yes
588.280 - DISTRIBUTION CONSTRUCTION CONTRACT MANAGEMENT	Business Planning	Yes	Yes	Yes	Yes
	Distribution Apparatus Inspection and Maintenance	Yes	No	No	Yes
	Distribution Pole Loading Assessments	Yes	Yes	Yes	No
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Streetlight Operations, Inspections, and Maintenance	Yes	Yes	Yes	Yes
588.281 - DISTRIBUTION WORK ORDER WRITE-OFFS AND UNDERGROUND LOCATING SERVICE	Distribution Pole Loading Assessments	Yes	Yes	Yes	No
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
592.150 - SUBSTATION CONSTRUCTION & MAINTENANCE - INSPECTION AND MAINTENANCE OF DISTRIBUTION SUBSTAT	Circuit Breaker Inspections and Maintenance	Yes	No	Yes	Yes
	Distribution Apparatus Inspection and Maintenance	Yes	No	No	Yes
	Equipment Washing	Yes	No	Yes	Yes
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Relay Inspections and Maintenance	Yes	No	Yes	Yes
	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
	Substation O&M Breakdown Maintenance	Yes	Yes	Yes	Yes
	Transformer Inspections and Maintenance	Yes	Yes	Yes	Yes
593.120 - PLANNED MAINTENANCE OF DISTRIBUTION OVERHEAD AND UNDERGROUND LINES AND EQUIPMENT; VEGETATI	Dead, Dying and Diseased Tree Removal	Yes	Yes	Yes	Yes
	Distribution Apparatus Inspection and Maintenance	Yes	No	No	Yes
	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
	Distribution Routine Vegetation Management	Yes	Yes	Yes	Yes
	Insulator Washing	Yes	No	Yes	Yes
593.125 - DISTRIBUTION POLE REPAIRS AND DISTRIBUTION POLE RELATED EXPENSE	Distribution Pole Loading Repairs	Yes	Yes	Yes	Yes
594.120 - DISTRIBUTION OVERHEAD AND UNDERGROUND BREAKDOWN MAINTENANCE	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
594.281 - DISTRIBUTION CAPITAL RELATED EXPENSE	Distribution Apparatus Inspection and Maintenance	Yes	No	No	Yes
	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
598.170 - GRID OPERATIONS - DISTRIBUTION STORM	Business Planning	Yes	Yes	Yes	Yes
	Customer Contact Center	Yes	Yes	No	No
	Distribution Storm Response O&M	Yes	Yes	No	No
598.250 - CORPORATE ENVIRONMENTAL SERVICES WASTE MANAGEMENT - DISTRIBUTION	Catalina - Diesel	Yes	Yes	Yes	Yes
	Distribution Storm Response O&M	Yes	Yes	No	No
	Environmental Programs	Yes	No	No	Yes
901 - OPERATING UNIT MANAGEMENT & SUPPORT	Business Planning	Yes	Yes	Yes	Yes
	Customer Contact Center	Yes	Yes	No	No
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
902 - METER READING OPERATIONS	Safety Activities - Transmission & Distribution	Yes	Yes	No	No

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
902 - METER READING OPERATIONS	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
903.500 - BILLING	Education, Safety and Operations	Yes	Yes	No	No
903.800 - CCC AND PHONE BILLS	Customer Contact Center	Yes	Yes	No	No
905.900 MARKETING, EDUCATION AND COMMUNICATION	Customer Contact Center	Yes	Yes	No	No
907.600 - OPERATING UNIT MANAGEMENT & SUPPORT	Business Planning	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
920.220 - REAL PROPERTIES	Facility and Land Operations	Yes	Yes	Yes	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
Accessibility Issues	External Communications	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Software Maintenance and Replacement	Yes	No	No	Yes
ADJUSTMENT for SHAREHOLDER P&B - 925	Business Planning	Yes	Yes	Yes	Yes
	Public Safety	Yes	Yes	No	No
	Safety Culture Transformation	Yes	Yes	No	No
BUSINESS INTEGRATION & DELIVERY - 920/921	Business Planning	Yes	Yes	Yes	Yes
	Cybersecurity Delivery and IT Compliance	Yes	No	Yes	Yes
	Hydro	Yes	Yes	No	Yes
	Mountainview	Yes	No	Yes	Yes
	Peakers	Yes	No	Yes	Yes
	Software Maintenance and Replacement	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
BUSINESS RESILIENCY - 920-921	All Hazards Assessment, Mitigation and Analytics	Yes	Yes	No	No
	Education, Safety and Operations	Yes	Yes	No	No
	Emergency Preparedness and Response	Yes	Yes	No	No
	Planning, Continuity and Governance	Yes	Yes	No	No
	Training, Drills and Exercises	Yes	Yes	No	No
CLAIMS RESERVES - 925	Business Planning	Yes	Yes	Yes	Yes
	Customer Contact Center	Yes	Yes	No	No
	Distribution Intrusive Pole Inspections	Yes	Yes	Yes	No
	Distribution Overhead Detail Inspections	Yes	Yes	Yes	No
	Distribution Routine Vegetation Management	Yes	Yes	Yes	Yes
	Distribution Storm Response O&M	Yes	Yes	No	No
	Education, Safety and Operations	Yes	Yes	No	No
	Environmental Management and Development	Yes	No	No	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Insulator Washing	Yes	No	Yes	Yes
	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Monitoring Bulk Power System	Yes	No	Yes	No
	Patrolling and Locating Trouble	Yes	Yes	Yes	No
	Roads and Rights of Way	Yes	Yes	No	Yes
	Safety Culture Transformation	Yes	Yes	No	No
	Software Maintenance and Replacement	Yes	No	No	Yes
	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
	Telecommunication Inspection and Maintenance	Yes	No	No	Yes
	Work Force Protection/Insider Threat	Yes	Yes	No	No
COMPLIANCE, POLICY & IG - 920921	Business Planning	Yes	Yes	Yes	Yes
COMPLIANCE, POLICY & IG - 923	Business Planning	Yes	Yes	Yes	Yes
CORP LIABILITY INSURANCE - 925	SONGS	Yes	Yes	Yes	Yes
CORP MEMBERSHIP DUES AND FEES - 930	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
CORP PROPERTY INSURANCE - 924	SONGS	Yes	Yes	Yes	Yes
CORPORATE COMMUNICATIONS - 920-921 - COMMUNICATIONS OPERATIONS	Business Planning	Yes	Yes	Yes	Yes
	Education, Safety and Operations	Yes	Yes	No	No
	Employee and Contractor Safety	Yes	Yes	No	No
	External Communications	Yes	Yes	Yes	Yes
	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
CORPORATE COMMUNICATIONS - 923 - OUTSIDE SERVICES	External Communications	Yes	Yes	Yes	Yes
CORPORATE COMMUNICATIONS - 930 - COMMUNICATIONS PRODUCTS	External Communications	Yes	Yes	Yes	Yes
CORPORATE ENVIRONMENTAL SERVICES - 920-921	Business Planning	Yes	Yes	Yes	Yes
	Employee and Contractor Safety	Yes	Yes	No	No
	Environmental Management and Development	Yes	No	No	Yes
	Environmental Programs	Yes	No	No	Yes
	Public Safety	Yes	Yes	No	No
	Safety Culture Transformation	Yes	Yes	No	No
CORPORATE HEALTH & SAFETY - 925	Business Planning	Yes	Yes	Yes	Yes
	Employee and Contractor Safety	Yes	Yes	No	No
	External Communications	Yes	Yes	Yes	Yes
	Public Safety	Yes	Yes	No	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Safety Culture Transformation	Yes	Yes	No	No
CORPORATE REAL ESTATE - 920-921	Business Planning	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
CORPORATE REAL ESTATE - 931	Facility and Land Operations	Yes	Yes	Yes	Yes
CORPORATE REAL ESTATE - 935	Facility and Land Operations	Yes	Yes	Yes	Yes
CORPORATE SECURITY 920-921-923	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Security Technology Operations and Maintenance	Yes	No	No	Yes
	Software Maintenance and Replacement	Yes	No	No	Yes
	Technology Delivery	Yes	No	No	Yes
	Work Force Protection/Insider Threat	Yes	Yes	No	No
CYBERSECURITY & COMPLIANCE 920-921	Cyber Software License and Maintenance	Yes	No	Yes	Yes
	Cybersecurity Delivery and IT Compliance	Yes	No	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
ENTERPRISE ARCHITECTURE & STRATEGY - 920/921	Business Planning	Yes	Yes	Yes	Yes
	Monitoring Bulk Power System	Yes	No	Yes	No
	SONGS	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
ENVIRONMENTAL OPERATIONAL EXCELLENCE - 920921	Environmental Programs	Yes	No	No	Yes
EXECUTIVE OFFICERS - 920-921	Business Planning	Yes	Yes	Yes	Yes
FINANCIAL SERVICES - 920-921	Business Planning	Yes	Yes	Yes	Yes
	Employee and Contractor Safety	Yes	Yes	No	No
	Hydro	Yes	Yes	No	Yes
	Mountainview	Yes	No	Yes	Yes
	Peakers	Yes	No	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
FINANCIAL SERVICES - 923-930	Business Planning	Yes	Yes	Yes	Yes
GRID SERVICES - 920/921	Monitoring Bulk Power System	Yes	No	Yes	No
	SONGS	Yes	Yes	Yes	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
GRID SERVICES - NETWORK RENTS - 931	Environmental Management and Development	Yes	No	No	Yes
	Monitoring Bulk Power System	Yes	No	Yes	No
HUMAN RESOURCES - 920-921	Business Planning	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
	Mountainview	Yes	No	Yes	Yes
	Peakers	Yes	No	Yes	Yes
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
INFORMATION TECHNOLOGY OPERATIONAL EXCELLENCE - 920/921	Software Maintenance and Replacement	Yes	No	No	Yes
LOCAL PUBLIC AFFAIRS - 920-921	Education, Safety and Operations	Yes	Yes	No	No
MEDICAL PROGRAMS - 926	Hydro	Yes	Yes	No	Yes
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
MISCELLANEOUS BENEFIT PROGRAMS - 926	Business Planning	Yes	Yes	Yes	Yes
	Catalina - Diesel	Yes	Yes	Yes	Yes
	Customer Contact Center	Yes	Yes	No	No
	Cybersecurity Delivery and IT Compliance	Yes	No	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Distribution Intrusive Pole Inspections	Yes	Yes	Yes	No
	Distribution Pole Loading Assessments	Yes	Yes	Yes	No
	Distribution Routine Vegetation Management	Yes	Yes	Yes	Yes
	Distribution Storm Response O&M	Yes	Yes	No	No
	Emergency Preparedness and Response	Yes	Yes	No	No
	Environmental Management and Development	Yes	No	No	Yes
	External Communications	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Monitoring Bulk Power System	Yes	No	Yes	No
	Mountainview	Yes	No	Yes	Yes
	Operational Compliance	Yes	Yes	Yes	Yes
	Peakers	Yes	No	Yes	Yes
	Planning, Continuity and Governance	Yes	Yes	No	No
	Software Maintenance and Replacement	Yes	No	No	Yes
	Solar	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
	Training, Drills and Exercises	Yes	Yes	No	No
	Transmission Line Patrols	Yes	Yes	Yes	No
	Transmission Trim and Remove Trees	Yes	Yes	Yes	Yes
	Work Force Protection/Insider Threat	Yes	Yes	No	No
PALO VERDE - 524	Palo Verde	Yes	No	Yes	Yes
POWER PROCUREMENT - 557	Business Planning	Yes	Yes	Yes	Yes
	Solar	Yes	No	No	Yes
Reduction in A&G For Catalina	Software Maintenance and Replacement	Yes	No	No	Yes
REGULATORY AFFAIRS - 920-921	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
REGULATORY AFFAIRS - INTEGRATED PLANNING POWER PROCUREMENT REGULATORY SUPPORT - 557	Business Planning	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
REGULATORY COMPLIANCE - 920921	Operational Compliance	Yes	Yes	Yes	Yes
SAN DIEGUITO WETLANDS AND WHEELER NORTH REEF - 549	Environmental Programs	Yes	No	No	Yes

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
SAN DIEGUITO WETLANDS AND WHEELER NORTH REEF - 920921	Environmental Programs	Yes	No	No	Yes
SEISMIC MITIGATION - 935	All Hazards Assessment, Mitigation and Analytics	Yes	Yes	No	No
SERVICE MANAGEMENT OFFICE & OPERATIONS - 920/921	Monitoring Bulk Power System	Yes	No	Yes	No
	Software Maintenance and Replacement	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
SERVICE MANAGEMENT OFFICE & OPERATIONS - HW/SW LICENSE MAINTENANCE - 920/921	Hydro	Yes	Yes	No	Yes
	Monitoring Bulk Power System	Yes	No	Yes	No
	Mountainview	Yes	No	Yes	Yes
	Peakers	Yes	No	Yes	Yes
	Software Maintenance and Replacement	Yes	No	No	Yes
	Solar	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
SUPPLIER DIVERSITY AND DEVELOPMENT - 920-921	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
SUPPLY MANAGEMENT - 920-921	Facility and Land Operations	Yes	Yes	Yes	Yes
	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
	Safety Culture Transformation	Yes	Yes	No	No
WORKERS' COMPENSATION RESERVE - 925	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
(blank)	All Hazards Assessment, Mitigation and Analytics	Yes	Yes	No	No
	Asset Reliability Risk Analytics	Yes	No	Yes	No
	Business Planning	Yes	Yes	Yes	Yes
	Catalina - Diesel	Yes	Yes	Yes	Yes
	Customer Contact Center	Yes	Yes	No	No
	Cybersecurity Delivery and IT Compliance	Yes	No	Yes	Yes
	Dead, Dying and Diseased Tree Removal	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Distribution Apparatus Inspection and Maintenance	Yes	No	No	Yes
	Distribution Intrusive Pole Inspections	Yes	Yes	Yes	No
	Distribution Overhead Detail Inspections	Yes	Yes	Yes	No
	Distribution Pole Loading Assessments	Yes	Yes	Yes	No
	Distribution Pole Loading Repairs	Yes	Yes	Yes	Yes
	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
	Distribution Routine Vegetation Management	Yes	Yes	Yes	Yes
	Distribution Storm Response O&M	Yes	Yes	No	No
	Education, Safety and Operations	Yes	Yes	No	No
	Emergency Preparedness and Response	Yes	Yes	No	No
	Employee and Contractor Safety	Yes	Yes	No	No
	Enhanced Overhead Inspections and Remediations	Yes	Yes	Yes	Yes
	Enhanced Situational Awareness	Yes	Yes	No	No
	Environmental Management and Development	Yes	No	No	Yes
	Environmental Programs	Yes	No	No	Yes
	External Communications	Yes	Yes	Yes	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Fire Hazard Prevention	Yes	Yes	Yes	Yes
	Fire Science and Advanced Modeling	Yes	Yes	No	No
	Grid Mod Cybersecurity	Yes	Yes	Yes	No
	Hydro	Yes	Yes	No	Yes
	Infrared Inspection Program	Yes	Yes	Yes	Yes
	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Monitoring Bulk Power System	Yes	No	Yes	No
	Mountainview	Yes	No	Yes	Yes
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Outage Management	Yes	Yes	Yes	No
	Patrolling and Locating Trouble	Yes	Yes	Yes	No
	Peakers	Yes	No	Yes	Yes
	Planning, Continuity and Governance	Yes	Yes	No	No
	PSPS Execution	Yes	Yes	No	No
	Public Safety	Yes	Yes	No	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Safety Culture Transformation	Yes	Yes	No	No
	Security Technology Operations and Maintenance	Yes	No	No	Yes
	Software Maintenance and Replacement	Yes	No	No	Yes
	Solar	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
	Streetlight Operations, Inspections, and Maintenance	Yes	Yes	Yes	Yes
	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
	Substation O&M Breakdown Maintenance	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
	Telecommunication Inspection and Maintenance	Yes	No	No	Yes
	Telecommunication Storm Response O&M	Yes	Yes	No	No
	Training Delivery and Development - Transmission and Distribution	Yes	Yes	Yes	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
	Training, Drills and Exercises	Yes	Yes	No	No
	Transmission Intrusive Pole Inspections	Yes	Yes	Yes	No
	Transmission Line Patrols	Yes	Yes	Yes	No
	Transmission O&M Maintenance	Yes	No	Yes	Yes
	Transmission Pole Loading Assessments	Yes	Yes	Yes	No
	Transmission Pole Loading Repairs	Yes	No	Yes	Yes

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
(blank)	Transmission Request for Attachment Inspections	Yes	No	Yes	No
	Transmission Underground Structure Inspection	Yes	Yes	Yes	No
	Transmission/Substation Storm Response O&M	Yes	Yes	Yes	No
	Weather Stations	Yes	Yes	No	No
	Wildfire Vegetation Management	Yes	Yes	Yes	No
	Work Force Protection/Insider Threat	Yes	Yes	No	No
500.013 MOHAVE	Environmental Programs	Yes	No	No	Yes
502.013 MOHAVE	Environmental Programs	Yes	No	No	Yes
510.013 MOHAVE	Environmental Programs	Yes	No	No	Yes
	Peakers	Yes	No	Yes	Yes
511.013 MOHAVE	Environmental Programs	Yes	No	No	Yes
512.013 MOHAVE	Environmental Programs	Yes	No	No	Yes
514.013 MOHAVE - PART BILLING TRANS	Environmental Programs	Yes	No	No	Yes
535 - HYDRO OPERATION SUPERVISION & ENGINEERIN	Hydro	Yes	Yes	No	Yes
537 - HYDRAULIC EXPENSES	Facility and Land Operations	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
538 - HYDRO ELECTRIC EXPENSES	Hydro	Yes	Yes	No	Yes
540 - HYDRO RENT EXPENSES	Hydro	Yes	Yes	No	Yes
541 - HYDRO MAINTENANCE SUPERVISION & ENGINEE	Hydro	Yes	Yes	No	Yes
542 - HYDRO MAINTENANCE OF STRUCTURES	Hydro	Yes	Yes	No	Yes
543 - HYDRO MAINTENANCE OF RESERVOIRS, DAMS &	Facility and Land Operations	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
544 - HYDRO MAINTENANCE OF ELECTRIC PLANT	Hydro	Yes	Yes	No	Yes
546 - GAS TURBINE PEAKER	Environmental Programs	Yes	No	No	Yes
	Peakers	Yes	No	Yes	Yes
546 - MOUNTAINVIEW	Mountainview	Yes	No	Yes	Yes
546 - SOLAR PHOTOVOLTAIC PROGRAM	Solar	Yes	No	No	Yes
546.140 - CATALINA DIESEL GENERATION OPERATION	Catalina - Diesel	Yes	Yes	Yes	Yes
548 - GAS TURBINE PEAKER	Peakers	Yes	No	Yes	Yes
548 - MOUNTAINVIEW	Mountainview	Yes	No	Yes	Yes
548 - SOLAR PHOTOVOLTAIC PROGRAM	Solar	Yes	No	No	Yes
548.140 - CATALINA GENERATION - OPERATION OF PR	Catalina - Diesel	Yes	Yes	Yes	Yes
550 - GAS TURBINE PEAKER	Peakers	Yes	No	Yes	Yes
	Solar	Yes	No	No	Yes
550 - MOUNTAINVIEW	Solar	Yes	No	No	Yes
551 - GAS TURBINE PEAKER	Peakers	Yes	No	Yes	Yes
551 - MOUNTAINVIEW	Mountainview	Yes	No	Yes	Yes
551 - SOLAR PHOTOVOLTAIC PROGRAM	Solar	Yes	No	No	Yes
551.140 - CATALINA GENERATION - SUPERVISION OF P	Catalina - Diesel	Yes	Yes	Yes	Yes
552 - GAS TURBINE PEAKER	Peakers	Yes	No	Yes	Yes
552 - MOUNTAINVIEW	Mountainview	Yes	No	Yes	Yes
552.140 - CATALINA GENERATION - MAINTENANCE OF	Catalina - Diesel	Yes	Yes	Yes	Yes
553 - GAS TURBINE PEAKER	Peakers	Yes	No	Yes	Yes
553 - MOUNTAINVIEW	Mountainview	Yes	No	Yes	Yes
553 - SOLAR PHOTOVOLTAIC PROGRAM	Hydro	Yes	Yes	No	Yes
	Solar	Yes	No	No	Yes
553.140 - CATALINA GENERATION - MAINTENANCE OF	Catalina - Diesel	Yes	Yes	Yes	Yes
554 - SOLAR PHOTOVOLTAIC PROGRAM	Solar	Yes	No	No	Yes
554.140 - CATALINA GENERATION - MAINTENANCE OF	Catalina - Diesel	Yes	Yes	Yes	Yes
563.150 - TRANSMISSION - OVERHEAD LINE INSPECTIO	Monitoring and Operating Substations	Yes	No	Yes	No
	Transmission Intrusive Pole Inspections	Yes	Yes	Yes	No
	Transmission Line Patrols	Yes	Yes	Yes	No
	Transmission Underground Structure Inspection	Yes	Yes	Yes	No
564.140 - CORPORATE ENVIRONMENTAL SERVICES WA	Transmission Underground Structure Inspection	Yes	Yes	Yes	No
566.281 - TRANSMISSION ACCRUALS AND OTHER COST	Reliability Must-Run and Exceptional Dispatch	Yes	No	Yes	No
572.150 - TRANSMISSION - UNDERGROUND LINE MAIN	Transmission O&M Maintenance	Yes	No	Yes	Yes
584.281 - DISTRIBUTION TRANSFORMER REMOVAL CR	Distribution Apparatus Inspection and Maintenance	Yes	No	No	Yes
	Distribution Underground Detail Inspections	Yes	Yes	Yes	No
	Patrolling and Locating Trouble	Yes	Yes	Yes	No
591.150 - SUBSTATION CONSTRUCTION & MAINTENAN	Monitoring and Operating Substations	Yes	No	Yes	No
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
595.220 - MAINTENANCE OF LINE TRANSFORMERS - SS	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
596.170 - GRID OPERATIONS - STREET LIGHT MAINTEN	Streetlight Operations, Inspections, and Maintenance	Yes	Yes	Yes	Yes
903.500 - BILLING -TRAINING-SAFETY	External Communications	Yes	Yes	Yes	Yes
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
905.100 - PHONE BILLS	Customer Contact Center	Yes	Yes	No	No
905.300 - POLICY ADJUSTMENTS-MISCELLANEOUS	Business Planning	Yes	Yes	Yes	Yes
	Customer Contact Center	Yes	Yes	No	No
907 - MISCELLANEOUS BALANCING ACCOUNTS	Business Planning	Yes	Yes	Yes	Yes
	External Communications	Yes	Yes	Yes	Yes
908 - MISCELLANEOUS BALANCING ACCOUNTS	Business Planning	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
908.640 - CUSTOMER PROGRAMS AND RATES	Technology Delivery	Yes	No	No	Yes
909.640 - PROGRAM MANAGEMENT	Business Planning	Yes	Yes	Yes	Yes
912.100 - ELECTRIC TRANSPORTATION MISCELLANEOU	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
913 - ADVERTISING EXPENSES	External Communications	Yes	Yes	Yes	Yes
BUSINESS INTEGRATION & DELIVERY - SONGS - 517	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
CORPORATE HEALTH & SAFETY - 923	Employee and Contractor Safety	Yes	Yes	No	No
	Safety Culture Transformation	Yes	Yes	No	No
CORPORATE HEALTH AND SAFETY - 920-921	Business Planning	Yes	Yes	Yes	Yes
	Employee and Contractor Safety	Yes	Yes	No	No
	Public Safety	Yes	Yes	No	No
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
CORPORATE SAFETY - 925	Environmental Management and Development	Yes	No	No	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
	Safety Culture Transformation	Yes	Yes	No	No
	Security Technology Operations and Maintenance	Yes	No	No	Yes
	Work Force Protection/Insider Threat	Yes	Yes	No	No
CORPORATE SECURITY - 920-921	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Software Maintenance and Replacement	Yes	No	No	Yes
	Technology Delivery	Yes	No	No	Yes
	Work Force Protection/Insider Threat	Yes	Yes	No	No
CORPORATE SECURITY - 923	Work Force Protection/Insider Threat	Yes	Yes	No	No
CORPORATE SUPPORT - 524	SONGS	Yes	Yes	Yes	Yes
CYBERSECURITY & COMPLIANCE - SONGS - 517	SONGS	Yes	Yes	Yes	Yes
CYBERSECURITY & COMPLIANCE 923	Cybersecurity Delivery and IT Compliance	Yes	No	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
ENGINEERING - 517	SONGS	Yes	Yes	Yes	Yes
ENGINEERING - 520	SONGS	Yes	Yes	Yes	Yes
ENGINEERING - 524	SONGS	Yes	Yes	Yes	Yes
ENGINEERING - 528	SONGS	Yes	Yes	Yes	Yes
ENGINEERING - 529	SONGS	Yes	Yes	Yes	Yes
ENGINEERING - 530	SONGS	Yes	Yes	Yes	Yes
ENGINEERING - 531	SONGS	Yes	Yes	Yes	Yes
ENGINEERING - 532	SONGS	Yes	Yes	Yes	Yes
ENTERPRISE ARCHITECTURE & STRATEGY - SONGS - 51	SONGS	Yes	Yes	Yes	Yes
GAS - ALLOWANCES	Environmental Programs	Yes	No	No	Yes
GENERATION REGULATORY - 549	Environmental Programs	Yes	No	No	Yes
GRID SERVICES - SONGS - 517	SONGS	Yes	Yes	Yes	Yes
INFORMATION TECHNOLOGY - 930	Telecommunication Inspection and Maintenance	Yes	No	No	Yes
INFORMATION TECHNOLOGY - 935	Telecommunication Inspection and Maintenance	Yes	No	No	Yes
LAW - 928	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
MAINTENANCE - 524	SONGS	Yes	Yes	Yes	Yes
MAINTENANCE - 528	SONGS	Yes	Yes	Yes	Yes
MAINTENANCE - 529	SONGS	Yes	Yes	Yes	Yes
MAINTENANCE - 530	SONGS	Yes	Yes	Yes	Yes
MAINTENANCE - 531	SONGS	Yes	Yes	Yes	Yes
MAINTENANCE - 532	SONGS	Yes	Yes	Yes	Yes
NUCLEAR SUPPORT - 517	Business Planning	Yes	Yes	Yes	Yes
	SONGS	Yes	Yes	Yes	Yes
NUCLEAR SUPPORT - 520	SONGS	Yes	Yes	Yes	Yes
NUCLEAR SUPPORT - 524	Business Planning	Yes	Yes	Yes	Yes
	Palo Verde	Yes	No	Yes	Yes
	SONGS	Yes	Yes	Yes	Yes
NUCLEAR SUPPORT - 525	Palo Verde	Yes	No	Yes	Yes
	SONGS	Yes	Yes	Yes	Yes
NUCLEAR SUPPORT - 529	SONGS	Yes	Yes	Yes	Yes
NUCLEAR SUPPORT - 531	SONGS	Yes	Yes	Yes	Yes
NUCLEAR SUPPORT - 532	Palo Verde	Yes	No	Yes	Yes
	SONGS	Yes	Yes	Yes	Yes
OPERATIONS - 517	SONGS	Yes	Yes	Yes	Yes
OPERATIONS - 519	Environmental Programs	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
OPERATIONS - 520	Palo Verde	Yes	No	Yes	Yes
	SONGS	Yes	Yes	Yes	Yes
OPERATIONS - 523	SONGS	Yes	Yes	Yes	Yes
OPERATIONS - 524	Business Planning	Yes	Yes	Yes	Yes
	SONGS	Yes	Yes	Yes	Yes
OTHER A&G - 923	Business Planning	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Solar	Yes	No	No	Yes
OTHER A&G - 925	Facility and Land Operations	Yes	Yes	Yes	Yes
	Logistics, Graphics, and Center of Excellence	Yes	No	No	Yes
OTHER A&G - 926	Business Planning	Yes	Yes	Yes	Yes
	Education, Safety and Operations	Yes	Yes	No	No
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
OTHER A&G - 930	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
OTHER A&G - 931	SONGS	Yes	Yes	Yes	Yes
OTHER A&G - 935	Environmental Programs	Yes	No	No	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Telecommunication Inspection and Maintenance	Yes	No	No	Yes
PALO VERDE - 517	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 519	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 520	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 523	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 528	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 529	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 530	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 531	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 532	Palo Verde	Yes	No	Yes	Yes
PALO VERDE - 556	Palo Verde	Yes	No	Yes	Yes
PARTICIPANTS - 517	Environmental Programs	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 519	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 520	Environmental Programs	Yes	No	No	Yes

2018 GRC Activity	2021 GRC Activity	SAR Eligible?	Safety	Reliability	Maintenance
PARTICIPANTS - 520	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 524	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 525	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 528	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 529	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 530	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 531	SONGS	Yes	Yes	Yes	Yes
PARTICIPANTS - 532	SONGS	Yes	Yes	Yes	Yes
PLANNING AND PERFORMANCE - 923	Facility and Land Operations	Yes	Yes	Yes	Yes
RADCHEMICAL CONTROL - 517	SONGS	Yes	Yes	Yes	Yes
RADCHEMICAL CONTROL - 519	SONGS	Yes	Yes	Yes	Yes
RADCHEMICAL CONTROL - 520	SONGS	Yes	Yes	Yes	Yes
RADCHEMICAL CONTROL - 524	SONGS	Yes	Yes	Yes	Yes
RADCHEMICAL CONTROL - 529	SONGS	Yes	Yes	Yes	Yes
REGULATORY AFFAIRS - 517	SONGS	Yes	Yes	Yes	Yes
REGULATORY AFFAIRS - 524	SONGS	Yes	Yes	Yes	Yes
REGULATORY AFFAIRS - GENERATION PLANNING - 549	Environmental Programs	Yes	No	No	Yes
SECURITY - 517	SONGS	Yes	Yes	Yes	Yes
SECURITY - 524	SONGS	Yes	Yes	Yes	Yes
SERVICE MANAGEMENT OFFICE & OPERATIONS - SON	Software Maintenance and Replacement	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
	Technology Delivery	Yes	No	No	Yes
	Technology Infrastructure Maintenance and Replacement	Yes	No	No	Yes
TRAINING - 524	SONGS	Yes	Yes	Yes	Yes
TRAINING-532	SONGS	Yes	Yes	Yes	Yes
569.281 - TRANSMISSION IT INTERNAL MARKET MECH	Facility and Land Operations	Yes	Yes	Yes	Yes
	Monitoring and Operating Substations	Yes	No	Yes	No
	Monitoring Bulk Power System	Yes	No	Yes	No
	Other Substation Equipment Inspections and Maintenance	Yes	No	Yes	Yes
	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
598.281 - ACCRUALS	Business Planning	Yes	Yes	Yes	Yes
	Distribution Preventive and Breakdown O&M Maintenance	Yes	Yes	Yes	Yes
	Substation - Inspections and Maintenance	Yes	No	Yes	Yes
FINANCIAL SERVICES MISCELLANEOUS EXPENSES - 930	Facility and Land Operations	Yes	Yes	Yes	Yes
FINANCIAL SERVICES MISCELLANEOUS EXPENSES 920-9	Palo Verde	Yes	No	Yes	Yes
	SONGS	Yes	Yes	Yes	Yes
OTHER A&G - 920-921	Business Planning	Yes	Yes	Yes	Yes
	Develop and Manage Policy and Initiatives	Yes	Yes	Yes	Yes
	Environmental Programs	Yes	No	No	Yes
	Facility and Land Operations	Yes	Yes	Yes	Yes
	Hydro	Yes	Yes	No	Yes
	Safety Activities - Transmission & Distribution	Yes	Yes	No	No
	Solar	Yes	No	No	Yes
	SONGS	Yes	Yes	Yes	Yes
	Telecommunication Inspection and Maintenance	Yes	No	No	Yes
	Training Seat-Time - Transmission and Distribution	Yes	Yes	Yes	Yes
PLANNING AND PERFORMANCE - 920-921	Facility and Land Operations	Yes	Yes	Yes	Yes
	Work Force Protection/Insider Threat	Yes	Yes	No	No

Appendix 3B: 2018 Capital Activity to 2021 Capital Activity Mapping

2018 Authorized vs. Recorded Walkover
Capital (GRC and Non-GRC)

2018 GRC Activity	2021 GRC Activity	SAR_Eligible
BREAKDOWN MTCE	Distribution Preventive and Breakdown Capital Maintenance	Y
BREAKDOWN MTCE	Substation Capital Breakdown Maintenance	Y
BREAKDOWN MTCE	Transmission Capital Maintenance	Y
CCI	Technology Solutions	Y
CLAIM	Substation Claim	Y
CLAIM	Transmission Claim	Y
Corporate Security	Protection of Major Business Assets	Y
Corporate Security	Protection of Major Business Functions	Y
CRE	CRE Project Management	Y
CRE	Facility Asset Management	Y
CRITICAL INFRA SPARE	Substation Emergency Equipment	Y
CUSTOMER REQ/RELO	Distribution Preventive and Breakdown Capital Maintenance	Y
Distribution Transformers	Distribution Transformers	Y
ECS	Telecommunication Inspection and Maintenance	Y
EHS	Environmental Programs	Y
ENTERPRISE TECH	Monitoring Bulk Power System	Y
ENTERPRISE TECH	Technology Solutions	Y
GRID APPS/COMM	Relays, Protection and Control Replacements	Y
GRID MODERNIZATION	4 kV Substation Eliminations	Y
GRID MODERNIZATION	Communications	Y
GRID MODERNIZATION	Distribution Circuit Upgrades	Y
GRID MODERNIZATION	Distribution Substation Plan (DSP) Circuits	Y
GRID MODERNIZATION	Distribution Substation Plan Substations	Y
GRID MODERNIZATION	Distribution Volt VAR Control and Capacitor Automation Program	Y
GRID MODERNIZATION	Engineering and Planning Software Tools	Y
GRID MODERNIZATION	Grid Management System	Y
GRID MODERNIZATION	Grid Mod Cybersecurity	Y
GRID MODERNIZATION	Substation Transformer Bank Replacement	Y
GRID MODERNIZATION	Worst Circuit Rehabilitation (WCR)	Y
GRID MODERNIZATION	Reliability-Driven Distribution Automation	Y
HYDRO EAST CORE BASE	Distribution Substation Plan Substations	Y
HYDRO EAST CORE BASE	Hydro - Dams and Waterways	Y
HYDRO EAST CORE BASE	Hydro - Electrical Equipment	Y
HYDRO EAST CORE BASE	Hydro - Prime Movers	Y
HYDRO EAST CORE BASE	Hydro - Structures and Grounds	Y
HYDRO EAST DECOMM	Hydro - Decommissioning	Y
HYDRO EAST RELICENSG	Hydro - Relicensing	Y
HYDRO NO CORE BASE	Distribution Substation Plan Substations	Y
HYDRO NO CORE BASE	Hydro - Dams and Waterways	Y
HYDRO NO CORE BASE	Hydro - Electrical Equipment	Y
HYDRO NO CORE BASE	Hydro - Prime Movers	Y
HYDRO NO CORE BASE	Hydro - Relicensing	Y
HYDRO NO CORE BASE	Hydro - Structures and Grounds	Y
HYDRO NO RELICENSG	Hydro - Dams and Waterways	Y
HYDRO NO RELICENSG	Hydro - Decommissioning	Y
HYDRO NO RELICENSG	Hydro - Relicensing	Y
HYDRO NO RELICENSG	Hydro - Structures and Grounds	Y
INFRASTRUCTURE REPL	4 kV Substation Eliminations	Y
INFRASTRUCTURE REPL	Cable Life Extension (CLE) Program	Y
INFRASTRUCTURE REPL	Cable-in-Conduit (CIC) Replacement Program	Y
INFRASTRUCTURE REPL	Capacitor Bank Replacement Program	Y
INFRASTRUCTURE REPL	Circuit Breaker Replacement	Y
INFRASTRUCTURE REPL	Distribution Deteriorated Pole Replacement	Y
INFRASTRUCTURE REPL	Distribution Pole Loading Program Pole Replacement	Y
INFRASTRUCTURE REPL	Distribution Preventive and Breakdown Capital Maintenance	Y
INFRASTRUCTURE REPL	Distribution Substation Plan Substations	Y
INFRASTRUCTURE REPL	Overhead Conductor Program (OCP)	Y
INFRASTRUCTURE REPL	PCB Transformer Removal	Y

2018 GRC Activity	2021 GRC Activity	SAR_Eligible
INFRASTRUCTURE REPL	Preventive Maintenance	Y
INFRASTRUCTURE REPL	Protection of Grid Infrastructure Assets	Y
INFRASTRUCTURE REPL	Relays, Protection and Control Replacements	Y
INFRASTRUCTURE REPL	Substation Switchrack Rebuild	Y
INFRASTRUCTURE REPL	Substation Transformer Bank Replacement	Y
INFRASTRUCTURE REPL	Transmission Capital Maintenance	Y
INFRASTRUCTURE REPL	Transmission Deteriorated Pole Replacement	Y
INFRASTRUCTURE REPL	Transmission Pole Loading Program Replacement	Y
INFRASTRUCTURE REPL	Underground Structure Replacements	Y
INFRASTRUCTURE REPL	Underground Switch Replacements	Y
INFRASTRUCTURE REPL	Worst Circuit Rehabilitation (WCR)	Y
INFRASTRUCTURE REPL	4 kV Cutovers	Y
LOAD GROWTH	4 kV Cutovers - Load Growth Driven	Y
LOAD GROWTH	Distribution Circuit Upgrades	Y
LOAD GROWTH	Distribution Plant Betterment	Y
LOAD GROWTH	Distribution Substation Plan (DSP) Circuits	Y
LOAD GROWTH	Distribution Substation Plan Substations	Y
LOAD GROWTH	Distribution Volt VAR Control and Capacitor Automation Program	Y
LOAD GROWTH	New Capacitors	Y
LOAD GROWTH	Substation Equipment Replacement Program	Y
LOAD GROWTH	Substation Load Information Monitoring System	Y
LOAD GROWTH	Transmission Substation Plan (TSP)	Y
MTNVW CORE BASE	Mountainview	Y
NEW SERV CONNECTIONS	Agricultural New Service Connections	Y
OPERATIONS - IT	4 kV Substation Eliminations	Y
OPERATIONS - IT	CRE Project Management	Y
OPERATIONS - IT	Distribution Substation Plan Substations	Y
OPERATIONS - IT	Grid Reliability Projects	Y
OPERATIONS - IT	Meter System Maintenance Design	Y
OPERATIONS - IT	Monitoring Bulk Power System	Y
OPERATIONS - IT	Preventive Maintenance	Y
OPERATIONS - IT	Relays, Protection and Control Replacements	Y
OPERATIONS - IT	Software Maintenance and Replacement	Y
OPERATIONS - IT	Technology Infrastructure Maintenance and Replacement	Y
OPERATIONS - IT	Technology Solutions	Y
OPERATIONS - IT	Transmission Substation Plan (TSP)	Y
OTHER - RP	Transmission Capital Maintenance	Y
OTHER - TDBU	Catalina - Diesel	Y
OTHER - TDBU	Distribution Pole Loading Program Pole Replacement	Y
OTHER - TDBU	Distribution Tools and Work Equipment	Y
OTHER - TDBU	Distribution Transformers	Y
OTHER - TDBU	Facility Asset Management	Y
OTHER - TDBU	Laboratory Operations	Y
OTHER - TDBU	Oil Containment Diversion System	Y
OTHER - TDBU	Prefabrication	Y
OTHER - TDBU	Streetlight Maintenance and LED Conversions	Y
OTHER - TDBU	Substation Emergency Equipment	Y
OTHER - TDBU	Substation Tools and Work Equipment	Y
OTHER - TDBU	Transmission Emergency Equipment	Y
OTHER - TDBU	Transmission Line Rating Remediation (TLRR)	Y
OTHER - TDBU	Transmission Tools and Work Equipment	Y
PALO VERDE	Palo Verde	Y
PEAKERS CORE BASE	Mountainview	Y
PEAKERS CORE BASE	Peakers	Y
Physical Security Systems	Protection of Grid Infrastructure Assets	Y
PPD SPV	Solar	Y
Prefabrication	Prefabrication	Y
SBU	Communications Equipment	Y
SEISMIC PROGRAM	All Hazards Assessment, Mitigation and Analytics	Y
SOLUTION DELIVERY	CS Replatform	Y
SOLUTION DELIVERY	Protection of Major Business Functions	Y
SOLUTION DELIVERY	Technology Delivery	Y

2018 GRC Activity	2021 GRC Activity	SAR_Eligible
SOLUTION DELIVERY	Technology Infrastructure Maintenance and Replacement	Y
SOLUTION DELIVERY	Technology Solutions	Y
SPEC EQUIP	Distribution Tools and Work Equipment	Y
STORM	Distribution Storm Response Capital	Y
STORM	Transmission/Substation Storm Response Capital	Y
STRUCTURES & IMP	Distribution Tools and Work Equipment	Y
TECHNOLOGY & RISK	Cybersecurity Delivery and IT Compliance	Y
TRANS PROJECTS	Grid Reliability Projects	Y
TSD	Air Operations	Y
TSD	CRE Project Management	Y
TSD	Fleet Operations and Maintenance	Y

Appendix 4 to Attachment A

Projects not presented in the 2018 GRC but were taken up

List of projects that were not presented in the 2018 GRC but were taken up
(Nominal $000)

Funding Source	Program	Project Name	Project Description		Safety	Reliability	Maintenance	2018 Recorded
				Yes				
CAPITAL:								
	OTHER:							
		CS Replatform	The CS Re-Platform project will implement a new customer relationship and 5 billing system that will perform several critical customer-service-related functions, such as generating 6 customer bills and providing account management, overall customer care, credit and collections and 7 account receivables. The CS Re-Platform project is needed to meet changing customer needs and to 8 replace legacy systems that are outdated, obsolete, costly to maintain, and have increasing risk of failure.	Yes		Yes	No	$77,422
O&M								
	TRANSMISSION							
		Fire Hazard Prevention	Vegetation Management high fire work includes additional expenses associated with tre trimming and tree removal in areas subject to high fire risk, which includes canyons, mountains and undeveloped urban interface. This work is more extensive than routine compliance trimming and is designed to protect the reliability of the overhead system. OIR 2009 maidates utilities take preventative measures to protect against fire ignitions caused by vegetation contacting overhead lines.	Yes		Yes	Yes	$30,824

Appendix 5 to Attachment A

List of projects that were canceled or deferred

List of projects that were canceled or deferred within each program
(Nominal $000)

Program	Project Name	2018 GRC Operating Date	Safety/ Reliability/ Maintenance	Current Operating Date	Total Authorized
GENERATION					
	Exhibit No.: SCE-05, Vol 03				
	Hydro O&M and Capital 2018 GRC (SCE-05, Vol 3)				
PRIME MOVERS - HN	Var: Gen Rewind, Coils & Stator (03344)	2018	Yes	Beyond 2020	14,350
TRANSMISSION					
	Exhibit No.: SCE-03, Vol. 03 - System Planning Capital Projects				
	Transmission & Interconnection Planning Projects (SCE-03, Vol. 03, Ch.IV, Part A)				
	Grid Reliability Projects				
TRANS PROJ RELIAB	Mesa 500 kV Substation	12/1/2020	Yes	Beyond 2020	491,735
	Transmission System Generation Interconnection				
TRANS PROJ RENEWABLE	Sonoran & Sonoran 2 Project	6/1/2018	No	6/1/2020	37,240
TRANS PROJ RENEWABLE	Cabazon Ridge Project	6/1/2019	No	Beyond 2020	64,486
TRANS PROJ RENEWABLE	Calcite 220 kV Substation	12/1/2020	No	Beyond 2020	16,617
	Policy-Driven Project				
TRANS PROJ RELIAB	Eldorado-Lugo-Mohave Series Capacitor Project	12/1/2019	Yes	Beyond 2020	267,836
DISTRIBUTION					
	Distribution & Subtransmission Planning Programs and Projects (SCE-03, Vol. 03, Ch.IV, Part B):				
	Transmission Substation Plan (TSP) - Subtransmission Lines Plan				
TSP PROJECTS	Santa Barbara County Reliability Project (SBCRP)	12/1/2018	Yes	5/1/2019	98,713
TSP PROJECTS	Valley-Ivyglen 115 kV (VIG)	6/1/2019	Yes	Beyond 2020	110,478
TSP PROJECTS	La Cienega-Beverly-Culver 66 kV Recable	6/1/2019	Yes	6/1/2020	37,922
TSP PROJECTS	Springville-Lindsay-Venida 66kV	6/1/2018	Yes	Beyond 2020	37,771
	Distribution Substation Plan (DSP) - Substation Expansion Projects				
DSP SUBSTATIONS	Lee Vining Substation Rebuild	6/1/2018	Yes	9/1/2020	98,568
DSP SUBSTATIONS	Yokohl 66/12 kV Substation	6/1/2020	Yes	Beyond 2020	15,439
	Added Facilities Projects (SCE-03, Vol. 03, Ch.IV, Part D):				
A/F CUST FUNDED	NBC Universal Expansion	6/1/2020	No	Beyond 2020	61,147
OTHERS	**Exhibit No.: SCE-07, Vol. 3 - Corporate Real Estate**				
	Service Center Modernization Program (SCE-07, Vol. 3, Ch.V, Part C)				
	Santa Barbara Service Center	12/1/2020	Yes	Beyond 2020	48,599
	Operational Support Program (SCE-07, Vol. 3, Ch.V, Part D)				
	T&D Training Facility	12/1/2020	Yes	Beyond 2020	96,176