



(U 338-E)

Southern California Edison

Q1 2021 Quarterly Data Report

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I. INTRODUCTION

Pursuant to Wildfire Safety Division (WSD) Resolution WSD-011, Attachment 3 as modified by the WSD's February 16, 2021 Compliance Operational Protocols (Compliance Protocols), this Quarterly Data Report (QDR) includes Southern California Edison Company's (SCE) (1) geospatial database pursuant to the updated requirements in the February 4, 2021 Geographic Information System (GIS) Data Reporting Standard for California Electrical Corporations – V2 (GIS Data Schema) and the related Status Report, in Excel, that further denotes what spatial data SCE is providing at this time; (2) non-spatial data, in Excel, pursuant to the WSD's Tables 1-12 template; and (3) a description of the data included in the geospatial database, the non-spatial Tables 1-12, and a description of the status of the ongoing Class B deficiencies.¹

Our Q1 2021 QDR includes similar geospatial data as provided in previous quarterly submissions; however, due to the significant changes² in the updated geospatial data requirements issued on February 4, 2021, SCE had to remap all the changed data requirements and reconfigure its extract, transfer, and load (ETL) processes to meet the new requirements. As such, SCE is not able to provide additional geospatial data in this quarterly submission. This QDR also adjusts the wildfire initiatives and identifiers to those included in the 2021 WMP Update in contrast to the wildfire initiatives included in the 2020 WMP. SCE appreciates the WSD's acknowledgment that utilities are at different stages of their data journey and that the GIS Data Schema is intended to be a phased approach including ongoing changes to the schema. SCE is committed to providing more data and details in subsequent QDR submissions to meet the WSD's updated GIS Data Schema requirements.³ The confidential geodatabase is being submitted through the California Public Utilities Commission's (CPUC) Kiteworks system. The declaration supporting the confidentiality of this data was provided with the Q4 2020 QDR. Further description of the geospatial data and responses to the ongoing Guidance-10 deficiency conditions can be found in Section II herein.

In addition, SCE includes the non-spatial data, in Excel and in pdf in Appendix B, pursuant to Resolution WSD-011, Attachment 2.3 within Tables 1-12. New data is being provided for recorded Q1 2021, where applicable. SCE also includes corrections to data errors that have been identified through discovery and further quality review of calculations and data. Annual forecasts are not changing except where data errors are being corrected. All corrected data are displayed in red font. SCE is also including a pdf version of these tables in Appendix B of this QDR. Section III of this QDR includes a description of the data included in these tables. Subsequent QDRs not submitted

¹ Pursuant to Resolutions WSD-002 and WSD-004, WSD identified five ongoing Class B deficiencies that require SCE to address the deficiencies' conditions. These five ongoing Class B deficiencies include Guidance-9, Guidance-10, SCE-5, SCE-9, and SCE-20. The Compliance Protocols explain that the QDR is to include (1) a geodatabase providing quarterly updates on planned, in-progress, and completed initiative activity points, lines and polygons and (2) a nonspatial Excel file that includes all requested data within the WSD's template. Additionally, Resolution WSD-011, Attachment 3, explains that the ongoing quarterly data reporting requirements adopted in Resolutions WSD-002 and WSD-004 regarding 2020 Class B deficiencies and conditions are still required and are to be submitted alongside the new quarterly data submissions.

² SCE identified approximately 108 attribute changes, 23 feature class changes, and 88 field requirement changes.

³ GIS Data Schema, p. 1.

concurrently with an annual WMP submission will continue to include the pdf version and description of the data for these tables. The spatial and non-spatial data in this QDR submission is still undergoing review. If there are material updates, SCE will provide them in subsequent QDR submittals or earlier, as applicable.

This QDR also includes, in Section IV, status updates for ongoing Class B deficiencies Guidance-9, SCE-9 and SCE-20. As noted above, responses to Guidance-10 conditions are included in Section II as that deficiency aligns with the geospatial data requirements. SCE is not providing a status update for ongoing Class B deficiency SCE-5 because the WRRM has been implemented and SCE met the remaining requirements in Chapter 4 of its 2021 WMP Update and subsequent SCE-5 requirements in its February 26, 2021 Supplemental Submission. Please see these submissions for the information required in deficiency SCE-5.

II. GEOSPATIAL DATA

Class B deficiency Guidance-10 included in Resolution WSD-002 requires SCE to submit geospatial data according to the WSD's current data taxonomy and schema and to provide details regarding (1) locations where grid hardening, vegetation management, and asset inspections were completed over the prior reporting period, clearly identifying each initiative and supported with GIS data; (2) the type of hardening, vegetation management and asset inspection work done, and the number of circuit miles covered, supported with GIS data; (3) the analysis that led it to target that specific area and hardening, vegetation management or asset inspection initiative; and (4) hardening, vegetation management, and asset inspection work scheduled for the following reporting period.

This QDR provides recorded GIS data for the January through March 2021 period and projected GIS data for the April through June 2021 period, where available, pursuant to the updated GIS Data Schema.⁴ As noted in the Introduction, SCE is unable to provide all requested data at this time because of the significant changes in the updated GIS Data Schema that includes approximately 108 attribute changes, 23 feature class changes, and 88 field requirement changes. As such, SCE's geospatial focus for this QDR was to reconfigure its data to meet these updated requirements. This QDR also updates the wildfire initiatives to those included in the 2021 WMP Update as opposed to the wildfire initiatives and nomenclature included in the 2020 WMP. SCE appreciates the WSD's acknowledgment of comments from the IOUs regarding the volume and scope of quarterly data reporting requirements and how WSD plans to continue to work with stakeholders to ensure the GIS Data Schema requirements can be met.⁵

This QDR includes the geospatial Initiative,⁶ Asset Point, Asset Line, PSPS Event, Risk Event, and Other Required Data datasets. SCE is not providing metadata in this submission given that we first must focus on implementing significant changes to the updated GIS Data Schema requirements and will convey our plans once available. Additionally, some data elements within the datasets SCE is providing are not available due to either our inability to correlate data from multiple systems within the available times or because SCE does not currently capture the requested data.

SCE appreciates that the WSD, through its comprehensive updated GIS Data Schema, intends to obtain and standardize significant amounts of wildfire-related data. SCE also understands WSD's desire to understand our current systems and data availability. To this end, SCE also provides updated responses in the Status Report in the Excel file template provided by the WSD that generally describe the status of the requested data fields, actions we plan to take if a particular data field is not being provided at this time, the timeline for completing those actions, and whether the data is confidential. SCE describes its approach to the updated Status Report template below. As noted

⁴ See WSD's February 4, 2021 GIS Data Reporting Standard for California Electrical Corporations – V2.

⁵ Resolution WSD-011, p. 12.

⁶ The Initiative dataset includes grid hardening, vegetation management, and asset inspections initiatives where work was performed and/or projected to be performed in HFRA over the reporting periods and does not include the following: SH-2 (Undergrounding Overhead Conductor), SH-4 (Branch Line Fuses), SH-7 (PSPS-Driven Grid Hardening Work), and SH-5 (RAR/RCS) because no work was or is anticipated to be performed for these initiatives over the reporting periods; VM-5 (Quality Control) because the work has been operationalized in 2020. Also, data for IN-2, Quality Oversight / Quality Control is now included in the asset inspections dataset field "InspectionQA," where applicable.

above, SCE has still not set up metadata and this should not be done until the GIS Data Schema is in a steady-state phase. Also, SCE appreciates the WSD removing the requirement for employee confidential data and replacing it with general employee information.

As SCE has discussed with WSD, we continue to have reservations regarding the provision of confidential data. Release of the precise location, age, and other attributes of SCE's assets alongside the precise location of critical facilities may significantly increase safety risk to the public. For example, knowledge of underground line routes and electrical equipment serving a critical facility could facilitate an attack on that critical facility's power supply. Also, knowledge of the location of specific SCE assets in areas with historical high-fire weather could make them vulnerable to attack during the worst possible time. Further, the precise locations of SCE's high voltage transmission lines and substations alongside the above-mentioned confidential information, as well as the non-confidential information requested increases risk to the bulk power transmission system. The Commission recognizes the importance of safeguarding critical energy infrastructure information and although maps of varying detail of SCE's transmission system may be publicly available from other sources, SCE does not believe it is prudent to further propagate that information, in this level of detail, accompanying other information that, taken together, could prove to be useful to a bad actor. Notwithstanding these reasons, SCE has preliminarily designated confidentiality at the data field level even though it believes confidentiality should be applied at the feature class level for each provided dataset. For purposes of the non-confidential geodatabase, only non-confidential feature classes were included because SCE is not able to efficiently extract just the confidential data fields in the geodatabase at this time given the millions of data fields.

SCE also notes that it does not capture several new data elements that still require time for our teams and subject matter experts to assess with respect to the labor, operational, system and technical requirements and to ensure these new data requirements could advance wildfire risk reduction prior to changing work methods, processes, tools and systems. SCE is still in process of assessing these data requirements and will provide updates in subsequent QDRs. SCE provides a general response in the Status Report that discusses this assessment in further detail. While SCE understands that the WSD desires specific timelines to address data gaps, we are not able to provide those with this QDR submission. Future submissions will look to include specific information after SCE establishes a formal project team and conducts internal SCE workshops with multiple stakeholders to better understand the complexities and level of effort to make process and technology changes.

Similar to its previous QDR, the requested spatial data is being provided in the geodatabase. Additionally, SCE is submitting an updated Status Report based on the included datasets, described above. SCE notes that it continues to take a phased approach to improve the data being provided. SCE looks forward to continued collaboration with the WSD, utilities, and other stakeholders to refine and improve the GIS Data Schema to further reduce wildfire risk. Responses to the specific Guidance-10 conditions are detailed below.

i. locations where grid hardening, vegetation management, and asset inspections were completed over the prior reporting period, clearly identifying each initiative and

supported with GIS data

Please see the geodatabase that includes grid hardening, vegetation management and asset inspection initiative data completed in HFRA from January 1, 2021 through March 31, 2020. As noted above, SCE also provides in the geodatabase other feature class datasets, not required as part of this deficiency but in support of WSD's direction to provide as much information as practicable and is readily available. The additional datasets include Asset Line, Asset Point, PSPS Event, Risk Event, and Other Required Data.

ii. the type of hardening, vegetation management and asset inspection work done, and the number of circuit miles covered, supported with GIS data

SCE is providing data associated with its system hardening, vegetation management, and asset inspection initiatives described in our 2021 WMP Update. The specific WMP initiatives are shown in the table in Appendix A. Most wildfire initiatives are not planned, managed or executed based on the number of circuit miles (or miles) and thus line geometry for these initiatives is not available. This is consistent with the WSD's WSD-011 Resolution, Attachments 2.1 and 2.3 that describe how the number of circuit miles unit of measurement is not applicable for certain types of work. The limited initiatives that do have line geometry, circuit miles or miles are available in the geodatabase. SCE notes that line geometry for covered conductor is available at the project scoping level, which has been replicated for each of the resulting work orders (which is the lower level at which dates are managed and the level of detail provided in this GIS submission) and shows that SCE completed approximately 276 circuit miles of covered conductor from January 1, 2021 through March 31, 2021. For circuit-based distribution and transmission inspections, the entire circuit geometry has been included.

iii. the analysis that led it to target that specific area and hardening, vegetation management or asset inspection initiative, and

SCE first provided its risk-based analyses for how it determines and targets deployment for its wildfire-related initiatives in its July 27, 2020 Remedial Compliance Plan (RCP) to Guidance-3 and provided updates in its 2021 WMP Update and Q4 2020 QDR. Please see Section 7.3.2 of SCE's 2021 WMP Update for current information regarding methods SCE employs to analyze and prioritize work for grid hardening, vegetation management and asset inspection initiatives. In Appendix A, SCE summarizes the analysis that led it to target the areas where its system hardening, vegetation management and asset inspection initiatives were completed from January 1 through March 31, 2021. Please also see Section 4.3 of SCE's 2021 WMP Update that describes SCE's improvements to its risk modeling.

iv. hardening, vegetation management, and asset inspection work scheduled for the following reporting period, with the detail in (i) – (iii).

Please see the geodatabase that includes grid hardening, vegetation management and asset inspection initiatives planned in HFRA from April 1 through June 30, 2021 pursuant to the latest GIS Data Schema. Similar to part (ii) above, limited initiatives have line geometry (i.e., circuit miles or miles). Initiatives with line geometry are available in the geodatabase. SCE notes that line geometry for covered conductor is available at the project scoping level, which shows approximately 325 circuit miles planned for April 1 through June 30, 2021. Also, line geometry for planned circuit-based distribution and transmission inspections includes the entire circuit geometry, not just partial geometry of the circuit. Please see the table in Appendix A and Sections 4.3 and 7.3.2 of SCE's 2021 WMP Update with the detail for condition (iii).

III. NON-GEOSPATIAL DATA TABLES 1-12

Introduction:

SCE’s approach to updating Tables 1-12 of the non-spatial data requirements for this QDR includes 1) updating tables that require quarterly updates and not updating tables that require annual data and 2) corrections to data errors that have been identified through discovery and further quality review of calculations and data.

Table 1: Recent Performance on Progress Metrics

Table 1 provides a six-year history (2015-2020), where applicable, of Progress Metrics as defined by the 2021 WMP Guidelines and Q1 2021 recorded data. The recorded data includes updated 2018, 2019 and 2020 Level 1, 2 and 3 findings in HFTD (rows 1.d. through 1.l.). SCE also discovered a calculation error for Row 1.b.iii. Rows 2.a.i and 2.a.ii for 2019 and 2020 were also corrected due to a misapplied span calculation. Updates to previous findings are in red font. The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data changed or is not available.

Metric Type 1 asks for inspection counts for different inspection category types for transmission and distribution in circuit miles. SCE accounts for completed inspections by noting the counts of assets inspected instead of noting by circuit miles. In order to present completed inspections in the requested format, SCE used a calculated average span length multiplied by the number of structures inspected. Additionally, rows were added to inspection types (1c, ii-iv) in order to provide additional detail of inspection data collected as part of SCE’s detailed inspection program. The drivers and programmatic inspection changes can be seen in our 2021 WMP Update in Section 7.3.4.9.1 for Distribution and Section 7.3.4.10.1 for Transmission.

Metric Type 2 asks for the number of spans inspected for vegetation compliance. SCE accounts for completed vegetation compliance inspections by circuit miles. In order to present completed vegetation compliance inspections in the requested format, SCE divided the recorded circuit miles inspected by the calculated average span length.

Metric Type 3, customer outreach metrics, requires information not accounted for or maintained by SCE as SCE has no jurisdiction over evacuation orders. SCE diligently requested and followed up with local governments and law enforcement and was only able to obtain information from one county. Even then, the information provided included high-level estimations of evacuation counts estimated by the local government and law enforcement entity for a very limited set of fires. Because of this, SCE is unable to obtain the requested data, analyze it, and report on evacuation related requirements in this table. SCE anticipates this to be a recurring challenge going forward.

See Table 1 “Recent performance on progress metrics” for more detail.

Table 2: Recent Performance on Outcome Metrics

Table 2 provides a six-year history and Q1 2021 recorded data, where applicable, of Outcome Metrics as defined by the 2021 WMP Guidelines. Row 7a was corrected due to an inadvertent summation error for all years. Updates to previous findings are in red font. Comments are included in the table to provide additional details about the data provided or indicate if the data was corrected or is not available or not applicable for the past six years or Q1 2021. The information provided in conjunction

with the “utility-ignited” wildfire statistics should not be construed as an admission of any wrongdoing or liability by SCE. SCE further notes that to the extent the damages metrics were obtained from other agencies, SCE does not guarantee the accuracy of such information. Additionally, in many instances, the cause of wildfires is still under investigation and even where an Authority Having Jurisdiction (AHJ) has issued a report on the cause, SCE may dispute the conclusions of such a report.

See Table 2 “Recent performance on outcome metrics, annual and normalized for last 5 years” for more detail.

Table 3: List and Description of Additional Metrics

Metrics and underlying data are critical components for WMP development, execution, and evaluation, but we continue to emphasize that the near-term focus should be on efficient implementation of our planned activities, while the assessment of whether the activities are having the desired and expected impact on risk reduction should be measured over a longer time horizon. A clear distinction is necessary between metrics that can help monitor compliance with approved WMPs and those that can help evaluate effectiveness of these approved plans and inform future WMP updates.

As in 2019 and 2020, we provide annual Program Targets for each WMP activity which establish goals to evaluate compliance. As stated in previous filings and submittals, tracking Program Targets for approved WMPs is the best means of determining progress and assessing WMP compliance in the near term.

In its response to Guidance-5, SCE proposed five outcome-based metrics, to gauge the effectiveness of the portfolio of its wildfire mitigation activities. These outcome-based metrics are:

1. CPUC reportable ignitions in HFRA (total and by key drivers including CFO, wire-to-wire contact, tree-caused circuit interruptions, and EFF)
2. Faults in HFRA (total and by the key drivers mentioned above)
3. Wire-down incidents in HFRA
4. Number of impacted customers and average duration of PSPS events
5. Timeliness and accuracy of PSPS notifications

SCE proposed these outcome-based metrics because WMP activities are ultimately designed to reduce wildfire ignitions associated with its electrical infrastructure and reduce the impact of PSPS de-energization events to customers. Faults and wire-down events are also key metrics as they are leading indicators of potential ignitions. Importantly, these metrics are within the reasonable control of utilities when appropriately normalized for weather and other exogenous factors. Other metrics such as safety incidents, acres burned or structures destroyed, though important to understand and drive California’s fire-mitigation efforts, are impacted by events and circumstances largely outside of the utility’s control such as climate change, fire suppression efforts and fire response. Therefore, these are not appropriate WMP effectiveness metrics.

Most of our proposed WMP activities are selected to improve these metrics over time, while the remainder are enabling activities to support and supplement those WMP activities. Table SCE-1, updated since the 2021 WMP Update submission, demonstrates how each of SCE’s 2021 WMP activities map to the five outcome-based metrics.

Table SCE-1

Activity to Metric Mapping

Activity	Initiative	Ignitions	Faults	Wire Downs	PSPS # Impacted & Average Duration	PSPS Notification Timeliness & Accuracy	Enabling
SA-1	Weather Stations				X	X	
SA-2	Fire Potential Index (FPI)				X	X	
SA-3	Weather and Fuels Modeling System				X	X	
SA-4	Fire Spread Modeling				X	X	
SA-5	Fuel Sampling Program				X	X	
SA-7	Remote Sensing / Satellite Fuel Moisture				X	X	
SA-8	Fire Science Enhancements				X	X	
SA-9	Distribution Fault Anticipation (DFA)	X	X	X			
SH-1	Covered Conductor	X	X	X	X		
SH-2	Undergrounding Overhead Conductor	X	X	X	X		
SH-4	Branch Line Protection Strategy	X		X			
SH-5	Installation of System Automation Equipment – RAR/RCS				X	X	
SH-6	Circuit Breaker Relay Hardware for Fast Curve	X		X			
SH-7	Circuit Evaluation for PSPS-Driven Grid Hardening Work				X		
SH-8	Transmission Open Phase Detection	X					
SH-10	Tree Attachment Remediation	X	X	X			
SH-11	Legacy Facilities	X	X	X			
SH-12	Microgrid Assessment				X		
SH-13	C-Hooks	X	X	X			

Activity	Initiative	Ignitions	Faults	Wire Downs	PSPS # Impacted & Average Duration	PSPS Notification Timeliness & Accuracy	Enabling
SH-14	Long Span Initiative (LSI)	X	X	X			
SH-15	Vertical Switches	X	X				
IN-1.1	Distribution Ground / Aerial Inspections and remediations	X	X	X			
IN-1.2	Transmission Ground / Aerial Inspections and remediations	X	X	X			
IN-3	Infrared Inspection of energized overhead distribution facilities and equipment	X	X	X			
IN-4	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead Transmission facilities and equipment	X	X	X			
IN-5	Generation Inspections and Remediations	X	X	X			
IN-8	Inspection Work Management Tools						X
VM-1	Hazard Tree Management Program	X	X	X			
VM-2	Expanded Pole Brushing	X	X	X			
VM-3	Expanded Clearances for Legacy Facilities	X	X	X			
VM-4	Dead and Dying Tree Removal	X	X	X			
VM-6	VM Work Management Tool (Arbora)						X

Activity	Initiative	Ignitions	Faults	Wire Downs	PSPS # Impacted & Average Duration	PSPS Notification Timeliness & Accuracy	Enabling
PSPS-2	Customer Care Programs (Includes CRCs, CCVs, Battery Backup Programs, Well Water and Water Pumping Backup Generation, Resiliency Zones)						X
DG-1	Wildfire Safety Data Mart and Data Management (WISDM / Ezy)						X
DEP-2	SCE Emergency Responder Training						X
DEP-1.2	Customer Education and Engagement - Community Meetings						X
DEP-1.3	Customer Education and Engagement - Marketing Campaign						X
DEP-4	Customer Research and Education						X
DEP-5	Aerial Suppression						X

Table 3 provides the performance metrics and units SCE uses to evaluate performance within each of these outcome-based metrics, including historical performance over the past six years (2015-2020) and Q1 2021 recorded data.

As described in SCE’s response to Guidance-5, there might be annual variances in these metrics driven by uncontrollable factors such as weather, and effectiveness of WMP activities can be best assessed using longer-term trends in these outcome-based metrics. It will also be important to consider factors such as overall risk exposure, the population size of the assets, scope of work completed and fire suppression by third party agencies when using these outcome-based metrics. These metrics cannot be used to measure progress or compliance per approved plans in the short term. To appropriately evaluate the effectiveness of its WMP activities, SCE is developing suitable quantitative and repeatable methods to measure and normalize these outcome-based metrics. We look forward to collaborating with the WSD, utilities and other stakeholders to agree on how these metrics should be

appropriately measured and used to draw pertinent conclusions.

CPUC Reportable Ignitions in HFRA, Faults in HFRA and Wire Downs incidents in HFRA

Large variations in weather events, including temperature, rainfall, fuel moisture and wind, can heavily impact outcome-based metrics including faults, wire-down events and ignitions, and can often skew direct comparisons of these metrics year over year.

SCE is monitoring the number of faults at the circuit level and ignitions and wire-down events at the structure level and by key driver (CFO, EFF, and other) both before and after the deployment of select WMP wildfire activities. By observing the key drivers of these events down to the circuit or individual structure level, SCE is building the capability to better evaluate the effectiveness of wildfire activities that were deployed to mitigate those specific drivers, as well as help align future deployment of mitigations to targeting specific drivers identified at those locations.

SCE continues to focus on maturing its modeling capabilities to provide forecasts of future ignitions across HFRA, incorporating the benefits of wildfire activities to reduce ignitions as well as normalizing exogenous factors such as weather, to provide an expected range of ignitions in future years across HFRA. In its 2021 WMP Update, SCE incorporated the estimated benefits of wildfire (WF) activities, including covered conductor, vegetation mitigation, inspection mitigation, in reducing the POI at each individual pole or structure level, and includes this reduction of ignition risk when forecasting expected ignitions. At this time, SCE does not incorporate weather normalization into its WMP ignition forecasts due to the complexity of determining the causal relationship between aberrant weather and ignition probability and fire spread.

SCE is currently evaluating different approaches to normalize exogenous factors, including but not limited to, weather and 3rd party suppression efforts. As SCE continues to focus on prudent and effective grid operations, inspections & maintenance, improvements to standards and timely equipment upgrades, it is recognized that although these actions will not entirely eliminate risk, they are expected, in aggregate, to result in overall improvements in outcome metrics, such as faults, wire-downs and ignition events associated with SCE's electrical infrastructure.

Number of impacted customers during and average duration of PSPS events

As more sectionalization equipment, covered conductor, and other grid hardening activities are deployed, de-energization thresholds can be raised reducing the number of circuits and circuit segments that will need to be de-energized during extreme weather conditions. Improved weather and fire modeling capabilities along with enhanced operational protocols can also help us reduce the frequency and duration of PSPS events. However, to assess the effectiveness of the WMP activities in reducing the frequency and scope of PSPS de-energizations, the total number of customers affected or the duration of outages during any period need to be normalized for the intensity of weather events, how widespread the weather events were, and the duration of the events as these can influence the number of circuits or circuit segments that have to be de-energized. In addition to weather, these metrics have to account for customer density on impacted circuits and other factors outside SCE's control. SCE is currently evaluating how metrics such as windspeed, FPI, etc. can be used to appropriately normalize the number of impacted customers and duration of PSPS events. The historical performance through Q1 2021 can be found in Table 3.

Timeliness and accuracy of PSPS notifications

SCE provides information on the timeliness and accuracy of PSPS notifications in post-event reports. SCE has revised the definition of one of these metrics and is re-evaluating the calculation of these metrics and benchmarking with the other IOUs to understand best practices. SCE welcomes the WSD’s guidance as well.

Table 4: Fatalities Due to Utility Wildfire Mitigation Initiatives

Table 4 provides a six-year history (2015-2020) and Q1 2021 data, where applicable, of fatalities associated with utility wildfire mitigation initiatives as defined by the 2021 WMP Guidelines. The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data was not available.

See Table 4 “Fatalities due to utility wildfire mitigation initiatives, last 5 years” for more detail.

Table 5: OSHA-Reportable Injuries Due to Utility Wildfire Mitigation Initiatives

Table 5 provides a six-year history (2015-2020) and Q1 2021 recorded data, where applicable, of OSHA-reportable injuries associated with utility wildfire mitigation initiatives as defined by the Guidelines. SCE does not use OSHA-reportable contractor and public incidents, as there is no direct employment relationship and no requirement to report to OSHA. However, SCE does monitor CPUC-reportable incidents, which have similar thresholds for identification and reporting (i.e., fatality or personal injury rising to the level of in-patient hospitalization, and in connection with utility assets). To provide a more complete data set, SCE provides data in Table 5 related to the “Contractor” and “Member of the Public” rows that correspond to CPUC-reportable incidents.

See Table 5 “OSHA-reportable injuries due to utility wildfire mitigation initiatives, last 5 years” for more detail.

Table 6: Weather Patterns

Table 6 provides a six-year history (2015-2020) and Q1 2021 recorded data, where applicable, of weather patterns as defined by the Guidelines. The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data is not available.

The first row in Table 6 is populated with historical data on Red Flag Warning (RFW) by circuit mile days per year. The RFW circuit-mile days are based on all overhead distribution and transmission circuits that traverse through the National Weather Service (NWS) Fire Weather Zone (FWZ) from a 2015-2020 historical database of RFW events from the NWS. The overhead lengths of distribution and transmission circuits are calculated within each FWZ polygon (area divided geospatially into over approximately 1,000 space areas). All circuit lengths within that FWZ polygon are then multiplied by the number of days (or fraction of days) that a particular polygon had an RFW in effect.

The 2021 WMP Guidelines require that SCE use RFW circuit mile days per year data to normalize data required in other tables. SCE recommends the Commission consider using the National Fire Danger Rating System (NFDRS), which all fire agencies use to determine daily fire danger risk, instead of RFW data. NFDRS is a system that allows fire managers to estimate today’s or tomorrow’s fire danger for a given area. It combines existing and expected states of selected fire danger factors into one or more qualitative or numeric indices that reflect an area’s protection needs. Fire danger ratings are typically reflective of the general conditions over an extended area, often tens of thousands

of acres, where a possible wildfire could start. Fire danger ratings describe conditions that reflect the potential, over a large area, for a fire to ignite, spread and require suppression action.

See Table 6 “Weather patterns” for more detail.

Table 7.1: Key Recent and Projected Drivers of Risk Events

Table 7.1 provides a six-year history (2015-2020) and Q1 2021 recorded data, where applicable, as well as projections through 2022 of key recent and projected drivers of risk events as defined by the 2021 WMP Guidelines. Data corrections were made to 2021 and 2022 projected risk events for the following cause / sub-cause categories:

- Wire down event – Distribution; Equipment / facility failure; Connector damage or failure
- Wire down event – Distribution; Equipment; Wire-to-wire contact; Wire-to-wire contact / contamination
- Outage - Distribution; Equipment / facility failure; Switch damage or failure
- Outage - Distribution; Equipment / facility failure; Connection device damage or failure
- Outage - Distribution; Utility work / Operation
- Outage - Transmission; Equipment / facility failure
 - Capacitor bank damage or failure
 - Fuse damage or failure
 - Switch damage or failure
 - Voltage regulator / booster damage or failure
 - Connection device damage or failure
 - Transformer damage or failure
- Outage - Transmission; Utility work / Operation
- Ignition - Distribution; Equipment / facility failure; Connection device damage or failure
- Ignition - Transmission; Equipment / facility failure; Connection device damage or failure

A data correction was also made to 2019 data for Ignition – Transmission; Contact from object; Animal contact.

SCE also re-categorized Lightning outages from the All Other category to the Other contract from foreign object category (for both Distribution and Transmission) to better align with the table requirements. This also modified summations for these outage types.

The comment section for each metric in the table provides details of the source and data that was used or corrected or explanations for why certain data is not available.

To calculate the recent drivers of risk events, SCE utilized the following data sources:

- SCE’s Outage Management System (OMS) and Outage Data and Reliability Metrics (ODRM) interface
- Wire-down data to determine if the conductor failure led to a wire-down event
- Repair work records from SCE’s asset data in systems, applications & products (SAP) to identify failures
- CPUC reportable fire data

For purposes of this QDR, transmission lines refer to all lines at or above 65 kV, and distribution lines

refer to all lines below 65 kV. Transmission faults and wire-downs are typically on transmission lines 65 kV and above but may include some lower voltages (from an operational perspective, SCE also treats its 55 kV lines as transmission).

To populate wire-down data for each driver, SCE used its wire-down database containing repair orders and OMS. To populate outage data for each driver, SCE used ODRM outage cause codes. ODRM database records and catalogs outage's impacts, and cause determined by the cooperation of field, operations, and engineering employees.

To populate the number of ignitions per year for each driver, SCE used CPUC reportable data filed for 2015 through 2019, and preliminary data for 2020 and Q1 2021. The CPUC reportable data contains date and time, latitude and longitude, voltage, location, suspected initiating event, and driver and sub-driver (e.g., animal contact, balloon contact, and transformer failure) categories. SCE mapped the suspected initiating event to the driver and sub-driver categories for 2015 through Q1 2021.

For forecasts, SCE first created a baseline forecast for wire-down, outages, and ignitions based on timeseries forecasting. Time-series forecasting uses historical patterns to create a forecast and can capture variation over smaller periods compared to other forecasting methods. Then, the baseline forecast was subjected to the same methodologies used for RSEs, whereby SCE estimated the mitigation effectiveness of programs by risk drivers and determined the risk reduction, given the exposure and scope of the program, to incorporate the effects of SCE's various wildfire programs into the forecasts.

Rows were added to the table for specific areas to provide more information in the given areas rather than the information being limited to the "Other" category.

See Table 7.1 "Key recent and projected drivers of risk events" for more detail.

Table 7.2: Key Recent and Projected Drivers of Ignition Probability by HFTD Status

Table 7.2 provides a six-year history (2015-2020), as well as projections through 2022 of key recent and projected drivers of ignitions by HFTD region as defined by the 2021 WMP Guidelines. Data corrections were made for 2021 and 2022 Projected Ignitions for the following Risk Event Categories / Metric Types / and Risk Drivers:

- Ignition - Distribution; Equipment / facility failure; Connection device damage or failure
- Ignition - Transmission; Equipment / facility failure; Connection device damage or failure

Historical data corrections were also made for the following Risk Event Categories / Metric Types / and Risk Drivers:

- Ignition - Distribution; Unknown; Unknown (2019)
- Ignition - Transmission; Contamination; Contamination (2019)
- Ignition - Transmission; Unknown; Unknown (2015)

The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data was corrected or is not available.

For purposes of this QDR, transmission lines refer to all lines at or above 65 kV, and distribution lines refer to all lines below 65 kV. Transmission faults and wire-downs are typically on transmission lines

65 kV and above but may include some lower voltages (from an operational perspective, SCE also treats its 55 kV lines as transmission).

To populate the ignitions per year for each driver, SCE used CPUC reportable data filed for 2015 through 2019, and preliminary data for 2020 and Q1 2021. The CPUC reportable data contains date and time, latitude and longitude, voltage, location, suspected initiating event, and driver and sub-driver (e.g., animal contact, balloon contact, and transformer failure) categories. SCE mapped the suspected initiating event to the driver and sub-driver categories for 2015 through Q1 2021.

For forecasts, SCE first created a baseline forecast for ignitions based on time-series forecasting. Timeseries forecasting uses historic patterns to create a forecast and can capture variation over smaller periods compared to other forecasting methods. Then the baseline forecast was subjected to the same methodologies used for RSEs, whereby SCE estimated the mitigation effectiveness of programs by risk drivers and determined the risk reduction given the exposure and scope of the program to incorporate the effects of SCE's various wildfire programs into the forecasts.

See Table 7.2 "Key recent and projected drivers of ignitions by HFTD region" for more detail.

Table 8: State of Service Territory and Utility Equipment

Table 8 provides a six-year history (2015-2020), where applicable, of state of service area and utility equipment as defined by the 2021 WMP Guidelines. SCE has made corrections to data errors for the historical data. Corrections are included for 2020 counts for substations and transmission and distribution circuit miles including WUI and non-WUI in Non-HFTD, HFTD Tier 2, and HFTD Tier 3.

The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data was corrected or is not available.

Table 8 lists the current baseline state of SCE's service area in terms of overhead circuit miles for distribution and transmission lines, substations (only in-service, not including third-party owned), and critical facilities. The table also lists the number of customers in WUI zones and by HFRA tier/zone. SCE retains a small portion of HFRA located outside of the CPUC's HFTD (SCE's non-CPUC HFRA), and operationally treats these areas as Tier 2. These areas have been added to the HFTD Tier 2 populations. HFTD Zone 1 cells only reflect portions of SCE's HFRA that are outside of HFTD Tier 2 and Tier 3 areas. Zone 1 areas that are wholly contained within Tier 2 and Tier 3 areas are reflected in those respective tiers. The WUI area delineation is based on a GIS layer published by the University of Wisconsin-Madison.

It is important to note, that GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing.

SCE does not record all customers that are designated as AFN customers. As such, data provided for the AFN population only includes SCE customers enrolled in MBL and/or Low-Income (i.e., enrolled in the CARE/FERA) programs.

See Table 8 "State of service area and utility equipment" for more detail.

Table 9: Location of Actual and Planned Utility Equipment Additions or Removal Year Over Year

Table 9 provides a six-year history (2015-2020), where applicable, as well as projections through 2022 of location of actual and planned utility equipment additions or removal, year over year, as defined by the 2021 WMP Guidelines. The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data is not available.

Table 9 provides planned additions, removals, and upgrades of utility equipment by the end of the three-year plan term. SCE does not routinely follow planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, the projects are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates associated with them. Therefore, SCE is unable to map the distribution projects in GIS and subdivide as requested. The planned work with a well-developed scope and geospatial properties are typically major, longer lifecycle transmission and substation projects that have detailed engineering and/or a Certificate of Public Convenience and Necessity (CPCN) or Permit To Construct (PTC) from the Commission. Therefore, the only planned work that SCE included here are (1) transmission projects that have known, planned geospatial geometries (circuit path/route) that can be uploaded to GIS tools and then divided by population density, WUI, and HFTD Tier/Zone and (2) known, planned substation projects (of which SCE has one in the next three years, Safari Substation). Additionally, SCE plans to install at least 375 weather stations and will strive for approximately 475 additional weather stations between 2021 and 2022, but actual site/structure locations have not yet been determined and SCE is therefore unable to provide the locational attributes as requested.

The WUI area delineation is based on a GIS layer published by the University of Wisconsin-Madison.

See Table 9 “Location of actual and planned utility equipment additions or removal year over year” for more detail.

Table 10: Location of Actual and Planned Utility Infrastructure Upgrades Year over Year

Table 10 provides a six-year history (2015-2020), where applicable, as well as projections through 2022 of location of actual and planned utility infrastructure upgrades year over year as defined by the 2021 WMP Guidelines. The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data is not available.

Table 10 provides planned additions, removals, and upgrades of utility equipment by the end of the three-year plan term. For the reasons explained in the Table 9 section above, the only planned work included in Table 10 are transmission and substation projects that have known, planned geospatial geometries.

The WUI area delineation is based on a GIS layer published by the University of Wisconsin-Madison.

See Table 10 “Location of actual and planned utility infrastructure upgrades year over year” for more detail.

Table 11: Recent use of PSPS and other PSPS Metrics

Table 11 provides a six-year history (2015-2020) and Q1 2021 recorded data, where applicable, as well as a projection through 2021 of recent use of PSPS and other PSPS metrics as defined by the 2021 WMP Guidelines. SCE corrected “Critical Infrastructure impacted by PSPS” amounts for 2019 and Q4 2020 due to an inadvertent data error. SCE also corrected Rows 5.c, 5.e, and 5.f due to incorrect calculations. The comment section for each metric in the table provides details of the source and data that was used or explanations for why certain data was corrected or is not available.

Table 11 represents the frequency, scope, and duration of PSPS events in total. A combination of data from SCE’s OMS and data recorded by documentation specialists during actual PSPS events was used for the historical information including Q1 2021. For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PSPS events, SCE developed a range around the baseline. The range was based on an 18-year backcast analysis that analyzed how current PSPS triggers would have resulted in PSPS events when applied to historical weather data. The following equation was used to calculate the factor used for the low and high range for PSPS forecast data.

$$\text{Lower limit factor} = \frac{\text{1st Quartile for days of interruption from the 18 year backcast}}{\text{Average days of interruption from the 18 year backcast}}$$

$$\text{Higher limit factor} = \frac{\text{3rd Quartile for days of interruption from the 18 year backcast}}{\text{Average days of interruption from the 18 year backcast}}$$

Please see Table 11 for updates to SCE’s use of PSPS protocols and other related metrics.

Table 12: Mitigation Initiative Financials

Table 12 provides 2020 recorded costs and 2021 through 2022 forecasts by initiative. Since SCE’s Q4 2020 QDR submittal, SCE has corrected 2020 recorded costs that were in error or categorized incorrectly. These corrections were largely identified as a result of discovery and SCE previously provided corrections to the WSD in response to data requests. 2021 and 2022 forecasts remain unchanged from the Q4 2020 QDR submittal except where corrected due to errors or incorrect categorization.

IV. ONGOING CLASS B DEFICIENCIES

Class B Deficiency Guidance-9

Name: Insufficient discussion of pilot programs Category: Alternative Technology Class:
Category: Alternative Technology Class
Class: B

Deficiency:

Electrical corporations do not describe how they will evaluate and expand the use of successfully piloted technology or which piloted technology has proven ineffective. To ensure pilots that are successful result in expansion, if warranted and justified with quantitative data, electrical corporations must evaluate each pilot or demonstration and describe how it will expand use of successful pilots.

Condition:

In its quarterly report, each electrical corporation shall detail:

- i. all pilot programs or demonstrations identified in its WMP;
- ii. status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption;
- iii. results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits; and
- iv. How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices;
- v. a proposal for how to expand use of the technology if it reduces ignition risk materially.

Response:

SCE addressed this deficiency's conditions in its September 2020 and December 2020 quarterly reports. SCE also addressed the Insufficiency finding (SCE-8) in the WSD's evaluation of SCE's first quarterly report in its February 26, 2021 WMP Supplemental filing. Please refer to those submissions for details regarding the conditions stated above. Below, SCE provides its Q1 2021 status updates and any lessons learned for the technologies included in its 2020 WMP. As explained in Section 7.1.4 of its 2021 WMP Update, some of the technology pilots/studies in 2020 have been completed and thus do not have status updates as noted below.

Meter Alarming for Downed Energized Conductor (MADEC)

As explained in our 2021 WMP Update, this pilot project has been closed out.

Distributed Fault Anticipation (DFA)

As explained in Section 7.3.2.2 in our 2021 WMP Update, this activity (SA-9) is an initiative. Please see SCE's QIU for the Q1 2021 status update.

Advanced Unmanned Aerial Systems (UAS) Study

As explained in our 2021 WMP Update, this pilot project has been closed out.

Ground Fault Neutralizer (GFN)

2021 Plan:

By September 2021, SCE plans to in-service the pilot ground fault neutralizer at Neenach substation.

Q1 2021 Status:

Project is on track. Major material received and equipment installation completed at Neenach substation. Insulation testing and fault testing are scheduled for Q2.

Q1 2021 Lessons Learned:

Lessons learned were limited to details about how to best install a Ground Fault Neutralizer. No significant lessons were learned regarding construction efforts in Q1 2021 for GFN. Construction efforts generally proceeded well and SCE implemented small improvements including rodent protection screens and system testing planning procedures.

Resonant Grounded Substations (RGS)

2021 Plan:

By October 2021, SCE plans to in-service the equipment necessary to resonant ground SCE's Arrowhead substation.

Q1 2021 Status:

Project is on track. Remaining major materials received in Q1. Construction plan and schedule finalized. Construction scheduled for early Q2 and expected to be completed in Q2.

Q1 2021 Lessons Learned:

Real time digital simulation (RTDS) testing was performed with GE showing they could reproduce similar levels of sensitivity when incorporating real current transformers in the test.

Isolation Transformer REFCL Scheme

2021 Plan:

By November 2021, SCE plans to complete the installation of one pad-mounted isolation transformer in SCE's Menifee District on the Corsair distribution circuit.

Q1 2021 Status:

The project is on track. Target pilot location was finalized. Pilot design and construction standards were published. Work order design was completed. Civil construction was completed.

Q1 2021 Lessons Learned:

No significant lessons learned for Q1 2021 with the pad-mounted isolation transformer application. The civil construction effort was conducted as planned. Review of system phasing continues in order to support balancing capacitance on the system. It was noted that load imbalance on the system should also be improved during the future phase balancing efforts.

Distribution Open Phase Detection (D-OPD)

2021 Plan:

In 2021, the OPD logic/system for pilot installations will be monitored to collect data for any actual and false detections. Additionally, the performance monitoring will include the field performance functionality of the high-speed radio systems. SCE will also develop an assessment report that details the findings from the pilot evaluation. The pilot installations are expected to remain configured for alarming rather than tripping during the 2021 monitoring period.

Q1 2021 Status:

SCE is continuing to monitor alarms on the 2020 pilot installs. The current OPD scheme has detected two open-phase conditions on monitored circuitry: one resulted from a failed connector at a recloser, the other from a mainline fuse operation.

Q1 2021 Lessons Learned:

No significant lessons were learned.

Vibration Dampers

Per SCEs 2021 WMP Update filing, this activity has been closed out.

Asset Defect Detection Using Machine Learning Object Detection

2021 Plan:

In 2021, SCE seeks to accomplish the following tasks:

- Expand its tagging initiative of assets on images for the ML algorithm.
- Continue prioritizing and developing ML algorithms to identify defects on assets from images. Develop a company-wide ML strategy that creates alignment amongst all stakeholders by leveraging existing efforts in the space.
- Investigate processing LiDAR images using AI to process and identify vegetation encroachment on assets.
- Explore solutions for AI on the edge to process data in real time in the field.

Q1 2021 Status:

- SCE has made progress prioritizing the build of ML algorithms for our assets based on risk. Once the prioritization is complete, SCE will begin developing the ML algorithms to identify defects on assets from images.
- SCE has begun developing a company-wide ML strategy that creates alignment amongst all stakeholders by leveraging existing efforts in the space.
- SCE has begun reaching out to vendors to learn about off-the shelf solutions for processing LiDAR images using AI to process and identify vegetation encroachment on assets.

Q1 2021 Lessons Learned:

For training and testing the models from the tagged images, we learned that we could use a third-party tool to significantly improve the number of images we could process through our algorithms allowing us to run these models at scale. An analysis of the defect data between 2019 and 2020 shows how the defect types are changing and have provided good input to the priority of the models that need to be developed.

Transmission Partial Discharge

Per SCEs 2021 WMP Update filing, this activity has been closed out.

Early Fault Detection (EFD)

2021 Plan:

In 2021, SCE will complete installation of 67 units (remaining of the 100 EFD units as identified in the 2020 WMP) on the distribution system to circuits previously equipped with DFA technology. In addition, SCE will consider installing up to an additional 50 units on the distribution and/or sub transmission systems for additional evaluation. The locations for the remaining units will be determined by June 2021.

Q1 2021 Status:

42 of 100 pilot units have been installed and have identified two target circuits for sub-transmission applications.

Q1 2021 Lessons Learned:

No significant lessons were learned for EFD in Q1 2021. Based on circuit selection efforts, SCE will continue EFD siting to better understand EFD control power options for solar and AC power in the coming months.

High Impedance Relays (Hi-Z)

2021 Plan:

In 2021, SCE plans to pilot the high impedance (Hi-Z) element at an additional 15 locations to assess the effectiveness of detecting Hi-Z conditions such as down conductor or arcing conditions.

Q1 2021 Status:

The project is on track. Pilot locations for the fifteen target installs have been identified. Protection settings for all fifteen locations issued and firmware upgrades have been completed.

Q1 2021 Lessons Learned:

No significant lessons were learned.

Satellite and Other Imaging Technology for Fire Spotting

2021 Plan:

SCE is working to expand its platform and services to consolidate fire detections as they arrive from satellite technology (via services) and other means to disseminate alerts of satellite fire detections from services via internal web applications and/or e-mail notifications. These data sources and services will allow SCE's Fire Science team, Meteorologists, Fire Officers, and others to be alerted and observe fire detections in near-real time, evaluate the intensity of fires, as well as monitor the general spread of fires using satellite technology, HD Cameras, and leverage SCE's Fire Management team fire perimeter tool. SCE's Fire Management team maintains a fire perimeter tool that integrates with SCE's wildfire operational tools. During active fires, this fire perimeter tool allows SCE's Fire Management Officers to rapidly update fire perimeters that may not be readily available from public sources. The technology is the HD FIRE high-resolution camera network.

Q1 2021 Status:

SCE is partnering with UCSD to refine fire detection technology and capabilities within the Alert

wildfire HD Camera network using Satellite detection technologies to confirm the ignition of a wildfire. UCSD and vendors will provide an interface and notification system to SCE with alerts with a high conformation rate of possible fire with the SCE territory. SCE has refined the current operational tools/platform and services to actively track wildfire hazards.

Q1 2021 Lessons Learned:

SCE has learned that current fire satellite detection technology finds false positives and provides a high degree of uncertainty for where fires actually occur. Given these lessons learned, SCE is working closely with UCSD to determine how we can leverage and confirm fires with the Alert Wildfire HD Camera network to increase the confidence of fires that are reported.

Class B Deficiency SCE-9

Name: Lack of detail regarding Pole Loading Assessment Program.

Category: Asset Management and Inspections

Class: B

Deficiency:

In its WMP, SCE indicates the goal of its Pole Loading Assessment Program (PLP) is to assess the structural integrity of approximately 1.4 million poles by 2021. SCE's WMP did not include any detail regarding its PLP. SCE's WMP did not include any detail regarding how much of this work is complete nor how, when and where SCE intends to complete this work during this plan period. This lack of detail impedes WSD's ability to evaluate the program's feasibility or audit its progress and likelihood of completion.

Condition:

In a quarterly report, SCE shall submit GIS files detailing:

- i. areas where PLP assessments have been completed during the prior reporting period, and
- ii. areas where PLP assessments are planned for the following quarter.

Response:

For purposes of this QDR, SCE is providing information related to PLP assessments in HFRA given that these areas constitute the WSD's direction for wildfire mitigation efforts. Please see the geodatabase that includes the PLP assessments completed in HFRA from January through March 2021 and forecast PLP assessments in HFRA from April through June 2021. SCE also responds to each condition below.

SCE's Pole Loading Program (PLP) predates WMPs by several years. SCE initiated its PLP in 2013 and included it in its 2015 GRC request. It was subsequently authorized in Decision (D.) 15-11-021, and re-authorized in its 2018 GRC in D.19-05-020. As described in Section 7.3.4.13 of our 2021 WMP Update, the PLP is a comprehensive program to assess pole loading of all poles in SCE's service area (HFRA and non-HFRA) for General Order 95 safety compliance, and repair, remediate or replace poles that do not meet the adequate safety factors. Please also see Section 7.3.2.4.13 in SCE's 2021 WMP Update for further details.

A pole can be overloaded due to, for example, added electrical equipment, degradation over time or added load from third-party attachments such as telecommunication lines. Though PLP improves safety and reliability including reducing ignition risks associated with pole failure from overloading, PLP is primarily a compliance program and not one driven by wildfire risk reduction or one of SCE's wildfire mitigation initiatives included in our 2020-2022 WMP and 2021 WMP Update. However, SCE prioritized pole assessments in high-fire and high-wind areas when PLP was initiated in 2014. SCE has completed over 1.3 million pole assessments since 2014 and expects to complete assessments on the entire system in 2021 at which time this

program will cease. For purposes of this deficiency, SCE is providing information related to PLP assessments in HFRA given that these areas constitute the Commission's direction for wildfire mitigation efforts. Please see the geodatabase that includes the PLP assessments completed in HFRA from January through March 2021 and forecast PLP assessments in HFRA from April through June 2021, pursuant to the GIS Data Schema. SCE also responds to each condition below.

i. areas where PLP assessments have been completed during the prior reporting period

Preliminary results indicate SCE completed 323 pole assessments in HFRA between January 1 and March 31, 2021. As noted above, work completed in March 2021 is still under review.

ii. areas where PLP assessments are planned for the following quarter

SCE forecasts to assess approximately 828 pole assessments in HFRA between April and June 2021 but notes this approximate 90-day plan may not be fully executed due to operational constraints. As SCE nears the end of PLP assessments, the remaining poles present customer and other access challenges along with data cleanup on structures and locations, which increase scheduling and planning uncertainty. SCE is actively resolving these challenges. Customers sometimes deny access to their properties where poles are located or are not available when needed, requiring additional process steps to negotiate access or resolve disputes, sometimes through litigation. SCE has also experienced access issues due to customer COVID-19 concerns and anticipates these concerns will continue to manifest until the pandemic has subsided.

Additionally, hard-to-access poles that are unsafe to patrol by foot require an aerial assessment. The PLP team has collaborated with SCE's Aerial Operations team to develop a schedule to conduct these aerial assessments but notes that aerial operations can be diverted to higher priority work that can require re-scheduling these PLP assessments.

Class B Deficiency SCE-20

Name: Potential notification fatigue from frequency of PSPS communications.

Category: Emergency Planning and Preparedness

Class: B

Deficiency:

SCE's rapid expansion of PSPS implementation and the associated decision-making to "call" a PSPS, led to constant and persistent PSPS events in the summer of 2019. Given PSPS notification requirements, this led SCE's customers and public safety partners to experience notification fatigue, which could potentially reduce the effectiveness of SCE's notifications. Striking the right balance for timely and accurate notifications is paramount to effective emergency planning and preparedness. SCE's PSPS notifications in 2019 were criticized for being overwhelming, inaccurate or confusing.

Condition:

In its quarterly report, SCE shall detail:

- i. its plans for ensuring PSPS notifications are both timely and accurate,
- ii. the number of PSPS events initiated during the prior quarter,
- iii. the number of pre-event notifications sent for each event, and
- iv. the number of false-positive pre-event notifications (i.e. a customer was notified of an impending PSPS event that did not occur) for each event.

Response:

SCE previously shared its methodology related to ensuring timely and accurate notifications in the WMP Action Statements submitted on February 26, 2021. Since February, there have been a few updates to SCE's methodology which are detailed below in Condition i. In response to conditions ii. – iv., Table SCE 20.1 and Table SCE 20.2 are updated with customer notification counts and Jurisdiction and Public Safety Partner notifications from January to March 2021, respectively.– iv., Table SCE 20.1 and Table SCE 20.2 are updated with customer notification counts and Jurisdiction and Public Safety Partner notification counts from January to March 2021, respectively.

Condition i:

In Q1 2021, SCE initiated one PSPS event. Based on this event and other past experiences, SCE continued to revise its processes and protocols to incorporate lessons learned during previous de-energization and re-energization activities.

In advance of data automation and other digital enhancements that should improve accuracy and timeliness as mentioned in SCE's Corrective Action Plan (Action Plan) filed on February 12, 2021, SCE has made the following operational changes:

- SCE will send imminent de-energization notifications when reaching a pre-set threshold for each segment. This should improve ability to send imminent notifications in a timely manner, reduce missed imminent notifications, and reduce over-notification that had happened when notifying at the circuit but de-energizing at the segment level. The threshold is set for each event, based on the complexity of the event.

- SCE will send de-energization notifications when de-energization is authorized by the incident commander instead of after confirmation that power has been shut off. This should speed de-energization notifications and reduce missed notifications.
- SCE will publish monitored circuit maps for all customers at the 72-hour mark immediately following release of maps to public safety partners (currently on REST service and after June 1 also on new Public Safety Partner portal). This should reduce confusion when public safety partners alert customers before SCE notifies them at the 48-hour mark. Given the lack of forecasting granularity in this time frame, to prevent over-notification, SCE will not be sending customer notifications at the 72-hour mark.
- SCE will provide pre-event and update notifications based on weather reporting once a day rather than twice a day. This should improve accuracy, reduce churn and reduce over-notification.

Conditions ii. – iv.:

SCE sends several kinds of PSPS notifications in alignment with regulatory requirements, broadly categorized as customer service notifications and notifications sent to local and tribal governments, Community Choice Aggregators, federal and state legislative offices, Community Based Organizations, key contacts at Independent Living Centers, 2-1-1 operators, and the American Red Cross and other public safety partners. SCE sends several kinds of PSPS notifications in alignment with regulatory requirements, broadly categorized as customer service notifications and jurisdiction and public safety partner notifications. Once weather conditions at individual circuits are forecast to breach thresholds and an SCE IMT is activated to manage the upcoming event, notifications are sent to potentially affected customers and agencies, at the intervals specified in the PSPS Guidelines.⁷

Customer service notifications begin with in-scope notifications to critical infrastructure providers, impacted jurisdictions and public safety partners three days in advance and subsequently every day in advance, customer notifications two days in advance, one day in advance and on the day of a forecast event, when possible. These notifications are designed to inform customers that SCE might need to de-energize their circuits or circuit segment as part of an upcoming PSPS event. Update notifications are also sent noting changes in weather forecasts that could take them out of scope for the event or return them to scope. Update notifications are also sent noting changes in weather forecasts that could take them out of scope for the event or return them to scope. SCE interprets all these customer notifications to be “pre-event” notifications. SCE will not de-energize circuits or segments that are unlikely to meet pre-set thresholds for de-energization. SCE considers these in-scope notifications to be a prudent step meant to give customers and public safety partners an advance warning of a potential de-energization and the ability to put into action their emergency plans.

Should a de-energization be necessary because of the real-time risk to a circuit, SCE sends “imminent de-energization notifications,” which are delivered 1-4 hours before a PSPS de-energization, when possible.⁸ On the customer notification side, these notifications are sent only to customers on the targeted circuit or circuit segment. Jurisdiction and public safety partner notifications are sent to all impacted jurisdictions, grouped by county and include a

⁷ See D.19-05-042, Appendix A.

⁸ At times weather conditions change too rapidly to allow notification in a 1-4 hour ahead timeframe. If this occurs, SCE explains the occurrence in its PSPS post-event report.

spreadsheet of circuits in scope by county.

Once de-energization occurs, SCE sends a de-energization confirmation notification to affected customers and to jurisdictions and public safety partners letting them know that they have indeed been de-energized because of PSPS. Next, customers and jurisdictions and public safety partners are sent an imminent re-energization notice when the period of concern has ended, and SCE begins to patrol the circuit prior to restoration. Customers also receive a confirmation notice once re-energization is completed. Lastly, SCE sends an “all clear” notification once a PSPS event has completely ended.

WSD defined false-positive pre-event notifications as a customer being notified of an impending PSPS event that did not occur. “Impending” can be reasonably interpreted to mean “imminent” or customers who were noticed 1-4 hours before the PSPS de-energization. However, in the spirit of transparency, SCE has provided all the notification information along with the actual de-energization information in its post-event reports.

SCE notes that “false positives” do not stem from incorrect data, but rather from actual ground conditions varying from forecast conditions. This variance is inherent in every weather forecast application because of the constantly changing nature of emergent weather.

SCE recognizes the impact of notifications and potential notification fatigue and makes every effort to avoid sending unnecessary communications during PSPS events. However, SCE must balance the risk of notifying customers too frequently with the risk of inadequate or late notification of PSPS events, which can leave customers unprepared for service interruptions for extended hours. SCE’s decision-making process for PSPS events responds to weather conditions, which may change rapidly or unpredictably. The risk of late notifications leading to under-preparation may outweigh the risks associated with notifications of potential PSPS de-energizations that do not materialize and potential over-preparation.

As mentioned earlier, SCE sends notifications to Jurisdiction and Public Safety Partner notifications. Jurisdiction and Public Safety Partner SCE’s Liaison Officer also sends notifications to its affected stakeholders including city, county and tribal government officials, public safety partners, community choice aggregators, state and federal legislative offices, key contacts at ILCs, 2-1-1 operators, and the American Red Cross. The main difference between customer service and jurisdictions and public safety partners notifications is that jurisdictions and public safety partners “in-scope” notifications are sent starting at the three-day mark – one day prior to general Customer notifications, and then in a daily cadence through the lifetime of the PSPS event as well as in real time during the PSPS de-energization. Jurisdiction and Public Safety Partner notifications are provided to share situational information as SCE knows it. To reduce notification fatigue while continuing to provide stakeholders with timely information about possible future PSPS events, stakeholders are encouraged to leverage their own group email address and control frequency and distribution on their side so the appropriate people are receiving the level of information they require while not overwhelming others. The Jurisdiction and Public Safety Partner distribution list is based on contact information provided by each organization.

The tables below provide the notification summary for the PSPS events initiated during the prior quarter (January 2021 to March 2021), in which SCE initiated one PSPS event. Customer notifications are counted by individual recipients who have opted in to receive notifications, whereas Jurisdiction and Public Safety Partner notifications are counted by notification campaigns not the number of individual contacts that were sent notifications.

**Table SCE 20.1
Customer Notifications
PSPS Events (January 2021 – March 2021)**

Category	Event Period: 1/12/21 – 1/21/21
Pre-event (In-Scope) notifications sent	317,610
Imminent De-energization notifications sent	80,810
De-energize confirmations notification sent	49,680
Imminent Re-energization notifications	60,860
Re-energize confirmations notification sent	59,890
All Clear notifications sent	157,340

**Table SCE-20.2
Jurisdiction and Public Safety Partner Notifications⁹
PSPS Events (January 2021 – March 2021)**

Category	Event Period: 1/12/21 – 1/21/21
Pre-event (In-Scope) notifications sent	7
Imminent De-energization notifications sent	200
De-energize confirmations notification sent	126
Imminent Re-energization notifications	145
Re-energize confirmations notification sent	169
All Clear notifications sent	9

⁹ Because SCE employs circuit segmentation when possible to limit customer impacts, it can be the case that SCE sends Jurisdiction and Public Safety Partner notifications multiple times to a given circuit, based on a potential de-energization to a new portion of that circuit. When restoring, SCE may re-energize the circuit all at once, leading to fewer all-clear notices than de-energization notices for that circuit.

V. APPENDIX A

Appendix A Analysis That Led SCE To Target Specific Areas For Initiatives in Q1 2021

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to 2021 WMP Update
1	IN-1.1	Distribution Ground / Aerial Inspections and remediations	<p>Beginning in inspection year 2020, SCE embarked on an effort to reimage it's asset inspection programs, moving from a strictly compliance-based program to one that prioritizes the inspection of the highest risk assets throughout the service area consistent with regulatory compliance obligations. Specifically, in the Overhead Detailed Inspection (ODI) space, SCE implemented a risk characterization and prioritization schema so that the highest risk assets in SCE's High-Fire Risk Areas (HFRA) would be inspected earlier in the inspection cycle and on a more frequent basis. The primary objective of this program being to identify and mitigate any potential system issues prior to peak fire season.</p> <p>The risk model SCE deployed to prioritize asset inspections was based on the probability of asset failure and the potential consequence of destruction if that particular asset failure were to occur. The 2021 scope is based on the Technosylva model Utilizing this risk model, the HFRA inspection scope was identified and prioritized for operational execution. The structures that were identified as the highest risk were individually identified, plotted, and scheduled for inspection. As opposed to inspecting entire grids as was the practice under the normal compliance-driven program, individual structures were prioritized for inspection based on their risk characteristics, thus allowing the company to inspect the highest risk assets throughout the entire service territory before peak fire season. The objective of this inspection methodology was to reduce the overall system risk in the most vulnerable areas by clustering the highest risk poles together in individual Work Orders for our Electrical System Inspectors (ESIs) to perform detailed inspections. Also included in the work scope is compliance-due structures in HFRA.</p> <p>Additionally, prior to the typical start of the 2021 fire season, SCE has identified Areas of Concern (AOCs) in its HFRA, primarily driven by elevated dry fuel levels that pose increased fuel-driven and wind-driven fire risk. This threat is magnified during periods of high wind, high temperatures and low humidity. In order to mitigate emergent risk, SCE is accelerating inspections, remediation and vegetation trimming (and potentially identifying new inspections) in the identified AOCs. The methodology to identify AOCs is based on several factors including fire history, weather conditions, fuel type, exposure to wind, egress, etc.</p> <p>The methodologies described above were used to target the recorded and projected areas provided in the geodatabase.</p>	Section 7.3.4.9.1
2	IN-1.2	Transmission Ground / Aerial Inspections and remediations	<p>The Transmission High Fire Risk Informed Inspection program utilizes the same approach as the Distribution High Fire Risk Informed Inspection program (IN-1.1) for prioritizing work. The 2021 scope is based on the Technosylva model. Also included in the work scope is compliance-due structures in HFRA.</p> <p>Additionally, prior to the typical start of the 2021 fire season, SCE has identified Areas of Concern (AOCs) in its HFRA, primarily driven by elevated dry fuel levels that pose increased fuel-driven and wind-driven fire risk. This threat is magnified during periods of high wind, high temperatures and low humidity. In order to mitigate emergent risk, SCE is accelerating inspections, remediation and vegetation trimming (and potentially identifying new inspections) in the identified AOCs. The methodology to identify AOCs is based on several factors including fire history, weather conditions, fuel type, exposure to wind, egress, etc.</p> <p>The methodologies described above were used to target the recorded and projected areas provided in the geodatabase.</p>	Section 7.3.4.10.1
3	IN-3	Infrared Inspection of energized overhead Distribution facilities and equipment	<p>The Distribution Infrared Scanning (DIRS) program targets inspecting / scanning 50% of aggregate HFRA each calendar year and 100% of overhead structures in HFRA every two calendar years. The 2021 infrared inspection scope was based on Tier 2 and Tier 3 HFRA and begins a new two-year cycle with the goal to inspect 50% of the overhead circuits. The prioritization scheme for 2021 DIRS scope was designed to ensure high-risk structures are inspected first based on the Technosylva model. The recorded and projected areas included in the geodatabase are based on the methodology described above.</p>	Section 7.3.4.4
4	IN-4	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead Transmission facilities and equipment	<p>For 2021 scope, SCE used the Technosylva consequence scores and the POI scores to select the highest risk transmission circuit miles in and adjacent to its HFRA. The final projected scope and prioritization may be adjusted based on operating constraints including but not limited to circuit loading and ambient temperature. The recorded and projected areas included in the geodatabase are based on this risk-ranking sequenced by the highest risk circuits and operational constraints such as weather, e.g., because high ambient temperature can make it difficult to detect temperature differentials, inspections are scheduled and performed during cooler days of the year.</p>	Section 7.3.4.5
5	IN-5	Generation Inspections and Remediations	<p>In 2020, SCE adopted a two-year cycle (2020-2021) where 50% of the assets targeted for inspections in 2020 were higher priority facilities in Tier 3 HFRA. Operational efficiencies and constraints are factored into the scheduling and execution of the work 2021 scope is based on the remaining targeted assets in Tier 2 and Tier 3.</p> <p>Additionally, prior to the typical start of the 2021 fire season, SCE has identified Areas of Concern (AOCs) in its HFRA, primarily driven by elevated dry fuel levels that pose increased fuel-driven and wind-driven fire risk. This threat is magnified during periods of high wind, high temperatures and low humidity. In order to mitigate emergent risk, SCE is accelerating inspections, remediation and vegetation trimming (and potentially identifying new inspections) in the identified AOCs. The methodology to identify AOCs is based on several factors including fire history, weather conditions, fuel type, exposure to wind, egress, etc. The methodologies described above were used to target the recorded and projected areas provided in the geodatabase.</p>	Section 7.3.4.9.2

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to 2021 WMP Update
6	VM-1	Hazard Tree Management Program	SCE determines the trees to mitigate based on a two-step process, first selecting higher risk locations and then selecting higher risk trees within these locations. SCE prioritized higher risk locations based on HFRA tier, Tree Caused Circuit Outages (TCCI), and density of vegetation surrounding SCE's facilities, combined with REAX consequence scores. SCE also takes into account operational constraints such as permitting, access and weather conditions in scheduling and executing work. Hazard Trees may also be mitigated as a result of the AOCs described above. These methodologies were used for the recorded and projected areas included in the geodatabase.	Section 7.3.5.16.1
7	VM-2	Expanded Pole Brushing	The recorded and projected areas included in the geodatabase are based on a geographical grid approach and prioritizing poles subject to PRC 4292 taking into account operational efficiencies and constraints.	Section 7.3.5.5.1
8	VM-3	Expanded Clearances for Legacy Facilities	2021 scope considers the HFRA tier level, voltage levels and existing vegetation buffer was utilized to risk rank the locations. The approach combined desktop review and field visits. Tier 3 locations, facilities with higher voltage levels and areas with less existing vegetation buffer were considered higher risk. SCE also takes into account operational constraints such as permitting, access and weather conditions in scheduling and executing work. Expanded clearances may also be mitigated as a result of the AOCs described above. The methodologies described above were used for the recorded and projected areas included in the geodatabase.	Section 7.3.5.5.2
9	VM-4	Dead and Dying Tree Removal	Dead and Dying Tree Removal and associated mitigations cover SCE's full HFRA each year. SCE schedules and executes this work based on operational and resource efficiency and constraints. SCE does prioritize and mitigate hazards posed by dead trees or those that are identified as significantly compromised upon brief visual inspection taking into account constraints such as permitting, access and weather conditions. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 7.3.5.16.2
10	SH-1	Covered Conductor	Beginning in 2019, SCE used the risk scores from the WRM to scope and prioritize the circuit segments for replacing bare conductor with covered conductor. The underlying Potential of Ignition (POI) and consequence score models have undergone several refinements and SCE continues to incorporate these enhanced risk scores into its deployment strategy to the extent practicable. In late 2020, SCE transitioned from using the Reax ignition consequence model to Technosylva and although this refined risk modeling primarily affects 2020 covered conductor scope and beyond it has resulted in some reprioritization of the 2021 circuit-segments. Additionally, the PSPS Action Plan may further reprioritize covered conductor scope over the projected period. In scheduling and executing covered conductor, SCE also considers other factors such as permit requirements, environmental constraints, outages and crew efficiencies. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 7.3.3.3.1
11	SH-6	Circuit Breaker Relay Hardware for Fast Curve	The program identified electrical circuits in HFRA that had old mechanical relays or could reduce risk through relay upgrades and/or fast curve settings. While scoping the projects via job walks and desk top reviews, the locations were evaluated for scope complexity and grouped accordingly. To facilitate successful execution and provide the greatest opportunity for the fastest and most impactful risk reduction, the group of projects with multiple relays and least complexity was released first and largely completed in previous years. 2021-2020 scope focuses on relays that require extensive engineering or that have operational considerations. Prioritization is based on construction and scheduling feasibility rather than region. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 7.3.3.2
12	SH-8	Transmission Open Phase Detection	The Transmission Open Phase Detection (TOPD) effort targets Transmission lines in HFRA. To minimize the complexity, we targeted lines with two terminals and single conductor (wire) per phase. The Transmission lines selected were within a geographical area to avoid impacting multiple locations across SCE's service territory. Pilot locations also needed to have existing Protection devices (Relays) with the ability to harness open phase detection settings/logic files as developed. Finally, engineering judgement and knowledge of existing relay schemes was used to identify the locations for 2021. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 7.3.3.17.1
13	SH-10	Tree Attachment Remediation	The recorded and projected areas included in the geodatabase were prioritized based on Reax risk scores, conductor type, and tree mortality.	Section 7.3.3.3.2
14	SH-11	Legacy Facilities	The recorded and projected areas included in the geodatabase are based on Reax consequence scores of the closest available overhead structure along with the legacy asset's age, last major overhaul date, and operating voltage. Other factors (e.g., unique asset characteristics, HFRA Tier, years since last assessment).	Section 7.3.3.17.2
15	SH-13	C-Hooks Insulator Attachment Hardware Replacements	The recorded and projected areas included in the geodatabase are based on cumulative risk scores at the circuit level, driven by structure POI scores and fire consequence scores from Technosylva.	Section 7.3.3.15.1
16	SH-14	Long Span Initiative Remediation	SCE used risk-ranking from the WRRM to prioritize long span mitigations in all HFRA tiers based on the type of span issue and risk score. The highest risk locations are prioritized by using the probability of the issue leading to an ignition and the fire consequence score (e.g., Reax/Technosylva).	Section 7.3.3.12.1
17	SH-15	Vertical Switches	SCE the following factors in prioritizing replacement of vertical distribution switches: 1) an appropriate switch design form factor is available for the specific location, 2) equipment condition based on prior inspection findings, 3) the location's Technosylva risk score, and 4) the geographical proximity with other switch replacements.	Section 7.3.3.17.3

VI. APPENDIX B NON-SPATIAL DATA (TABLES 1-12)



Wildfire Safety Division Attachment 2.3

Wildfire Mitigation Plan Quarterly report - non-spatial data template

Resolution WSD-011 Attachment 2.3

Instructions for use	
1.	Fill out the tan cells (color represented here) starting with the cell below (D17: Utility). The Utility name will populate the Table tabs to follow. Date modified will vary by table.
2.	Cells will only accept valid entries. For most cells, this is positive numbers
3.	For each Table tab, after a modification is made, denote the date of the change in cell C4 for each Table tab.
4.	Some columns have an additional header in row 5 to serve as clarification for several columns. With the exception of projected data, row 5 will be highlighted in blue (color represented here)
5.	Some required metrics are future projections. For these, row 5, above the projections will be highlighted light green (color represented here) In future submissions, report updated projected numbers if / when projections have changed, and report actuals once the quarter / year has passed.
6.	For data required annually rather than quarterly (see Tables 7.3 - 10), report for entire year even if part of the year is projected. Once year has passed, update cell with actuals
7.	Some tables will have additional instructions provided in a Notes box located in cells D2 - D4 Notes will explain terms, signal where projections are required, and provide other useful information.
8.	For the initial quarterly submission, utilities are required to submit data on annual metrics for 2015 - 2020, which should represent the most updated data from the 2020 WMP for years 2015-2019
*	Do not add or manipulate the template for any of the tabs

Update the below table to establish which year, quarter of the WMP cycle this submission this represents.

Utility	Southern California Edison Company
First year of 3-year WMP cycle	2020
Submission year	2021
Submission quarter	Q1
Date Modified	5/3/2021

1.g.iii.	Level 2 findings in HFTD for patrol inspections - Transmission lines	697	855	977	1,215	15,029	1,245	2,522	549	138	319	# findings	
1.h.iii.	Level 2 findings in HFTD for detailed inspections - Transmission lines	3	1	2	1	14	609	4,400	1,783	961	537	# findings	
1.i.iii.	Level 2 findings in HFTD for other inspections (list types of "other" inspections in comments) - Transmission lines	278	128	408	419	456	15	46	45	85	24	# findings	
1.j.iii.	Level 3 findings in HFTD for patrol inspections - Transmission lines	935	735	719	382	2,545	130	437	166	48	166	# findings	
1.k.iii.	Level 3 findings in HFTD for detailed inspections - Transmission lines	0	2	0	4	3	44	309	366	186	207	# findings	
1.l.iii.	Level 3 findings in HFTD for other inspections (list types of "other" inspections in comments) - Distribution lines	0	0	0	0	103	3	1	0	3	0	# findings	
1.a.iv.	1. Grid condition findings from inspection - Transmission lines total												
	Number of total circuit miles inspected from patrol inspections - Transmission lines	13,068	13,068	13,068	13,068	13,068	3,267	3,267	3,267	3,267	1,713	# circuit miles	For 2015-2017, patrol inspections doubled as detailed inspections being completed on every transmission asset in the service territory. Beginning in 2018, the recorded inspection numbers estimate the patrol type inspections in circuit miles being completed. Additionally, SCE tracks completed inspections by "Grids". SCE's complete transmission line network is broken out into large areas called "Grids" and all execution and tracking are recorded at the grid level. The number being represented uses the current transmission circuit mile counts in HFTD for each year. 2020 in particular, evenly distributes the current transmission mile circuit counts into each quarter.
1.b.iv.	Number of total circuit miles inspected from detailed inspections - Transmission lines	NA	NA	NA	4,210	6,389	2,697	3,189	3,230	2,984	3,958	# circuit miles	This row is the sum of the three detailed inspection programs below it.
	Detailed Inspections	NA	NA	NA	4,210	4,760	697	1,188	1,229	983	823		For 2015-2017, patrol inspections doubled as detailed inspections being completed on every transmission asset in the service territory. Beginning in 2018 the recorded inspection numbers estimate the detail inspections in circuit miles being completed. Additionally, the detailed inspection program completes inspections of 1/3 of all SCE transmission assets per year. The completed inspections are tracked by "Grids". SCE's complete transmission line network is broken out into large areas called "Grids" and all execution and tracking are recorded at the grid level. The number being represented uses 1/3rd of the current transmission circuit mile counts in HFTD for each year. 2020 in particular, evenly distributes the 1/3rd of the current transmission mile circuit counts into each quarter.
	High Fire Inspections	NA	NA	NA	NA	520	1,089	1,089	1,089	1,089	966		SCE tracks completed inspections by tracking the counts of assets inspected instead of tracking by circuit miles. In order to present completed inspections in the requested format, SCE used a calculated average span length multiplied by the number of structures inspected.
	Aerial Inspections	NA	NA	NA	NA	1,109	911	911	911	911	546		SCE tracks completed inspections by tracking the counts of assets inspected instead of tracking by circuit miles. In order to present completed inspections in the requested format, SCE used a calculated average span length multiplied by the number of structures inspected. Additionally, for 2020, SCE tracked the completed asset inspected by the year and in order to represent the 2020 completed asset inspection by quarter, just evenly distributed the completed inspections to each of the four quarters in 2020.
1.c.iv.	Number of total circuit miles inspected from other inspections (list types of "other" inspections in comments) - Transmission lines	6,460	4,592	6,226	7,309	5,529	1,594	1,594	1,594	1,594	267	# circuit miles	This row is the sum of the two programs below that are considered as "other"
	IR Corona	0	0	0	0	0	43	43	43	43	0		For 2020, SCE tracked the completed inspections by the year. In order to represent the 2020 completed inspection by quarter, SCE evenly distributed the completed inspections to each of the four quarters evenly in 2020.
	Intrusive Pole Inspections	6,460	4,592	6,226	7,309	5,529	1,594	1,594	1,594	1,594	267		SCE tracks completed inspections by tracking the counts of assets inspected instead of tracking by circuit miles. In order to present completed inspections in the requested format, SCE used a calculated average span length multiplied by the number of structures inspected. Additionally, for 2020, SCE tracked the completed asset inspected by the year and in order to represent the 2020 completed asset inspection by quarter, SCE just evenly distributed the completed inspections to each of the four quarters in 2020.
1.d.iv.	Level 1 findings for patrol inspections - Transmission lines	241	252	211	178	304	51	51	106	108	48	# findings	
1.e.iv.	Level 1 findings for detailed inspections - Transmission lines	0	1	0	1	0	0	0	1	0	19	# findings	
1.f.iv.	Level 1 findings for other inspections (list types of "other" inspections in comments) - Transmission lines	1	2	2	1	1	7	0	1	0	0	# findings	
1.g.iv.	Level 2 findings for patrol inspections - Transmission lines	3,912	4,600	5,393	5,871	22,007	2,536	3,644	1,200	802	1,486	# findings	
1.h.iv.	Level 2 findings for detailed inspections - Transmission lines	10	8	7	4	37	628	4,494	1,889	1,072	553	# findings	
1.i.iv.	Level 2 findings for other inspections (list types of "other" inspections in comments) - Transmission lines	1,428	583	999	1,150	1,003	101	140	245	375	131	# findings	
1.j.iv.	Level 3 findings for patrol inspections - Transmission lines	7,020	3,350	3,060	1,732	5,049	744	904	475	383	371	# findings	
1.k.iv.	Level 3 findings for detailed inspections - Transmission lines	4	2	1	10	3	44	312	388	210	209	# findings	
1.l.iv.	Level 3 findings for other inspections (list types of "other" inspections in comments) - Transmission lines	1	1	4	3	136	3	2	0	3	0	# findings	
2.	Vegetation clearance findings from inspection - total												
2.a.i	Number of spans inspected where at least some vegetation was found in non-compliant condition - total	NA	NA	NA	NA	2,430	122	522	1,389	849	370	# of spans inspected with noncompliant clearance based on applicable rules and regulations at the time of inspection	Prior to July 2019, SCE's work management system did not track the reason why a tree was trimmed, just that trimming was required. In other words, a tree may have been trimmed because it was nearing the regulatory clearance distance (RCD) or because it was inside the RCD. Starting in July of 2019, SCE implemented a new work management system that required inspectors to document whether the tree was found inside the RCD, or other SCE program distances related to clearance which exceed RCD clearance. The historical numbers were updated as a calculation error was discovered.
2.a.ii	Number of spans inspected for vegetation compliance - total	NA	NA	NA	NA	120,314	34,719	53,842	64,299	67,392	61,691	# of spans inspected for vegetation compliance	SCE tracks completed vegetation compliance inspections by circuit miles. In order to present completed vegetation compliance inspections in the requested format, SCE divided the recorded circuit miles inspected by the calculated average span length. The historical numbers were updated as a calculation error was discovered.
2.	Vegetation clearance findings from inspection - in HFTD												
2.b.i	Number of spans inspected where at least some vegetation was found in non-compliant condition in HFTD	NA	NA	NA	NA	530	32	135	306	242	104	# of spans inspected with noncompliant clearance based on applicable rules and regulations at the time of inspection	SCE tracks findings by count and does not record specific data that associate the findings to a specific span. Therefore SCE is unable to understand how many findings are on each span. The number being presented are just the counts of findings.
2.b.ii	Number of spans inspected for vegetation compliance in HFTD	NA	NA	NA	NA	25,479	8,996	13,089	12,870	18,168	15,186	# of spans inspected for vegetation compliance	SCE tracks completed vegetation compliance inspections by circuit miles. In order to present completed vegetation compliance inspections in the requested format, SCE divided the recorded circuit miles inspected by the calculated average span length.
3.	Customer outreach metrics												
3.a.	# Customers in an evacuation zone for utility-ignited wildfire	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	# customers (if customer was in an evacuation zone for multiple wildfires, count the customer for each relevant wildfire)	SCE has no jurisdiction over evacuation orders. SCE diligently requested and followed up with local governments and law enforcement, and was only able to obtain information from one county. Even then, the information provided included high-level estimations of evacuation counts estimated by the local government and law enforcement entity for a limited amount of fires. Because of this, SCE is unable to obtain the requested data, analyze it, and report on evacuation related requirements in this table. SCE anticipates this to be a recurring challenge going forward.
3.b.	# Customers notified of evacuation orders	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	# customers (count customer multiple times for each unique wildfire of which they were notified)	SCE has no jurisdiction over evacuation orders. SCE diligently requested and followed up with local governments and law enforcement, and was only able to obtain information from one county. Even then, the information provided included high-level estimations of evacuation counts estimated by the local government and law enforcement entity for a limited amount of fires. Because of this, SCE is unable to obtain the requested data, analyze it, and report on evacuation related requirements in this table. SCE anticipates this to be a recurring challenge going forward.
3.c.	% of customers notified of evacuation in evacuation zone of a utility-ignited wildfire	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Percentage of customers notified of evacuation	SCE has no jurisdiction over evacuation orders. SCE diligently requested and followed up with local governments and law enforcement, and was only able to obtain information from one county. Even then, the information provided included high-level estimations of evacuation counts estimated by the local government and law enforcement entity for a limited amount of fires. Because of this, SCE is unable to obtain the requested data, analyze it, and report on evacuation related requirements in this table. SCE anticipates this to be a recurring challenge going forward.

Utility	Southern California Edison Company	Notes:
Table No.	2	Transmission lines refer to all lines at or above 65kV, and distribution lines refer to all lines below 65kV.
Date Modified	5/3/2021	

Note: These columns are placeholders for future QR submissions.

Table 2: Recent performance on outcome metrics

Metric type	#	Outcome metric name	2015	2016	2017	2018	2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Unit(s)	Comments
1. Risk events	1.a.	Number of all events with probability of ignition, including wires down, contacts with objects, line slap, events with evidence of heat generation, and other events that cause sparking or have the potential to cause ignition	12,337	12,406	13,243	14,635	16,794	2,902	3,368	5,077	3,178	3,578								Number per year	
	1.b.	Number of wires down (total)	1,532	1,865	1,639	1,217	1,524	391	537	523	593	503								Number of wires down per year	
	1.c.	Number of outage events not caused by contact with vegetation (total)	11,930	11,833	12,621	14,211	16,260	2,798	3,298	5,051	3,062	3,554								Number of outage events per year	
	1.d.	Number of outage events caused by contact with vegetation (total)	407	573	622	424	534	104	70	26	116	95								Number of outage events per year	
2. Utility inspection findings - Distribution	2.a.	Number of Level 1 findings (distribution - total)	19,559	22,364	23,598	20,998	24,028	4,857	5,595	6,993	5,634	5,307								# findings	
	2.b.	Number of Level 2 findings (distribution - total)	92,109	79,438	69,257	82,818	150,166	23,217	24,739	22,511	25,372	21,731								# findings	
	2.c.	Number of Level 3 findings (distribution - total)	85,588	77,057	64,408	72,774	189,600	14,381	19,487	19,984	21,075	18,450								# findings	
	2.d.	Number of distribution circuit miles inspected	51,792	51,848	51,228	77,908	69,596	6,496	31,118	19,189	11,733	12,685								# circuit miles	This total is a summation of all the completed distribution inspection program circuit miles, therefore will be a significantly larger number than the circuit miles of the distribution system.
2. Utility inspection findings - Transmission	2.a.ii	Number of Level 1 findings (transmission - total)	242	255	213	180	305	58	51	108	108	67								# findings	Transmission lines for faults and wire downs are typically 65kV and above, but may include some lower voltages (such as 55kV and 33kV).
	2.b.ii	Number of Level 2 findings (transmission - total)	5,350	5,191	6,399	7,025	23,047	3,265	8,278	3,334	2,249	2,170								# findings	
	2.c.ii	Number of Level 3 findings (transmission - total)	7,025	3,353	3,065	1,745	5,188	791	1,218	863	596	580								# findings	
	2.d.ii	Number of transmission circuit miles inspected	19,528	17,661	19,295	24,588	24,986	7,558	8,050	8,091	7,845	5,937								# circuit miles	This total is a summation of all the completed transmission inspection program circuit miles, therefore will be a significantly larger number than the circuit miles of the transmission system.
3. Utility ignited wildfire fatalities	3.a.	Fatalities due to utility-ignited wildfire (total)	0	0	2	3	1	0	0	0	0	0								Number of fatalities per year	The information provided in conjunction with the "utility-ignited" wildfire statistics should not be construed as an admission of any wrongdoing or liability by SCE. SCE further notes that the damages metrics provided may be tracked by other agencies and thus, SCE does not guarantee the accuracy of such information. Additionally, in many instances the cause of wildfires are still under investigation and even where an Authority Having Jurisdiction (AHJ) has issued a report on the cause, SCE may dispute the conclusions of such report.
	3.b.	Injuries due to utility-ignited wildfire (total)	0	3	2	3	3	0	0	6	2	0								Number of injuries per year	Data provided includes wildfires reported in SCE's Fire Incident Data Report, Electric Incident Safety Report and fatalities data from CAL FIRE. Thomas and Woosley CAL FIRE data contributed to the entirety of the 2017 and 2018 values. The information provided in conjunction with the "utility-ignited" wildfire statistics should not be construed as an admission of any wrongdoing or liability by SCE. SCE further notes that the damages metrics provided may be tracked by other agencies and thus, SCE does not guarantee the accuracy of such information. Additionally, in many instances the cause of wildfires are still under investigation and even where an Authority Having Jurisdiction (AHJ) has issued a report on the cause, SCE may dispute the conclusions of such report. Data provided includes wildfires reported in SCE's Fire Incident Data Report and Electric Incident Safety Report.
4. Value of assets destroyed by utility-ignited wildfire, listed by asset type	4.a.	Value of assets destroyed by utility-ignited wildfire (total)	\$ 21,944,989	\$ 483,632,927	\$ 1,601,205,795	\$ 3,342,821,539	\$ 21,714,000	\$ 150,400	\$ 300,800	\$ 120,688,284	\$ 12,082,300	\$ 169,200								Dollars of damage or destruction per year	The information provided in conjunction with the "utility-ignited" wildfire statistics should not be construed as an admission of any wrongdoing or liability by SCE. SCE further notes that the damages metrics provided may be tracked by other agencies and thus, SCE does not guarantee the accuracy of such information. Additionally, in many instances the cause of wildfires are still under investigation and even where an Authority Having Jurisdiction (AHJ) has issued a report on the cause, SCE may dispute the conclusions of such report. Asset type listed is either SCE or Third Party. Asset per the WSD guidance is utility electrical equipment or third party property. SCE asset value using a per unit cost based on the identified equipment failure for each CPUC reportable ignition. Data provided includes wildfires reported in SCE's Fire Incident Data Report, Electric Incident Safety Report and asset value data from CAL FIRE and the California Department of Insurance. Where third party source of information was unavailable, SCE applied a proxy cost per structure destroyed of \$819,472 based on its methodology used in its RAMP report. The California Department of Insurance and proxy cost data use information from insured claims.
5. Structures damaged or destroyed by utility-ignited wildfire	5.a.	Number of structures destroyed by utility-ignited wildfire (total)	45	290	1,072	1,667	26	0	0	47	13	0								Number of structures destroyed per year	The information provided in conjunction with the "utility-ignited" wildfire statistics should not be construed as an admission of any wrongdoing or liability by SCE. SCE further notes that the damages metrics provided may be tracked by other agencies and thus, SCE does not guarantee the accuracy of such information. Additionally, in many instances the cause of wildfires are still under investigation and even where an Authority Having Jurisdiction (AHJ) has issued a report on the cause, SCE may dispute the conclusions of such report. Structure is defined as a dwelling, per WSD guidance. Data provided includes wildfires reported in SCE's Fire Incident Data Report and Electric Incident Safety Reports and structures destroyed data from CAL FIRE.
	5.b.	Critical infrastructure damaged/destroyed by utility-ignited wildfire (total)	NA	NA	36	31	NA	NA	NA	NA	NA	NA								Number of critical infrastructure damaged/destroyed per year	The information provided in conjunction with the "utility-ignited" wildfire statistics should not be construed as an admission of any wrongdoing or liability by SCE. SCE further notes that the damages metrics provided may be tracked by other agencies and thus, SCE does not guarantee the accuracy of such information. Additionally, in many instances the cause of wildfires are still under investigation and even where an Authority Having Jurisdiction (AHJ) has issued a report on the cause, SCE may dispute the conclusions of such report. Data was drawn from available subrogation claims. These numbers may be updated as more information becomes available.
6. Acreage burned by utility-ignited wildfire	6.a.	Acreage burned by utility-ignited wildfire (total)	15,711	82,897	292,051	97,240	22,784	4	574	115,871	12,863	12								Acres burned per year	The information provided in conjunction with the "utility-ignited" wildfire statistics should not be construed as an admission of any wrongdoing or liability by SCE. SCE further notes that the damages metrics provided may be tracked by other agencies and thus, SCE does not guarantee the accuracy of such information. Additionally, in many instances the cause of wildfires are still under investigation and even where an Authority Having Jurisdiction (AHJ) has issued a report on the cause, SCE may dispute the conclusions of such report. Data provided includes wildfires reported in SCE's Fire Incident Data Report and Electric Incident Safety Reports and acreage burned data from CAL FIRE.
7. Number of utility wildfire ignitions	7.a.	Number of ignitions (total) according to existing ignition data reporting requirement	107	96	105	110	124	16	56	45	32	28								Number per year	Data are from SCE's CPUC reportable ignitions data set. Historical numbers were updated due to a tabulation error.
	7.b.	Number of ignitions in HFTD (subtotal)	45	41	32	37	35	3	21	17	9	7								Number in HFTD per year	
	7.c.	Number of ignitions in HFTD Zone 1	0	0	0	0	0	0	0	0	0	0								Number in HFTD Zone 1 per year	
	7.c.ii.	Number of ignitions in HFTD Tier 2	13	12	9	15	13	1	5	6	3	1								Number in HFTD Tier 2 per year	
	7.c.iii.	Number of ignitions in HFTD Tier 3	32	29	23	22	22	2	16	11	6	6								Number in HFTD Tier 3 per year	
	7.d.	Number of ignitions in Non-CPUC HFTD	1	0	3	1	3	0	0	0	0	0								Number in Non-CPUC HFTD	
	7.d.	Number of ignitions in non-HFTD (subtotal)	61	55	70	72	86	13	35	28	23	21								Number in non-HFTD per year	
8. Fatalities resulting from utility wildfire mitigation initiatives	8.a.	Fatalities due to utility wildfire mitigation activities (total) - "activities" defined as all activities accounted for in the 2020 WMP proposed WMP spend	0	0	0	0	0	1	0	0	0	0								Number of fatalities per year	By providing this data, SCE is not admitting that 1) any responsibility or liability for any incident reported herein or 2) that a wildfire mitigation activity caused a fatality.
9. OSHA-reportable injuries from utility wildfire mitigation initiatives	9.a.	OSHA-reportable injuries due to utility wildfire mitigation activities (total) - "activities" defined as all activities accounted for in the 2020 WMP proposed WMP spend	0	0	0	0	1	0	1	3	0	0								Number of OSHA-reportable injuries per year	By providing this data, SCE is not admitting that 1) any responsibility or liability for any incident reported herein or 2) that a wildfire mitigation activity caused an injury.

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Note: These columns are placeholders for future QR submissions.

Table 3: List and description of additional metrics

Metric	Definition	Purpose	Assumptions made to connect metric to purpose	Third-party validation (if any)	2015	2016	2017	2018	2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Unit(s)	Comments
CPUC reportable ignitions in High Fire Risk Areas (HFRA)	Events meeting reportable ignition status per Decision 14-02-015 and falling within BL322, HFTD Zone 1 HFTD Tier 2 and 200 ft. Outer Buffer, and HFTD Tier 3 and 200 ft. Outer Buffer areas	To measure changes in rate of ignitions between years	Factors outside of SCE's control (e.g., wind, live fuel moisture) have a significant effect on CPUC reportable ignition counts in HFRA.	Annual submission of CPUC reportable ignition totals to CPUC	46	41	35	37	38	3	22	16	9	7								Number of reportable ignitions in HFRA	HFRA includes HFTD Tier 3, HFTD Tier 2, HFTD Zone 1, and BL322 (non-CPUC HFRA)
Faults in HFRA	Events in which electrical current deviates from the anticipated path via SCE facilities within BL322, HFTD Zone 1 HFTD Tier 2 and 200 ft. Outer Buffer, and HFTD Tier 3 and 200 ft. Outer Buffer areas	To measure changes in rate of fault events which are a pre-cursor both ignition and safety events	Number of faults in HFRA based on cause. These metrics may help to provide insight on controllable and uncontrollable risks or help plan future activities to focus on a particular type of fault or outage that may be of wildfire risk.	Deep-dive audits of select portions of utility grid	3,723	4,004	4,286	4,558	6,578	1011	1147	1436	1132	912								Number of faults in HFRA	HFRA includes HFTD Tier 3, HFTD Tier 2, HFTD Zone 1, and BL322 (non-CPUC HFRA). Note: SCE is incorporating additional Transmission outage data as an improvement to its outage reporting. Historical reporting has been revised to reflect the additional Transmission outage data.
Wire Down Incidents in HFRA	Events in which SCE overhead conductors (energized or de-energized) fall within 8ft above ground or lower, within BL322, HFTD Tier 2 and 200 ft. Outer Buffer, and HFTD Tier 3 and 200 ft. Outer Buffer areas	To measure changes in rate of wire down events which are a pre-cursor both ignition and safety events	Number of wire down incidents in HFRA based on cause. These metrics may help to provide insight on controllable and uncontrollable risks or help plan future activities to focus on a particular type of fault or outage that may be of wildfire risk.	Deep-dive audits of select portions of utility grid	245	338	304	199	303	72	86	77	85	116								Number of wire downs per year in HFRA	HFRA includes HFTD Tier 3, HFTD Tier 2, HFTD Zone 1, and BL322 (non-CPUC HFRA)
Number of customers and average duration of Public Safety Power Shutoff (PSPS) events																							
Total # of customers de-energized	Count of customers de-energized, with duplicates, per year	To measure the scale of impact of outages due to PSPS to customers, with duplicates	Not Applicable	Not Applicable	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Refer to Table 11, # 4.a.	Number of customers	None
Average duration of de-energization across all customers.	Average outage duration experienced by PSPS de-energization per customer de-energized	Of the customers de-energized due to PSPS, to measure the magnitude of the effect of the PSPS de-energization	Not Applicable	Not Applicable	N/A	N/A	30.3	23.2	27	N/A	N/A	2.2	18.3	23.9								Hours	Applies to each instance of a customer being de-energized due to PSPS
Timeliness and accuracy of PSPS notifications																							
% of customers notified prior to a PSPS event impacting them	# of customers notified prior to initiation of PSPS event who were impacted by PSPS/ # of customers impacted by PSPS (if multiple PSPS events impact the same customer, count each event as a separate customer)	To measure success rate of notification for the customers who were impacted by de-energization	Not Applicable	Not Applicable	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Refer to Table 11, # 4.e.	Percentage	None
% of customers notified prior to a PSPS event that did not impact them	% of customers notified of potential de-energization that were not de-energized for that PSPS event (on a total customer basis) 1 - (# of total customers de-energized / # of imminent de-energization notifications sent)	To measure the occurrence of PSPS notifications and de-energizations	Not Applicable	Not Applicable	N/A	N/A	N/A	N/A	N/A	N/A	100%	39%	61%	65%								% of customers notified of imminent potential de-energization that were not de-energized for that PSPS event (on a total customer basis)	This data was not recorded prior to 2020.

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Note: These columns are placeholders for future QR submissions.

Table 4: Fatalities due to utility wildfire mitigation initiatives

Metric type	#	Outcome metric name	2015	2016	2017	2018	2019	2020	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Unit(s)	Comments
1. Fatalities - Full-time Employee	1.a.	Fatalities due to utility inspection - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	1.b.	Fatalities due to vegetation management - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	1.c.	Fatalities due to utility fuel management - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	1.d.	Fatalities due to grid hardening - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	1.e.	Fatalities due to other - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
2. Fatalities - Contractor	2.a.	Fatalities due to utility inspection - Contractor	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	2.b.	Fatalities due to vegetation management - Contractor	0	0	0	0	0	0	1	0	0	0	0								# fatalities	By providing this data, SCE is not admitting: 1) any responsibility or liability for any incident reported herein or 2) that a wildfire mitigation activity caused a fatality.
	2.c.	Fatalities due to utility fuel management - Contractor	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	2.d.	Fatalities due to grid hardening - Contractor	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	2.e.	Fatalities due to other - Contractor	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
3. Fatalities - Member of public	3.a.	Fatalities due to utility inspection - Public	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	3.b.	Fatalities due to vegetation management - Public	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	3.c.	Fatalities due to utility fuel management - Public	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	3.d.	Fatalities due to grid hardening - Public	0	0	0	0	0	0	0	0	0	0	0								# fatalities	
	3.e.	Fatalities due to other - Public	0	0	0	0	0	0	0	0	0	0	0								# fatalities	

Note: These columns are placeholders for future QR submissions.

Table 5: OSHA-reportable injuries due to utility wildfire mitigation initiatives.

Metric type	#	Outcome metric name	2015	2016	2017	2018	2019	2020	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Unit(s)	Comments
1. OSHA injuries - Full-time Employee	1.a.	OSHA injuries due to utility inspection - Full-time employee	0	0	0	0	1	0	0	0	0	0	0								# OSHA-reportable injuries	SCE's 2020 WMP inadvertently excluded an injury that an employee incurred during the course of asset inspections.
	1.b.	OSHA injuries due to vegetation management - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	1.c.	OSHA injuries due to utility fuel management - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	1.d.	OSHA injuries due to grid hardening - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	In a data request response to WSD dated August 14, 2020, SCE inadvertently classified a serious injury to an employee as incurred during performance of a wildfire mitigation initiative. That employee was replacing a deteriorated pole, which is not a wildfire mitigation initiative and as such, that incident is not included in this data. By providing this data, SCE is not admitting that 1) any responsibility or liability for any incident reported herein or 2) that a wildfire mitigation activity caused an injury.
	1.e.	OSHA injuries due to other - Full-time employee	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
2. OSHA injuries - Contractor	2.a.	OSHA injuries due to utility inspection - Contractor	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	2.b.	OSHA injuries due to vegetation management - Contractor	0	0	0	0	0	0	0	1	0	0	0								# OSHA-reportable injuries	In a data request response to WSD dated August 14, 2020, SCE inadvertently classified an injury to a contractor as OSHA-reportable when it actually did not meet that definition and as such, that incident is not included in this data. By providing this data, SCE is not admitting that 1) any responsibility or liability for any incident reported herein or 2) that a wildfire mitigation activity caused an injury.
	2.c.	OSHA injuries due to utility fuel management - Contractor	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	2.d.	OSHA injuries due to grid hardening - Contractor	0	0	0	0	0	0	0	0	3	0	0								# OSHA-reportable injuries	In a data request response to WSD dated August 14, 2020, SCE inadvertently classified a serious injury to a contractor as incurred during performance of a wildfire mitigation initiative. That contractor was replacing a deteriorated pole, which is not a wildfire mitigation initiative and as such, that incident is not included in this data. By providing this data, SCE is not admitting that 1) any responsibility or liability for any incident reported herein or 2) that a wildfire mitigation activity caused an injury.
	2.e.	OSHA injuries due to other - Contractor	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
3. OSHA injuries - Member of public	3.a.	OSHA injuries due to utility inspection - Public	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	3.b.	OSHA injuries due to vegetation management - Public	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	3.c.	OSHA injuries due to utility fuel management - Public	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	3.d.	OSHA injuries due to grid hardening - Public	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	
	3.e.	OSHA injuries due to other - Public	0	0	0	0	0	0	0	0	0	0	0								# OSHA-reportable injuries	

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Note: These columns are placeholders for future QR submissions.

Table 6: Weather patterns			2015	2016	2017	2018	2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Unit(s)	Comments
Metric type	#	Outcome metric name																			
1. Red Flag Warning Overhead circuit mile Days	1.a.	Red Flag Warning Overhead circuit mile days - entire utility territory	80,504	286,327	476,404	283,806	201,423	0	24,845	62,241	162,422	58,515									Sum of overhead circuit miles of utility grid subject to Red Flag Warning each day within a given time period, calculated as the number of overhead circuit miles that were under an RFW multiplied by the number of days those circuit miles were under said RFW. For example, if 100 overhead circuit miles were under an RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW OH circuit mile days would be 110.
	1.b.	Red Flag Warning Overhead circuit mile days - HFTD Zone 1	0.8	8.0	4.1	2.8	1.7	0.0	0.4	1.3	1.7	1									Red Flag Warning Overhead circuit mile days, see above for definition
	1.c.	Red Flag Warning Overhead circuit mile days - HFTD Tier 2	9,214	31,921	50,039	31,295	21,598	0	4,391	10,011	17,964	7,003									Red Flag Warning Overhead circuit mile days, see above for definition
	1.d.	Red Flag Warning Overhead circuit mile days - HFTD Tier 3	25,523	88,117	127,005	82,216	57,321	0	4,031	13,920	36,805	17,404									Red Flag Warning Overhead circuit mile days, see above for definition
	1.e.	Red Flag Warning Overhead circuit mile days - Non-HFTD	45,766	166,281	299,356	170,293	122,502	0	16,423	38,309	107,651	34,108									Red Flag Warning Overhead circuit mile days, see above for definition
2. Wind conditions	2.a.	High wind warning overhead circuit mile days	78,965	116,378	144,820	133,880	95,208	61,545	9,235	62	57,072	78,101									Sum of overhead circuit miles of utility grid subject to High Wind Warnings (HWW, as defined by the National Weather Service) each day within a given time period, calculated as the number of overhead circuit miles that were under an HWW multiplied by the number of days those miles were under said HWW. For example, if 100 overhead circuit miles were under an HWW for 1 day, and 10 of those miles were under HWW for an additional day, then the total HWW OH circuit mile days would be 110.
3. Other	3.a.	Other relevant weather pattern metrics tracked (add additional rows as needed)																			

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Table No.		7.1		Transmission lines refer to all lines at or above 65kV, and distribution lines refer to all lines below 65kV. Transmission lines for faults and wire downs are typically 65kV and above, but may include some lower voltages (such as 55kV and 33kV).																					
Date Modified		5/3/2021		Data from 2015 - 2020 Q2 should be actual numbers. 2020 Q3 - 2023 should be projected. In future submissions update projected numbers with actuals																					
Table 7.1: Key recent and projected drivers of risk events				Number of risk events																					
Risk Event category	Cause category	#	Sub-cause category	Events tracked for ignition driver?	Projected risk events																Unit(s)	Comments			
					2015	2016	2017	2018	2019	2020	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022			Q3 2022	Q4 2022	
Wire down event - Distribution	1. Contact from object - Distribution	1.a.	Veg. contact- Distribution	Yes	279	357	384	158	308	86	105	82	151	114	73	78	88	77	72	77	87	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		1.b.	Animal contact- Distribution	Yes	74	57	53	48	38	10	19	29	12	11	13	14	14	13	13	13	13	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		1.c.	Balloon contact- Distribution	Yes	115	112	115	134	98	22	47	27	12	24	43	21	11	23	41	20	10	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		1.d.	Vehicle contact- Distribution	Yes	227	349	248	267	269	76	121	88	98	79	70	72	72	76	69	71	70	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		1.e.	Other contact from object - Distribution	Yes	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
	2. Equipment / facility failure - Distribution	2.a. Connector damage or failure- Distribution	2.a.	Connector damage or failure- Distribution	Yes	84	106	81	75	68	25	36	38	23	21	22	22	22	21	22	22	22	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
			2.b.	Splice damage or failure - Distribution	Yes	35	28	24	24	28	3	9	10	7	10	7	7	7	7	7	7	7	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
			2.c.	Crossarm damage or failure - Distribution	Yes	31	26	26	25	35	10	10	6	9	15	10	6	9	10	10	6	9	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		2.d. Insulator damage or failure- Distribution	2.d.	Insulator damage or failure- Distribution	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
			2.e.	Lightning arrester damage or failure- Distribution	Yes	0	0	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.
		2.f. Tap damage or failure - Distribution	2.f.	Tap damage or failure - Distribution	Yes	0	0	4	5	12	4	3	1	2	5	2	2	2	2	2	2	2	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
			2.g.	Tie wire damage or failure - Distribution	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.
		2.h. Other - Distribution	Pole damage or failure - Distribution	2.h.	Pole damage or failure - Distribution	Yes	685	824	667	423	607	144	171	198	238	104	170	170	165	173	170	170	165	# risk events (excluding ignitions)	The total of all sub-cause category types
				Pothead damage or failure - Distribution	Yes	0	0	3	8	6	3	2	5	1	1	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of wire-down events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.
Fuse failure damage or failure - Distribution	Fuse failure damage or failure - Distribution		Yes	0	0	0	1	2	0	1	2	1	1	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of wire-down events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.		
	Guy damage or failure - Distribution		Yes	0	0	1	3	5	1	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of wire-down events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.		
Conductor failure damage or failure - Distribution	Conductor failure damage or failure - Distribution		Yes	0	0	28	44	120	33	51	63	57	49	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of wire-down events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.		
	Various other damage or failure - Distribution		Yes	672	812	607	328	437	98	93	108	159	39	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of wire-down events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.		
3. Wire-to-wire contact - Distribution	3.a.	Wire-to-wire contact / contamination- Distribution	Yes	0	0	1	2	1	0	4	2	1	4	1	1	1	1	1	1	1	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.			
4. Contamination - Distribution	4.a.	Contamination - Distribution	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
5. Utility work / Operation	5.a.	Utility work / Operation	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
6. Vandalism / Theft - Distribution	6.a.	Vandalism / Theft - Distribution	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
7. Other- Distribution	7.a.	All Other- Distribution	Yes	0	0	33	53	54	11	11	41	39	116	39	39	39	39	39	39	39	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.			
8. Unknown- Distribution	8.a.	Unknown - Distribution	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
Wire down event - Transmission	9. Contact from object - Transmission	9.a.	Veg. contact- Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		9.b.	Animal contact- Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
	9.c. Balloon contact- Transmission	9.c.	Balloon contact- Transmission	Yes	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		9.d.	Vehicle contact- Transmission	Yes	0	2	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
	9.e. Other contact from object - Transmission	9.e.	Other contact from object - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		10. Equipment / facility failure - Transmission	10.a.	Connector damage or failure- Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
10. Equipment / facility failure - Transmission	10.b. Splice damage or failure - Transmission	10.b.	Splice damage or failure - Transmission	Yes	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
		10.c.	Crossarm damage or failure - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
	10.d. Insulator damage or failure- Transmission	10.d.	Insulator damage or failure- Transmission	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		

	10.e.	Lightning arrester damage or failure- Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)		
	10.f.	Tap damage or failure - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
	10.g.	Tie wire damage or failure - Transmission	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
	10.h.	Other - Transmission	Yes	1	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
		Pole damage or failure - Transmission	Yes	0	1	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Pothead damage or failure - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Fuse failure damage or failure - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Guy damage or failure - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Conductor failure damage or failure - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Various other damage or failure - Transmission	Yes	1	2	0	1	1	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
11. Wire-to-wire contact - Transmission	11.a.	Wire-to-wire contact / contamination- Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
12. Contamination - Transmission	12.a.	Contamination - Transmission	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
13. Utility work / Operation	13.a.	Utility work / Operation	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
14. Vandalism / Theft - Transmission	14.a.	Vandalism / Theft - Transmission	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
15. Other- Transmission	15.a.	All Other- Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
16. Unknown- Transmission	16.a.	Unknown - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
Outage - Distribution	17. Contact from object - Distribution	17.a.	Veg. contact- Distribution	Yes	395	557	609	416	527	104	70	25	112	93	38	22	101	103	32	18	99	# risk events (excluding ignitions)
		17.b.	Animal contact- Distribution	Yes	655	598	622	648	686	122	201	169	163	79	196	153	153	111	191	141	146	# risk events (excluding ignitions)
		17.c.	Balloon contact- Distribution	Yes	758	785	911	975	776	178	348	275	191	247	321	223	153	220	307	209	144	# risk events (excluding ignitions)
		17.d.	Vehicle contact- Distribution	Yes	508	586	528	647	517	116	113	153	132	145	134	131	131	132	130	124	125	# risk events (excluding ignitions)
		17.e.	Other contact from object - Distribution	Yes	870	393	289	369	449	44	28	35	43	64	79	106	110	107	79	105	110	# risk events (excluding ignitions)
			Ice/Snow - Distribution	Yes	4	15	19	9	3	0	0	0	0	1	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)
			Lightning - Distribution	Yes	757	264	167	225	323	20	2	15	27	29	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)
			Various other contact from object - Distribution	Yes	109	114	103	135	123	24	26	20	16	34	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)
18. Equipment / facility failure - Distribution	18.a.	Capacitor bank damage or failure- Distribution	Yes	319	309	425	376	457	128	160	73	44	111	94	92	95	88	94	92	95	# risk events (excluding ignitions)	
	18.b.	Conductor damage or failure — Distribution	Yes	463	594	654	713	1,116	205	143	211	250	277	225	180	146	133	195	149	85	# risk events (excluding ignitions)	
	18.c.	Fuse damage or failure - Distribution	Yes	232	195	245	508	1,245	169	176	316	167	180	166	132	166	168	166	132	166	# risk events (excluding ignitions)	
	18.d.	Lightning arrester damage or failure- Distribution	Yes	105	127	99	105	216	27	21	26	25	12	31	30	31	31	31	30	31	# risk events (excluding ignitions)	
	18.e.	Switch damage or failure- Distribution	Yes	51	46	45	67	78	17	11	16	18	15	15	14	15	15	15	14	15	# risk events (excluding ignitions)	
	18.f.	Pole damage or failure - Distribution	Yes	98	126	130	207	541	57	36	31	41	32	41	38	41	41	41	38	41	# risk events (excluding ignitions)	
	18.g.	Insulator and brushing damage or failure - Distribution	Yes	42	75	79	123	121	28	14	11	43	30	17	15	31	24	16	15	31	# risk events (excluding ignitions)	
	18.h.	Crossarm damage or failure - Distribution	Yes	127	143	138	354	834	98	45	29	45	39	75	60	74	75	75	60	74	# risk events (excluding ignitions)	
	18.i.	Voltage regulator / booster damage or failure - Distribution	Yes	1	2	1	2	4	0	0	1	1	0	0	0	0	1	0	0	0	# risk events (excluding ignitions)	
	18.j.	Recloser damage or failure - Distribution	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
	18.k.	Anchor / guy damage or failure - Distribution	Yes	17	20	18	17	20	3	3	3	4	3	4	2	6	6	4	2	6	# risk events (excluding ignitions)	
	18.l.	Sectionalizer damage or failure - Distribution	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	

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The total of all sub-cause category types added to increase transparency of wire-down events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

This is a new sub-cause category type added to increase transparency of wire-down events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

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The total of all sub-cause category types below. An additional sub-cause category type was added below requiring a new summation for the total.

This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

This is a new sub-cause category type added to increase transparency of outage events. The new sub-cause categories were originally forecasted under "23. Other- Distribution" and now has been moved to "17. Contact from object - Distribution"

This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.

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	18.m.	Connection device damage or failure - Distribution	Yes	386	490	406	501	500	123	111	86	97	111	112	110	112	111	112	110	112	# risk events (excluding ignitions)		
	18.n.	Transformer damage or failure - Distribution	Yes	1,889	1,649	1,978	2,594	2,489	416	559	1,894	536	403	762	1154	712	671	757	1141	709	# risk events (excluding ignitions)		
	18.o.	Other - Distribution	Yes	96	147	116	173	291	37	40	51	60	49	59	57	59	59	58	57	59	# risk events (excluding ignitions)		
		Pole Top Sub damage or failure - Distribution	Yes					1		1			0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)		
		Pothead damage or failure - Distribution	Yes	91	143	109	155	128	24	27	27	40	28	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)		
		Tower damage or failure - Distribution	Yes	0	0	0	0	2	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)		
		Various other damage or failure - Distribution	Yes	5	4	7	18	160	13	12	24	20	21	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)		
	19.	Wire-to-wire contact - Distribution	19.a.	Wire-to-wire contact / contamination - Distribution	Yes	46	78	64	41	13	6	5	8	7	3	7	7	7	7	6	7	# risk events (excluding ignitions)	
	20.	Contamination - Distribution	20.a.	Contamination - Distribution	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
	21.	Utility work / Operation	21.a.	Utility work / Operation	Yes	149	117	99	94	67	32	15	18	10	16	16	16	16	16	16	16	# risk events (excluding ignitions)	
	22.	Vandalism / Theft - Distribution	22.a.	Vandalism / Theft - Distribution	Yes	78	80	78	102	103	23	21	21	15	8	22	22	22	22	22	22	# risk events (excluding ignitions)	
	23.	Other- Distribution	23.a.	All Other- Distribution	Yes	2,010	2,251	2,359	3,147	3,125	481	586	977	453	377	651	959	615	574	651	959	615	# risk events (excluding ignitions)
		De-Energize - Distribution	Yes	0	0	0	0	0	0	0	0	1	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Dig In - Distribution	Yes	42	51	57	83	48	10	7	18	13	15	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Source Lost - Distribution	Yes	5	2	26	49	96	12	14	14	4	15	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Substation - Distribution	Yes	10	18	30	61	106	16	24	22	18	29	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Underground Equipment - Distribution	Yes	1,949	2,166	2,234	2,944	2,846	442	531	909	409	318	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Various other - Distribution	Yes	4	14	12	10	29	1	10	13	9	0	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
	24.	Unknown- Distribution	24.a.	Unknown - Distribution	Yes	2,142	2,141	2,408	1,741	1,883	364	466	513	558	603	530	525	496	551	530	525	496	# risk events (excluding ignitions)
Outage - Transmission	25.	Contact from object - Transmission	25.a.	Veg. contact- Transmission	Yes	12	16	13	8	7	0	0	1	4	2	2	3	2	3	2	3	2	# risk events (excluding ignitions)
		Animal contact- Transmission	Yes	80	75	67	67	31	7	19	4	8	4	7	8	8	8	8	6	8	8	# risk events (excluding ignitions)	
		Balloon contact- Transmission	Yes	23	39	55	36	24	2	13	5	8	9	10	8	8	8	8	10	8	8	# risk events (excluding ignitions)	
		Vehicle contact- Transmission	Yes	36	37	40	29	18	3	5	5	3	7	4	4	4	4	4	4	4	4	# risk events (excluding ignitions)	
		Other contact from object - Transmission	Yes	75	36	35	18	28	7	4	5	3	1	7	8	8	8	8	7	8	8	# risk events (excluding ignitions)	
		Ice/Snow - Transmission	Yes		2	2	0	3	0	2	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Lighting - Transmission	Yes	64	22	28	33	21	4	1	5	2	0	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
		Various other contact from object - Transmission	Yes	11	12	5	5	4	3	1	0	1	1	NA	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	
	26.	Equipment / facility failure - Transmission	26.a.	Capacitor bank damage or failure- Transmission	Yes	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)
		Conductor damage or failure — Transmission	Yes	22	15	89	44	36	5	2	13	7	10	9	10	10	10	9	10	10	10	# risk events (excluding ignitions)	
		Fuse damage or failure - Transmission	Yes	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
		Lightning arrester damage or failure- Transmission	Yes	2	5	2	4	1	0	0	1	1	0	1	1	1	1	1	1	1	1	# risk events (excluding ignitions)	
		Switch damage or failure- Transmission	Yes	5	3	4	5	2	3	2	0	0	1	1	1	1	1	1	1	1	1	# risk events (excluding ignitions)	
		Pole damage or failure - Transmission	Yes	12	12	17	7	14	3	0	1	3	2	3	3	3	3	3	3	3	3	# risk events (excluding ignitions)	
		Insulator and brushing damage or failure - Transmission	Yes	10	13	21	4	9	2	3	1	1	0	2	3	3	2	2	3	3	3	# risk events (excluding ignitions)	
		Crossarm damage or failure - Transmission	Yes	11	7	7	6	8	2	1	1	0	0	2	2	2	2	2	2	2	2	# risk events (excluding ignitions)	
		Voltage regulator / booster damage or failure - Transmission	Yes	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	
		Recloser damage or failure - Transmission	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	

Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.

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The total of all sub-cause category types

This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

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The total of all sub-cause category types. A sub-cause category type was removed below requiring a new summation for the total.

This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

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Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.

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The total of all sub-cause category types below. An additional sub-cause category type was added below requiring a new summation for the total.

This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

This is a new sub-cause category type added to increase transparency of outage events. The new sub-cause categories were originally forecasted under "31. Other- Transmission" and now has been moved to "25. Contact from object - Transmission"

This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.

Note that due to certain enhancements made to determining cause sub-categories of events, figures in this table may not tie exactly to those provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.

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	26.k.	Anchor / guy damage or failure - Transmission	Yes	3	8	8	1	4	0	1	2	4	0	1	1	1	1	1	1	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.		
	26.l.	Sectionalizer damage or failure - Transmission	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
	26.m.	Connection device damage or failure - Transmission	Yes	1	1	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
	26.n.	Transformer damage or failure - Transmission	Yes	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
	26.o.	Other - Transmission	Yes	14	26	10	19	41	3	8	6	8	9	6	6	6	6	6	6	6	# risk events (excluding ignitions)	The total of all sub-cause category types	
		Pole Tops Sub damage or failure - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Pothead damage or failure - Transmission	Yes	6	4	0	12	5	0	0	1	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Tower damage or failure - Transmission	Yes	0	2	1	2	0	1	1	2	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Various other - Transmission	Yes	8	20	9	5	36	2	7	3	8	9	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
	27. Wire-to-wire contact - Transmission	27.a. Wire-to-wire contact / contamination - Transmission	Yes	14	17	15	19	42	9	10	1	3	0	5	5	5	5	5	5	5	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
	28. Contamination - Transmission	28.a. Contamination - Transmission	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.
	29. Utility work / Operation	29.a. Utility work / Operation	Yes	10	15	8	9	8	0	1	1	1	2	2	2	2	2	2	2	2	2	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.
	30. Vandalism / Theft - Transmission	30.a. Vandalism / Theft - Transmission	Yes	4	7	2	10	2	0	0	1	1	0	1	1	1	1	1	1	1	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
	31. Other- Transmission	31.a. All Other- Transmission	Yes	194	238	240	242	193	40	67	47	54	52	67	47	54	40	67	47	54	# risk events (excluding ignitions)	The total of all sub-cause category types. A sub-cause category type was removed below requiring a new summation for the total.	
		De-energized - Transmission	Yes	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Dig In - Transmission	Yes	1	1	0	2	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Source Lost - Transmission	Yes	7	2	21	38	36	5	3	7	7	3	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Substation - Transmission	Yes	179	221	208	188	146	35	63	39	47	39	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Underground Equipment	Yes	5	4	7	14	7	0	1	1	0	1	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
		Various other - Transmission	Yes	2	10	4	0	4	0	0	0	0	9	NA	NA	NA	NA	NA	NA	NA	# risk events (excluding ignitions)	This is a new sub-cause category type added to increase transparency of outage events. New sub-cause categories were forecasted as an aggregate rather than as individual line items and forecast data is not included for these categories.	
	32. Unknown- Transmission	32.a. Unknown - Transmission	Yes	371	326	306	160	266	38	60	39	54	50	50	53	52	55	50	53	52	# risk events (excluding ignitions)	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
Ignition - Distribution	33. Contact from object - Distribution	33.a. Veg. contact- Distribution	Yes	13	12	16	15	13	0	2	3	2	3	3	3	2	2	3	3	2	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		33.b. Animal contact- Distribution	Yes	9	8	6	12	18	0	8	3	4	2	7	6	5	3	7	5	4	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		33.c. Balloon contact- Distribution	Yes	12	10	18	30	15	0	7	1	2	3	9	6	3	0	9	6	3	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		33.d. Vehicle contact- Distribution	Yes	11	6	6	13	10	0	2	1	0	1	3	3	2	2	3	3	2	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		33.e. Other contact from object - Distribution	Yes	3	6	5	0	6	0	0	3	1	3	1	1	1	1	1	1	1	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
	34. Equipment / facility failure - Distribution	34.a. Capacitor bank damage or failure- Distribution	Yes	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.b. Conductor damage or failure - Distribution	Yes	2	19	15	5	11	3	6	8	6	5	6	6	4	3	5	6	3	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.c. Fuse damage or failure - Distribution	Yes	1	1	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.d. Lightning arrester damage or failure- Distribution	Yes	2	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.e. Switch damage or failure- Distribution	Yes	0	0	0	1	2	1	1	1	2	1	2	2	2	1	2	2	2	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.f. Pole damage or failure - Distribution	Yes	1	2	1	0	1	0	1	0	2	0	0	0	0	0	0	0	0	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.g. Insulator and brushing damage or failure - Distribution	Yes	1	2	2	1	2	3	1	2	1	0	1	1	1	1	1	1	1	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.h. Crossarm damage or failure - Distribution	Yes	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.i. Voltage regulator / booster damage or failure - Distribution	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	
		34.j. Recloser damage or failure - Distribution	Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# ignitions	Note that SCE enhanced its mapping of outage data to faults; this may have shifted numbers in this table compared to the numbers provided in SCE's Remedial Compliance Plan SCE-2 - Determining Cause of Near Misses.	

46. Vandalism / Theft - Transmission	46.a.	Vandalism / Theft - Transmission	Yes	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	# ignitions
47. Other- Transmission	47.a.	All Other- Transmission	Yes	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	# ignitions
48. Unknown- Transmission	48.a.	Unknown - Transmission	Yes	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	# ignitions

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Note: These columns are placeholders for future QR submissions

Table 8: State of service territory and utility equipment

Metric type	#	Outcome metric name	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Units	Comments			
			2015	2015	2015	2015	2016	2016	2016	2016	2017	2017	2017	2017	2018	2018	2018	2018	2019	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021	2022	2022	2022	2022	2022		2022	2022	
1. State of service territory and equipment in urban areas	1.a.	Circuit miles (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17,160	1	1,126	1,453	17,053	1	1,035	1,428									Circuit miles	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.	
	1.b.	Circuit miles in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,446	0	750	1,364	3,482	0	674	1,339									Circuit miles in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.	
	1.c.	Number of critical facilities (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36,757	6	2,550	3,923	36,911	6	2,207	3,917									Number of critical facilities	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included some locations outside of SCE's service territory within California, whereas 2020 data solely includes critical facilities within SCE's service territory within California. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.d.	Number of critical facilities in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,305	5	1,676	3,489	7,502	5	1,417	3,489									Number of critical facilities in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included some locations outside of SCE's service territory within California, whereas 2020 data solely includes critical facilities within SCE's service territory within California. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.e.	Number of customers (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,790,432	545	209,126	323,745	3,790,432	545	209,126	323,745									Number of customers	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.f.	Number of customers in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	778,819	525	149,646	294,005	778,819	525	149,646	294,005									Number of customers in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.g.	Number of customers belonging to access and functional needs populations (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,032,899	32	30,783	44,840	1,032,899	32	30,783	44,840									Number of customers belonging to access and functional needs populations	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.h.	Number of customers belonging to access and functional needs populations in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	206,260	21	23,970	41,362	206,260	21	23,970	41,362									Number of customers belonging to access and functional needs populations in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.i.	Circuit miles of overhead transmission lines (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,954	0	218	224	1,937	0	204	215									Circuit miles of overhead transmission lines	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.j.	Circuit miles of overhead transmission lines in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	293	0	131	182	301	0	121	174									Circuit miles of overhead transmission lines in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.k.	Circuit miles of overhead distribution lines (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15,206	1	908	1,229	15,116	1	831	1,213									Circuit miles of overhead distribution lines	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
	1.l.	Circuit miles of overhead distribution lines in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,153	0	619	1,181	3,181	0	553	1,166									Circuit miles of overhead distribution lines in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies. Completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.

3.g.	Number of customers belonging to access and functional needs populations (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44,535	0	2,492	2,674	44,535	0	2,492	2,674	Number of customers belonging to access and functional needs populations	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.h.	Number of customers belonging to access and functional needs populations in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	342	0	54	100	342	0	54	100	Number of customers belonging to access and functional needs populations in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.i.	Circuit miles of overhead transmission lines (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,161	0	1,286	1,400	4,764	0	1,256	1,372	Circuit miles of overhead transmission lines	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.j.	Circuit miles of overhead transmission lines in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	0	3	3	8	0	3	5	Circuit miles of overhead transmission lines in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.k.	Circuit miles of overhead distribution lines (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,018	1	1,472	1,593	6,924	1	1,389	1,544	Circuit miles of overhead distribution lines	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.l.	Circuit miles of overhead distribution lines in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	86	0	31	41	86	0	21	39	Circuit miles of overhead distribution lines in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. Furthermore, 2019 data included all circuit miles, including those outside of California, whereas 2020 data solely includes circuit miles within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.m.	Number of substations (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420	0	62	49	322	0	49	40	Number of substations	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. Furthermore, 2019 data included all substations, including those outside of California, whereas 2020 data solely includes substations within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.n.	Number of substations in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	0	0	0	2	0	0	1	Number of substations in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. Furthermore, 2019 data included all substations, including those outside of California, whereas 2020 data solely includes substations within the state of California for assets SCE maintains (which does include some assets outside of SCE's service territory). SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.o.	Number of weather stations (including WUI and non-WUI)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	0	90	137	47	0	348	465	Number of weather stations	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.
3.p.	Number of weather stations in WUI	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0	3	0	0	0	10	4	Number of weather stations in WUI	GIS models are updated frequently to reflect changes within SCE's service area and for data clean-up. SCE does not have the ability to analyze and calculate information in previous years. As such, only 2020 information was obtained from GIS. 2015-2018 data is not available and 2019 data is the same as what was provided in SCE's 2020 WMP filing. The 2019 transmission data was replicated for 2020 because SCE discovered data discrepancies completing the GIS Data Schema requirements. SCE is still conducting quality control review of all the data and will correct any errors once its review is complete.

Utility Southern California Edison Company
 Table No. 9
 Date Modified 2/5/2021

Notes:
 9 Transmission lines refer to all lines at or above 65kV, and distribution lines refer to all lines below 65kV. Report net additions using positive numbers and net removals and undergrounding using negative numbers for circuit miles and numbers of substations. Only report changes expected within the target year. For example, if 20 net overhead circuit miles are planned for addition by 2023, with 15 being added by 2022 and 5 more added by 2023, then report "15" for 2022 and "5" for 2023. Do not report cumulative change across years. In this case, do not report "20" for 2023, but instead the number planned to be added for just that year, which is "5".

Metric type	#	Outcome metric name	Actual				Projected				Unit(s)	Comments				
			Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3	Non-HFTD	HFTD Zone 1	HFTD Tier 2	HFTD Tier 3						
			2020	2020	2020	2020	2021	2021	2021	2021			2022	2022	2022	2022
1. Planned utility equipment net addition (or removal) year over year - in urban areas	1.a.	Circuit miles of overhead transmission lines (including WUI and non-WUI)	4.0	0.0	1.5	1.5	7.3	0.0	2.5	1.0	10.5	0.0	0.0	0.0	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.b.	Circuit miles of overhead distribution lines (including WUI and non-WUI)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map the distribution projects in GIS and subdivide as requested.
	1.c.	Circuit miles of overhead transmission lines in WUI	0.1	0.0	1.5	1.1	0.7	0.0	2.5	1.0	0.6	0.0	0.0	0.0	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.d.	Circuit miles of overhead distribution lines in WUI	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map the distribution projects in GIS and subdivide as requested.
	1.e.	Number of substations (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	0	Number of substations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.f.	Number of substations in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Number of substations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.g.	Number of weather stations (including WUI and non-WUI)	16	0	89	62	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Number of weather stations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.h.	Number of weather stations in WUI	9	0	52	58	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Number of weather stations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
2. Planned utility equipment net addition (or removal) year over year - in rural areas	2.a.	Circuit miles of overhead transmission lines (including WUI and non-WUI)	3.5	0.0	3.7	5.5	2.6	0.0	5.9	2.7	8.8	0.0	0.0	0.0	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.b.	Circuit miles of overhead distribution lines (including WUI and non-WUI)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map the distribution projects in GIS and subdivide as requested.
	2.c.	Circuit miles of overhead transmission lines in WUI	2.5	0.0	2.5	3.9	1.4	0.0	4.5	2.5	0.0	0.0	0.0	0.0	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.d.	Circuit miles of overhead distribution lines in WUI	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map the distribution projects in GIS and subdivide as requested.
	2.e.	Number of substations (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	0	Number of substations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.f.	Number of substations in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Number of substations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.g.	Number of weather stations (including WUI and non-WUI)	10	0	91	121	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Number of weather stations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.h.	Number of weather stations in WUI	5	0	66	97	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Number of weather stations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
3. Planned utility equipment net addition (or removal) year over year - in highly rural areas	3.a.	Circuit miles of overhead transmission lines (including WUI and non-WUI)	4.3	0.0	5.7	18.9	3.6	0.0	4.3	5.3	4.5	0.0	0.0	0.0	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.

3.b.	Circuit miles of overhead distribution lines (including WUI and non-WUI)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map the distribution projects in GIS and subdivide as requested.
3.c.	Circuit miles of overhead transmission lines in WUI	0	0	0	0.3	0.1	0	0	0	0	0	0	0	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
3.d.	Circuit miles of overhead distribution lines in WUI	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map the distribution projects in GIS and subdivide as requested.
3.e.	Number of substations (including WUI and non-WUI)	1	0	0	0	0	0	0	0	0	0	0	0	Number of substations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
3.f.	Number of substations in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Number of substations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
3.g.	Number of weather stations (including WUI and non-WUI)	11	0	91	102	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Number of weather stations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
3.h.	Number of weather stations in WUI	0	0	2	2	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Number of weather stations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.

Utility	Southern California Edison Company	Notes:
Table No.	10	Transmission lines refer to all lines at or above 65kV, and distribution lines refer to all lines below 65kV.
Date Modified	2/5/2021	In future submissions update planned upgrade numbers with actuals

In the comments column on the far-right, enter the relevant program target(s) associated

Table 10: Location of actual and planned utility infrastructure upgrades year over year

Metric type	#	Outcome metric name	Actual				Projected				Unit(s)	Comments				
			2020	2020	2020	2020	2021	2021	2021	2021						
1. Planned utility infrastructure upgrades year over year - in urban areas	1.a.	Circuit miles of overhead transmission lines planned for upgrades (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	Circuit miles		
	1.b.	Circuit miles of overhead distribution lines planned for upgrades (including WUI and non-WUI)	4.7	0.0	16.4	46.2	32.3	0.0	63.9	252.6	35.2	0.0	73.5	149.4	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.c.	Circuit miles of overhead transmission lines planned for upgrades in WUI	0	0	0	0	0	0	0	0	0	0	0	Circuit miles in WUI		
	1.d.	Circuit miles of overhead distribution lines planned for upgrades in WUI	4.3	0.0	16.1	44.9	16.4	0.0	62.3	247.1	28.5	0.0	66.8	148.1	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.e.	Number of substations planned for upgrades (including WUI and non-WUI)	1	0	6	1	4	0	1	2	5	0	0	2	Number of substations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.f.	Number of substations planned for upgrades in WUI	1	0	4	1	1	0	1	2	2	0	0	2	Number of substations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	1.g.	Number of weather stations planned for upgrades (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	0	Number of weather stations	
	1.h.	Number of weather stations planned for upgrades in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Number of weather stations in WUI	
2. Planned utility infrastructure upgrades year over year - in rural areas	2.a.	Circuit miles of overhead transmission lines planned for upgrades (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	0	Circuit miles	
	2.b.	Circuit miles of overhead distribution lines planned for upgrades (including WUI and non-WUI)	9.5	0.0	93.0	390.4	60.7	0.0	304.9	938.6	28.8	0.0	186.9	268.3	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.c.	Circuit miles of overhead transmission lines planned for upgrades in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Circuit miles in WUI	
	2.d.	Circuit miles of overhead distribution lines planned for upgrades in WUI	7.4	0.0	58.5	296.2	47.9	0.0	247.8	763.9	19.9	0.0	132.5	202.2	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.e.	Number of substations planned for upgrades (including WUI and non-WUI)	0	0	0	4	2	0	1	2	2	0	3	2	Number of substations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.f.	Number of substations planned for upgrades in WUI	0	0	0	4	1	0	1	2	2	0	2	2	Number of substations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	2.g.	Number of weather stations planned for upgrades (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	0	Number of weather stations	
	2.h.	Number of weather stations planned for upgrades in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Number of weather stations in WUI	
3. Planned utility infrastructure upgrades year over year - in highly rural areas	3.a.	Circuit miles of overhead transmission lines planned for upgrades (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	0	Circuit miles	
	3.b.	Circuit miles of overhead distribution lines planned for upgrades (including WUI and non-WUI)	3.0	0.0	121.2	88.8	30.9	0.0	109.6	381.8	19.2	0.0	108.5	149.7	Circuit miles	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
	3.c.	Circuit miles of overhead transmission lines planned for upgrades in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Circuit miles in WUI	
	3.d.	Circuit miles of overhead distribution lines planned for upgrades in WUI	0.1	0.0	1.8	2.2	0.4	0.0	1.5	12.1	0.1	0.0	2.2	2.6	Circuit miles in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.

3.e.	Number of substations planned for upgrades (including WUI and non-WUI)	5	0	1	3	1	0	2	2	8	0	8	5	Number of substations	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
3.f.	Number of substations planned for upgrades in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Number of substations in WUI	SCE does not routinely track planned additions, removals, or upgrades by circuit mile, population density, or WUI. While SCE has a number of planned distribution projects over the next few years, they are not far enough along in the project lifecycle to have a complete list of affected structures (new or existing), circuit path/route geometries, and/or geospatial coordinates. Therefore, SCE is unable to map all projects in GIS and subdivide as requested.
3.g.	Number of weather stations planned for upgrades (including WUI and non-WUI)	0	0	0	0	0	0	0	0	0	0	0	0	Number of weather stations	
3.h.	Number of weather stations planned for upgrades in WUI	0	0	0	0	0	0	0	0	0	0	0	0	Number of weather stations in WUI	

Utility	Southern California Edison Company	Notes:
Table No.	11	"PSPS" = Public Safety Power Shutoff
Date Modified	5/3/2021	In future submissions update planned upgrade numbers with actuals

Table 11: Recent use of PSPS and other PSPS metrics

Metric type	#	Outcome metric name	Actual					Projected				Q1 2022	Q2 2022	Q3 2022	Q4 2022	Unit(s)	Comments		
			2015	2016	2017	2018	2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020							Q1 2021	Q2 2021
1. Recent use of PSPS	1.a.	Frequency of PSPS events (total)	0	0	1	3	7	0	0	2	8	1	0	Low 1 / High 3	Low 3 / High 11		Number of instances where utility operating protocol requires de-energization of a circuit or portion thereof to reduce ignition probability, per year. Only include events in which de-energization ultimately occurred	During 2020, SCE initiated 12 PSPS events (2 of which SCE did not de-energize, Table 11, Metric Type 5.a.) with 16 periods of concern, i.e., periods of time when de-energization was likely to occur due to forecast weather and fuel conditions, 16 relates to periods of concern. For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PSPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PSPS triggers would have resulted in PSPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5	
	1.b.	Scope of PSPS events (total)	0	0	7	6	267	0	0	7	417	160	0	Low 2 / High 7	Low 147 / High 473		Circuit-events, measured in number of events multiplied by number of circuits de-energized per year	SCE interprets this line item as de-energized circuit count. Additionally, the numbers being reported may not align with the ESRB-8 report because that report uses preliminary operations data that has not been fully validated.	
	1.c.	Duration of PSPS events (total)	0	0	87,019	3,570	5,275,193	0	0	3,981	4,451,955	1,953,962	0	Low 1,129 / High 3,622	Low 1,213,366 / High 3,893,102		Customer hours per year	For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PSPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PSPS triggers would have resulted in PSPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5	
2. Customer hours of PSPS and other outages	2.a.	Customer hours of planned outages including PSPS (total)	0	11,067,182	10,406,442	9,556,442	10,918,480	1,236,491	770,811	1,295,679	6,103,855	3,778,268	1,729,343		1,830,060	4,539,429		Total customer hours of planned outages per year	SCE has not traditionally calculated reliability metrics tied to planned outages. Since 2019, SCE has been improving and refining its planned outage reliability reporting, therefore the years after 2018 reflect not only actual changes but changes due to the improved process. Further, SCE does not consider PSPS to be planned outages but has included PSPS metrics in this row as requested by WSD.
	2.b.	Customer hours of unplanned outages, not including PSPS (total)	8,401,612	9,276,813	7,788,697	6,088,158	7,617,913	1,480,964	1,496,752	2,350,456	2,224,812	1,615,913	1,496,752		2,350,456	2,224,812		Total customer hours of unplanned outages per year	Forecast is based on time-series forecast.
	2.c.	System Average Interruption Duration Index (SAIDI) (including PSPS)	100.15	241.21	214.28	183.09	215.91	31.46	26.25	42.21	96.41	63.08	37.34		48.39	78.29		SAIDI index value = sum of all interruptions in time period where each interruption is defined as sum(duration of interruption * # of customer interruptions) / Total number of customers served	SCE has not traditionally calculated reliability metrics tied to planned outages. Since 2019, SCE has been improving and refining its planned outage reliability reporting, therefore the years after 2018 reflect not only actual changes but changes due to the improved process. Further, SCE does not consider PSPS to be planned outages but has included PSPS metrics in this row as requested by WSD.
	2.d.	System Average Interruption Duration Index (SAIDI) (excluding PSPS)	100.15	241.21	213.25	183.04	154.47	31.46	26.25	42.16	44.88	39.76	34.17		46.75	41.68		SAIDI index value = sum of all interruptions in time period where each interruption is defined as sum(duration of interruption * # of customer interruptions) / Total number of customers served	Forecast is based on time-series forecast. SCE has not traditionally calculated reliability metrics tied to planned outages. Since 2019, SCE has been improving and refining its planned outage reliability reporting, therefore the years after 2018 reflect not only actual changes but changes due to the improved process. Forecast is based on time-series forecast.
	2.e.	System Average Interruption Frequency Index (SAIFI) (including PSPS)	1.164	1.335	1.203	1.029	1.105	0.222	0.216	0.282	0.321	0.293	0.28		0.31	0.279		SAIFI index value = sum of all interruptions in time period where each interruption is defined as (total # of customer interruptions) / (total # of customers served)	SCE has not traditionally calculated reliability metrics tied to planned outages. Since 2019, SCE has been improving and refining its planned outage reliability reporting, therefore the years after 2018 reflect not only actual changes but changes due to the improved process. Further, SCE does not consider PSPS to be planned outages but has included PSPS metrics in this row as requested by WSD.
	2.f.	System Average Interruption Frequency Index (SAIFI) (excluding PSPS)	1.164	1.335	1.203	1.029	1.067	0.222	0.216	0.281	0.279	0.270	0.28		0.309	0.278		SAIFI index value = sum of all interruptions in time period where each interruption is defined as (total # of customer interruptions) / (total # of customers served)	Forecast is based on time-series forecast.
3. Critical infrastructure impacted by PSPS	3.a.	Critical infrastructure impacted by PSPS	0	0	NA	NA	5,868	0	0	12	5,123	2,066	0	Low 1 / High 4	Low 1,658 / High 5,320		Number of critical infrastructure (in accordance with D.19-05-042) locations impacted per hour multiplied by hours offline per year	The numbers being reported may not align with the ESRB-8 report because that report uses preliminary operations data that has not been fully validated. SCE also notes, that earlier PSPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available. For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PSPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PSPS triggers would have resulted in PSPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5	
4. Community outreach of PSPS metrics	4.a.	# of customers impacted by PSPS	0	0	2,861	112	198,826	0	0	270	229,530	116,349	0	Low 58 / High 185	Low 67,220 / High 215,678		# of customers impacted by PSPS (if multiple PSPS events impact the same customer, count each event as a separate customer)	The numbers being reported may not align with the ESRB-8 report because that report uses preliminary operations data that has not been fully validated. For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PSPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PSPS triggers would have resulted in PSPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5	
	4.b.	# of medical baseline customers impacted by PSPS	0	0	NA	NA	4,043	0	0	11	7,725	3,415	0	Low 4 / High 12	Low 2,443 / High 7,837		# of customers impacted by PSPS (if multiple PSPS events impact the same customer, count each event as a separate customer)	The numbers being reported may not align with the ESRB-8 report because that report uses preliminary operations data that has not been fully validated. SCE also notes, that earlier PSPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.	
	4.c.	# of customers notified prior to initiation of PSPS event	0	0	NA	NA	155,824	0	0	232	143,908	110,217	0	Low 36 / High 116	Low 41,960 / High 134,628		# of customers notified of PSPS event prior to initiation (if multiple PSPS events impact the same customer, count each event in which customer was notified as a separate customer)	For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PSPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PSPS triggers would have resulted in PSPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5	
	4.d.	# of medical baseline customers notified prior to initiation of PSPS event	0	0	NA	NA	3,044	0	0	15	7,531	3,138	0	Low 4 / High 12	Low ,296 / High 7,367		# of customers notified of PSPS event prior to initiation (if multiple PSPS events impact the same customer, count each event in which customer was notified as a separate customer)	The numbers being reported may not align with the ESRB-8 report because that report uses preliminary operations data that has not been fully validated. SCE also notes, that earlier PSPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.	
	4.e.	% of customers notified prior to a PSPS event impacting them	0	0	NA	NA	78%	0	0	85%	62%	95%	0		62%	62%		=4.c. / 4.a.	SCE also notes, that earlier PSPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.
4.f.	% of medical baseline customers notified prior to a PSPS event impacting them	0	0	NA	NA	75%	0	0	100%	88%	92%	0		100%	94%		=4.d. / 4.b.	SCE also notes, that earlier PSPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.	
5. Other PSPS metrics	5.a.	Number of PSPS events triggered where no de-energization occurred	0	0	NA	NA	7	0	2	0	0	0	2		0			Number of instances where utility notified the public of a potential PSPS event but no de-energization followed	SCE also notes, that earlier PSPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.

5.b.	Number of customers located on de-energized circuit	0	0	NA	NA	237,666	0	0	5,820	407,853	597,448	0	Low 1,226 / High 3,933	Low 118,918 / High 381,552	Number of customers	<p>This data includes the number of customers on a circuit whether they were de-energized or not</p> <p>For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PSPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PPS triggers would have resulted in PPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5</p> <p>SCE also notes, that earlier PPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.</p>
5.c.	Customer hours of PPS per RFW OH circuit mile day	0	0	NA	NA	NA	0	0	17	434	875	0	L 6 / H 18	L 158 / H 507	=1.c. / RFW OH circuit mile days in time period	<p>For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PPS triggers would have resulted in PPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5</p> <p>SCE also notes, that earlier PPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.</p> <p>Historical numbers were corrected as the original analysis methodology was found to be faulty. Additionally, since historical numbers were adjusted, the forecast numbers were re-forecasted.</p>
5.d.	Frequency of PPS events (total) - High Wind Warning wind conditions	0	0	NA	NA	NA	0	0	1	8	1	0	L 0 / H 1	L 3 / H 11	Events over time period that overlapped with a High Wind Warning as defined by the National Weather Service	<p>For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PPS triggers would have resulted in PPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5</p> <p>SCE also notes, that earlier PPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.</p> <p>Historical numbers were corrected as the original analysis methodology was found to be faulty. Additionally, since historical numbers were adjusted, the forecast numbers were re-forecasted.</p>
5.e.	Scope of PPS events (total) - High Wind Warning wind conditions	0	0	NA	NA	NA	0	0	7	392	151	0	L 2 / H 5	L 104 / H 335	Estimated customers impacted over time period that overlapped with a High Wind Warning as defined by the National Weather Service	<p>For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PPS triggers would have resulted in PPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5</p> <p>SCE also notes, that earlier PPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.</p> <p>SCE interprets this line item as de-energized circuit counts that overlap with High Wind Warnings.</p> <p>Historical numbers were corrected as the original analysis methodology was found to be faulty. Additionally, since historical numbers were adjusted, the forecast numbers were re-forecasted.</p>
5.f.	Duration of PPS events (total) - High Wind Warning wind conditions	0	0	NA	NA	NA	0	0	3,500	4,298,692	1,826,480	0	L 910 / H 2,920	L 1,175,242 / H 3,770,782	Customer hours over time period that overlapped with a High Wind Warning as defined by the National Weather Service	<p>For Q2-Q4 2021 time periods, SCE used 2020 recorded data adjusted for improvement expected based on SCE's planned wildfire mitigation activities to create a baseline. To factor in weather variability, which has significant impacts on PPS events, SCE developed a range around the baseline. The range was based on an 18 year backcast analysis that analyzed how current PPS triggers would have resulted in PPS events when applied to historical weather data. For further details on calculating the range, please see section 8.5</p> <p>SCE also notes, that earlier PPS events were not tracked and recorded in the same level of detail as it is now, therefore not all data is available.</p> <p>Historical numbers were corrected as the original analysis methodology was found to be faulty. Additionally, since historical numbers were adjusted, the forecast numbers were re-forecasted.</p>

Utility: Southern California Edison Company
Table No.: 12
Date Modified: 5/17/2023
Table 12. Mitigation Initiative Benefits

Metric type		WMP Table / Category	WMP Initiative #	Initiative activity	WMP Identifier	Primary driver targeted	Secondary driver targeted	Year initiated	Estimated RSE in HFTD Zone 1	Estimated RSE in HFTD Zone 2	Estimated RSE in HFTD Tier 3	Estimated RSE in HFTD Tier 4	If needed: most recent proceeding that is new memorandum account	Current compliance status - in / exceeding compliance with regulations	Associated rule(s) - if multiple, separate by semi-colon ";"	If opened not disaggregated by this activity, note activity when relevant opened in tracked in or mark "General operations"	Alternative units in which initiative is reported (if not line miles); unit required to report line miles	Comments	Actual CAPEx (\$ thousands)	Actual OPEX (\$ thousands)	Actual Line miles to be treated	Actual Alternative units (if used CAPEx (\$ thousands))	Projected CAPEx (\$ thousands)	Projected OPEX (\$ thousands)	Projected Line miles to be treated	Projected Alternative units (if used CAPEx (\$ thousands))	Projected CAPEx (\$ thousands)	Projected OPEX (\$ thousands)	Projected Line miles to be treated	Projected Alternative units (if used CAPEx (\$ thousands))												
																		2020	2020	2020	2020	2021	2021	2021	2021	2022	2022	2022	2022													
Other	Risk Assessment & Mapping	7.3.1.1		A summarized risk map that shows the overall ignition probability and estimated wildfire consequence along the electric lines and equipment.	NA								GSRPBA	Exceeding compliance with regulations		Costs included in SA-4		\$	265	\$	175			\$	315		\$	175														
Other	Risk Assessment & Mapping	7.3.1.2		Climate-driven risk map and modeling based on various relevant weather scenarios.	NA									Exceeding compliance with regulations		General operations																										
Other	Risk Assessment & Mapping	7.3.1.3		Ignition probability mapping showing the probability of ignition along the electric lines and equipment.	NA								GSRPBA	Exceeding compliance with regulations		Costs included in SA-4		\$	265	\$	175			\$	315		\$	175														
Other	Risk Assessment & Mapping	7.3.1.4		Initiative mapping and estimation of wildfire and PPS risk reduction impact.	NA									Exceeding compliance with regulations		General operations																										
Other	Risk Assessment & Mapping	7.3.1.5		Match trap simulations showing the potential wildfire consequence of ignitions that occur along the electric lines and equipment.	NA								GSRPBA	Exceeding compliance with regulations		Costs included in SA-4		\$	265	\$	175			\$	315		\$	175														
Other	Situational Awareness & Forecasting	7.3.2.1		Advanced weather monitoring and weather stations.	SA-1			2018					GSRPBA	Exceeding compliance with regulations		# of weather station installs		\$	7,403	\$	4,309		9935	\$	5,273	\$	7,360		475	\$	5,273	\$	7,371		475							
Other	Situational Awareness & Forecasting	7.3.2.2		Continuous monitoring sensors.	SA-9	Equipment failure	Other contact with object	2018	925		4,456	2,756	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	Exceeding compliance with regulations		GSRPBA, WMPMA	# of devices		\$	380	\$	215		\$	9,564	\$	252		1505	\$	19,609		300									
Other	Situational Awareness & Forecasting	7.3.2.3		Fault indicators for detecting faults on electric lines and equipment.	NA			NA						Exceeding compliance with regulations		General operations	# of installations (395 are in HFRA)												1,566		1,566		1,566									
Other	Situational Awareness & Forecasting	7.3.2.4.1		Forecast of a fire risk index, fire potential index, or similar.	SA-2									Exceeding compliance with regulations		Costs included with SA-3																										
Other	Situational Awareness & Forecasting	7.3.2.4.2		Forecast of a fire risk index, fire potential index, or similar.	SA-5			2019						Exceeding compliance with regulations		FRMMA	# of square miles		\$	193				\$	320					6,500		\$	604		6,500							
Other	Situational Awareness & Forecasting	7.3.2.4.3		Forecast of a fire risk index, fire potential index, or similar.	SA-7			2020						Exceeding compliance with regulations		WMPMA								\$	1,467				14,000		\$	1,711		14,000								
Other	Situational Awareness & Forecasting	7.3.2.4.4		Forecast of a fire risk index, fire potential index, or similar.	SA-8			2019						Exceeding compliance with regulations		WMPMA								\$	891				14,000		\$	500		14,000								
Other	Situational Awareness & Forecasting	7.3.2.5		Personnel monitoring areas of electric lines and equipment in elevated fire risk conditions.	NA			NA						Exceeding compliance with regulations		General operations								\$	24,099				14,000		\$	24,782		14,000								
Other	Situational Awareness & Forecasting	7.3.2.6.1		Weather forecasting and estimating impacts on electric lines and equipment.	SA-3			2018						Exceeding compliance with regulations		GSRPBA, WMPMA	# of HPCs in 2021		\$	3,310	\$	1,134		\$	6,532	\$	3,728		25	\$	700	\$	3,143		14,000							
Other	Situational Awareness & Forecasting	7.3.2.6.2		Weather forecasting and estimating impacts on electric lines and equipment.	SA-4			2018						Exceeding compliance with regulations		FRMMA								\$	1,029				14,000		\$	1,348		14,000								
Grid hardening	Grid Design & System Hardening	7.3.3.1		Capacitor maintenance and replacement program.	NA			NA						In compliance with regulations		GO 95, GO 165	General operations							\$	5,275			145	\$	2,444		575	\$	3,413		77						
Grid hardening	Grid Design & System Hardening	7.3.3.2		Circuit breaker maintenance and installation to de-energize lines upon detecting a fault.	SH-6	Equipment failure	Other contact with object	2018	1,958		3,308	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	Exceeding compliance with regulations		GO 95, GO 165	General operations								\$	9,786			(9)	1095	\$	12,898		865	\$	8,583		113					
Grid hardening	Grid Design & System Hardening	7.3.3.3.1		Covered conductor installation.	SH-1	Other contact with object	Wire-to-wire contact	2018	5,544		4,192	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	Exceeding compliance with regulations		GO 95, Rule 31.1	General operations								\$	546,151			965	\$	753,659		1,400	\$	883,813		1,600						
Grid hardening	Grid Design & System Hardening	7.3.3.3.2		Covered conductor installation.	SH-10	Other contact with object	Wire-to-wire contact	2018						Exceeding compliance with regulations		GO 95, Rule 31.1	General operations							\$	9,654			405	\$	22,231		685	\$	26,090		788						
Grid hardening	Grid Design & System Hardening	7.3.3.4		Covered conductor maintenance.	NA									In compliance with regulations		GO 95	General operations																									
Grid hardening	Grid Design & System Hardening	7.3.3.5		Crossarm maintenance, repair, and replacement.	NA									In compliance with regulations		GO 95	General operations																									
Grid hardening	Grid Design & System Hardening	7.3.3.6		Distribution pole replacement and reinforcement, including with composite poles.	NA			NA						In compliance with regulations		GO 95	General operations	# of pole remediations							\$	181,874			9,511	\$	306,565		15,265	\$	219,403		11,611					
Grid hardening	Grid Design & System Hardening	7.3.3.7		Expulsion fuse replacement.	SH-4	Equipment failure	Other contact with object	2018	1,363		3,304	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	Exceeding compliance with regulations		GO 95	General operations								\$	8,955			3,262	\$	3,025		\$	1,154		421	\$	1,334		461			
Grid hardening	Grid Design & System Hardening	7.3.3.8.1		Grid topology improvements to mitigate or reduce PPS events.	SH-7									Exceeding compliance with regulations		GO 95	General operations																									
Grid hardening	Grid Design & System Hardening	7.3.3.8.2		Grid topology improvements to mitigate or reduce PPS events.	SH-12			2020						Exceeding compliance with regulations		GO 95	General operations								\$	4,000			9,715	\$	7,000		9,715		9,715							
Grid hardening	Grid Design & System Hardening	7.3.3.9		Installation of system automation equipment.	SH-5			2018						Exceeding compliance with regulations		GO 95	General operations								\$	5,867			49													
Grid hardening	Grid Design & System Hardening	7.3.3.10		Maintenance, repair, and replacement of connectors, including hotline clamps.	NA									In compliance with regulations		GO 95	General operations																									
Grid hardening	Grid Design & System Hardening	7.3.3.11		Mitigation of impact on customers and other residents affected during PPS event.	NA									Exceeding compliance with regulations		GO 95	General operations																									
Grid hardening	Grid Design & System Hardening	7.3.3.12		Other corrective action.	SH-14	Wire-to-wire contact	Equipment failure	2019	1,867		1,957	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	Exceeding compliance with regulations		GO 95	General operations								\$	554			9,715	\$	5,843		2,221	\$	9,715		\$	33,590		14,027	9,715		
Grid hardening	Grid Design & System Hardening	7.3.3.13		Pole loading infrastructure hardening and replacement program based on pole loading assessment program.	NA			NA						In compliance with regulations		GO 95	General operations	# of pole remediations							\$	97,292			3,805	\$	209,875		1,071	\$	307,949		15,135					
Grid hardening	Grid Design & System Hardening	7.3.3.14		Transformers maintenance and replacement.	NA			NA						In compliance with regulations		GO 95	General operations								\$	96,400			3,800	\$	31,947		96,262	\$	5,704		33,408	\$	98,187		6,045	32,135
Grid hardening	Grid Design & System Hardening	7.3.3.15		Transmission tower maintenance and replacement.	SH-13	Contamination	Equipment failure	2020	0		82			Exceeding compliance with regulations		GO 95	General operations																									
Grid hardening	Grid Design & System Hardening	7.3.3.16		Underpinning of electric lines and/or equipment.	SH-2	Other contact with object	Wire-to-wire contact	2019	447					Exceeding compliance with regulations		GO 95	General operations								\$	961			\$	26,350					\$	54,347		11				
Grid hardening	Grid Design & System Hardening	7.3.3.17.1		Updates to grid topology to minimize risk of ignition in HFTDs.	SH-15	Equipment failure		2019						Exceeding compliance with regulations		GO 95	General operations								\$	83			305	\$	1,751				60							
Grid hardening	Grid Design & System Hardening	7.3.3.17.2		Updates to grid topology to minimize risk of ignition in HFTDs.	SH-11			2019						Exceeding compliance with regulations		GO 95	General operations								\$	74			9,715	\$	4,450		820	\$	3,953		225	9,715				
Grid hardening	Grid Design & System Hardening	7.3.3.17.3		Updates to grid topology to minimize risk of ignition in HFTDs.	SH-8			2019						Exceeding compliance with regulations		GO 95	General operations								\$	125			6	\$	400		10	\$	750		13					
Asset inspection	Asset Management & Inspections	7.3.4.1		Detailed inspections of distribution electric lines and equipment.	NA			NA						In compliance with regulations		GO 165	General operations								\$	8,960			262,770	\$	4,223		271,000	\$	4,332		271,000					
Asset inspection	Asset Management & Inspections	7.3.4.2		Detailed inspections of transmission electric lines and equipment.	NA			NA						In compliance with regulations		GO 165	General operations									\$	3,567			1,313	\$	7,604		1,313	\$	7,802		1,313				
Asset inspection	Asset Management & Inspections	7.3.4.3		Improvement of inspections.	IN-8			2021						Exceeding compliance with regulations		WMPMA									\$	28,719	\$	2,429	9,715	\$	17,422	\$	6,490		9,715	\$	6,800		9,715			
Asset inspection	Asset Management & Inspections	7.3.4.4		Infrared inspections of distribution electric lines and equipment.	IN-3	Equipment failure		2017	156		1,879	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	Exceeding compliance with regulations		GO 95, Rule 31.2; GO 95, Rule 31.1	General operations								\$	791			4,416	\$	427		4,425	\$	427		4,425						
Asset inspection	Asset Management & Inspections	7.3.4.5		Infrared inspections of transmission electric lines and equipment.	IN-4	Equipment failure		2019						Exceeding compliance with regulations		GO 95, Rule 31.2; GO 95, Rule 31.1	General operations							\$	384			1,005	\$	209		1,000	\$	216		1,000						
Asset inspection	Asset Management & Inspections	7.3.4.6		Intrusive pole inspections.	NA			NA						In compliance with regulations		GO 95	General operations								\$	4,223			14,000		\$	4,332		14,000								
Asset inspection																																										

Metric type	WMP Table # / Category	WMP Initiative # Relative activity	WMP Identifier	Primary driver targeted	Secondary driver	Targeted Year	Estimated RSE in non-WFD region	Estimated RSE in WFD Zone 1	Estimated RSE in WFD Tier 2	Estimated RSE in WFD Tier 3	If existing: most recent proceeding that has reviewed program	If new: memorandum account	Current compliance status - in / exceeding compliance with regulations	Associated rule(s) - if multiple, separate by semi colon ";"	If spend not disaggregated by this activity, note activity where relevant spend is tracked in or "NA" "General operations"	Alternative units in which initiative is reported (if not line miles); still required to report line miles	Comments	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029							
Asset Inspection	Asset Management & Inspections	7.3.4.9.1 Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	IN-1.1	Equipment failure		2018			2,636	2,777	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	FRMMA, WMPMA	Exceeding compliance with regulations	GO 95, Rule 31.2; GO 95, Rule 31.1; GO 165	NA	# of Ground Inspections: 199,050; # of Aerial Inspections: 168,017; # of Remediations: 26,913 2021: # of Ground Inspections: 198,000; # of Aerial Inspections: 198,000; # of Remediations: 24,584 2022: # of Ground Inspections: 171,000; # of Aerial Inspections: 198,468; # of Remediations: 14,354	\$	85,219	\$	105,513	\$	393,982	\$	147,938	\$	104,185	\$	420,545	\$	88,698	\$	91,606	\$	383,822
Asset Inspection	Asset Management & Inspections	7.3.4.9.2 Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	IN-5			2019					This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	FRMMA, WMPMA	Exceeding compliance with regulations	GO 95 Rule 31.2; GO 165	NA		\$		\$	403	\$	268	\$	315	\$	181	\$		\$	102				
Asset Inspection	Asset Management & Inspections	7.3.4.10 Other discretionary inspection of transmission electric lines and	IN-1.2	Equipment failure		2018			540	764	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	FRMMA, GSRPBA, WMPMA	Exceeding compliance with regulations	GO 95, Rule 31.2; GO 95, Rule 31.1; GO 165	NA	2020: # of Ground Inspections: 33,562; # of Aerial Inspections: 31,381; # of Remediations: 6,486 2021: # of Ground Inspections: 22,800; # of Aerial Inspections: 22,800; # of Remediations: 5,902 2022: # of Ground Inspections: 14,902; # of Aerial Inspections: 22,834; # of Remediations: 3,605	\$	35,934	\$	51,821	\$	73,429	\$	50,758	\$	25,181	\$	51,502	\$	18,098	\$	23,825	\$	41,341
Asset Inspection	Asset Management & Inspections	7.3.4.11 Patrol inspections of distribution electric lines and equipment	NA			NA						NA	In compliance with regulations	GO 95	General operations	# of assessments	\$	25,218	\$	9,715	\$	24,099	\$	9,715	\$	24,782	\$	9,715	\$					
Asset Inspection	Asset Management & Inspections	7.3.4.12 Patrol inspections of transmission electric lines and equipment	NA			NA						NA	In compliance with regulations	GO 95	General operations	# of assessments	\$	14,477	\$	121,268	\$	3,210	\$	14,400	\$		\$		\$					
Asset Inspection	Asset Management & Inspections	7.3.4.13 Pole loading assessment program to determine safety factor	NA			NA						NA	In compliance with regulations	GO 174	General operations	# of inspections	\$	2,672	\$	4,209	\$	2,835	\$	4,426	\$	2,986	\$	5,644	\$					
Asset Inspection	Asset Management & Inspections	7.3.4.14 Quality assurance / quality control of inspections	NA			NA						NA	In compliance with regulations	GO 174	General operations	# of inspections	\$	2,672	\$	4,209	\$	2,835	\$	4,426	\$	2,986	\$	5,644	\$					
Asset Inspection	Asset Management & Inspections	7.3.4.15 Substation inspections	NA			NA						NA	In compliance with regulations	GO 174	General operations	# of inspections	\$	2,672	\$	4,209	\$	2,835	\$	4,426	\$	2,986	\$	5,644	\$					
Vegetation management project	Vegetation Management & Inspections	7.3.5.1 Additional efforts to manage community and environmental impacts	NA			NA						NA	In compliance with regulations	GO 95; GO 174	General operations	# of ground inspection and aerial inspections	\$	26,716	\$	1,760,000	\$	15,020	\$	1,149,000	\$	15,471	\$	1,149,000	\$	1,149,000				
Vegetation inspection	Vegetation Management & Inspections	7.3.5.2 Detailed inspections of vegetation around distribution electric lines and equipment	NA			NA						NA	In compliance with regulations	GO 95; GO 174	General operations	# of ground inspection and aerial inspections	\$	26,716	\$	1,760,000	\$	15,020	\$	1,149,000	\$	15,471	\$	1,149,000	\$	1,149,000				
Vegetation inspection	Vegetation Management & Inspections	7.3.5.3 Detailed inspections of vegetation around transmission electric lines and equipment	NA			NA						NA	In compliance with regulations	GO 95; GO 174	General operations	# of inspections	\$	1,774	\$	321,000	\$	2,753	\$	234,000	\$	2,835	\$	234,000	\$	234,000				
Vegetation management project	Vegetation Management & Inspections	7.3.5.4 Emergency response vegetation management due to red flag warning or other urgent conditions	NA			NA						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA			\$	10,009	\$	10,309	\$		\$		\$		\$						
Vegetation management project	Vegetation Management & Inspections	7.3.5.1 Fuel management and reduction of "slash" from vegetation management activities	VM-2	Equipment failure		2019			1,426	1,881	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	WMPMA	Exceeding compliance with regulations	PRC 4292	NA	# of poles brushed	\$	7,459	\$	234,000	\$	8,772	\$	229,190	\$	6,787	\$	229,190	\$	229,190				
Vegetation management project	Vegetation Management & Inspections	7.3.5.2 Fuel management and reduction of "slash" from vegetation management activities	VM-3			2019					This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	FHPMA	Exceeding compliance with regulations	PRC 4293; FAC-003-4	NA		\$	900	\$	46	\$	1,089	\$		\$	1,089	\$		\$	49				
Vegetation inspection	Vegetation Management & Inspections	7.3.5.6 Improvement of inspections	NA			2019						NA	Exceeding compliance with regulations	FAC-003-4	NA		\$	4,092	\$	1,227	\$	1,485	\$	1,227	\$	1,502	\$	1,227	\$					
Vegetation inspection	Vegetation Management & Inspections	7.3.5.7 LIDAR inspections of vegetation around distribution electric lines and equipment	NA			2019						NA	Exceeding compliance with regulations	FAC-003-4	NA		\$	4,092	\$	1,227	\$	1,485	\$	1,227	\$	1,502	\$	1,227	\$					
Vegetation inspection	Vegetation Management & Inspections	7.3.5.8 LIDAR inspections of vegetation around transmission electric lines and equipment	NA			2019						NA	Exceeding compliance with regulations	FAC-003-4	NA		\$	4,092	\$	1,227	\$	1,485	\$	1,227	\$	1,502	\$	1,227	\$					
Vegetation inspection	Vegetation Management & Inspections	7.3.5.9 Other discretionary inspections of vegetation around distribution electric lines and equipment	NA			2019						NA	Exceeding compliance with regulations	FAC-003-4	NA		\$	4,092	\$	1,227	\$	1,485	\$	1,227	\$	1,502	\$	1,227	\$					
Vegetation inspection	Vegetation Management & Inspections	7.3.5.10 Other discretionary inspections of vegetation around transmission electric lines and equipment	NA			2019						NA	Exceeding compliance with regulations	FAC-003-4	NA		\$	4,092	\$	1,227	\$	1,485	\$	1,227	\$	1,502	\$	1,227	\$					
Vegetation inspection	Vegetation Management & Inspections	7.3.5.11 Patrol inspections of vegetation around distribution electric lines and equipment	NA	Contact with vegetation		2019						NA	Exceeding compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	3,966	\$	14,000	\$	5,547	\$	14,000	\$	6,159	\$	14,000	\$					
Vegetation inspection	Vegetation Management & Inspections	7.3.5.12 Patrol inspections of vegetation around transmission electric lines and equipment	NA	Contact with vegetation		2019						NA	Exceeding compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	3,966	\$	14,000	\$	5,547	\$	14,000	\$	6,159	\$	14,000	\$					
Vegetation inspection	Vegetation Management & Inspections	7.3.5.13 Quality assurance / quality control of vegetation inspections	NA			2019						NA	Exceeding compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	3,966	\$	14,000	\$	5,547	\$	14,000	\$	6,159	\$	14,000	\$					
Vegetation management project	Vegetation Management & Inspections	7.3.5.14 Recruiting and training of vegetation management personnel	NA			2019						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	3,966	\$	14,000	\$	5,547	\$	14,000	\$	6,159	\$	14,000	\$					
Vegetation management project	Vegetation Management & Inspections	7.3.5.15 Remediation of at-risk species	NA			2018			1,405	1,602	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	GSRPBA	Exceeding compliance with regulations	GO 95 Rule 35; PRC 4293	General operations	# of tree assessments	\$	46,685	\$	95,523	\$	80,722	\$	200,000	\$	89,362	\$	200,000	\$	200,000				
Vegetation management project	Vegetation Management & Inspections	7.3.5.16 Removal and remediation of trees with strike potential to electric lines and equipment	VM-1	Contact with vegetation		2018			1,405	1,602	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	GSRPBA	Exceeding compliance with regulations	GO 95 Rule 35; PRC 4293	General operations	# of tree assessments	\$	46,685	\$	95,523	\$	80,722	\$	200,000	\$	89,362	\$	200,000	\$	200,000				
Vegetation management project	Vegetation Management & Inspections	7.3.5.16 Removal and remediation of trees with strike potential to electric lines and equipment	VM-4	Contact with vegetation		2018			2,384	2,413	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	CEMA	Exceeding compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	37,604	\$	43,445	\$	44,748	\$		\$	44,748	\$							
Vegetation inspection	Vegetation Management & Inspections	7.3.5.17 Substation inspection	NA			2019						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	3,966	\$	14,000	\$	5,547	\$	14,000	\$	6,159	\$	14,000	\$					
Vegetation management project	Vegetation Management & Inspections	7.3.5.18 Substation vegetation management	NA			2021						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	16,128	\$	1,056	\$	14,000	\$	9,940	\$	4,475	\$	4,691	\$	14,000				
Vegetation management project	Vegetation Management & Inspections	7.3.5.19 Vegetation inventory system	VM-6			2021						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	16,128	\$	1,056	\$	14,000	\$	9,940	\$	4,475	\$	4,691	\$	14,000				
Vegetation management project	Vegetation Management & Inspections	7.3.5.20 Vegetation management to achieve clearances around electric lines and equipment	NA	Contact with vegetation		2019			4,042	4,512	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	FHPMA	Exceeding compliance with regulations	GO 95; PRC 4293; FAC-003-4	NA		\$	233,585	\$	14,000	\$	182,747	\$	14,000	\$	187,967	\$	14,000	\$					
Other	Grid Operations & Operating Protocols	7.3.6.1 Automatic recloser operations	NA			2019						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	General operations		\$	6,843	\$	23,977	\$	14,000	\$	7,247	\$	48,526	\$	14,000	\$	1,250	\$	48,378	\$	14,000
Other	Grid Operations & Operating Protocols	7.3.6.2 Crew-accompanying ignition prevention and suppression resources and services	NA			2019						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	General operations		\$	6,843	\$	23,977	\$	14,000	\$	7,247	\$	48,526	\$	14,000	\$	1,250	\$	48,378	\$	14,000
Other	Grid Operations & Operating Protocols	7.3.6.3 Personnel work procedures and training in conditions of elevated fire risk	NA			2019						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	General operations		\$	6,843	\$	23,977	\$	14,000	\$	7,247	\$	48,526	\$	14,000	\$	1,250	\$	48,378	\$	14,000
Other	Grid Operations & Operating Protocols	7.3.6.4 Protocols for PPS in energization	NA			2018			108	188	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	FRMMA, GSRPBA, WMPMA	Exceeding compliance with regulations	SB 167	General operations	This is the RSE for Community Resource Center/Community Crew Vehicles. An RSE was calculated for Critical Care Backup Battery which is 12 and 22 for Tier 2 and Tier 3 respectively.	\$	6,843	\$	23,977	\$	14,000	\$	7,247	\$	48,526	\$	14,000	\$	1,250	\$	48,378	\$	14,000
Other	Grid Operations & Operating Protocols	7.3.6.5 PPS events and mitigation of PPS impacts	PPSP-2			2018			108	188	This activity was not included in SCE's 2018 GRC, but is included in its pending 2021 GRC.	FRMMA, GSRPBA, WMPMA	Exceeding compliance with regulations	SB 167	General operations	This is the RSE for Community Resource Center/Community Crew Vehicles. An RSE was calculated for Critical Care Backup Battery which is 12 and 22 for Tier 2 and Tier 3 respectively.	\$	6,843	\$	23,977	\$	14,000	\$	7,247	\$	48,526	\$	14,000	\$	1,250	\$	48,378	\$	14,000
Other	Grid Operations & Operating Protocols	7.3.6.6 Stationed and on-call ignition prevention and suppression resources and services	NA			2019						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	General operations		\$	6,843	\$	23,977	\$	14,000	\$	7,247	\$	48,526	\$	14,000	\$	1,250	\$	48,378	\$	14,000
Other	Data Governance	7.3.7.1 Centralized repository for data	DG-1			2021						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	General operations		\$	1,796	\$	14,000	\$	15,799	\$	1,012	\$	14,000	\$	13,698	\$	2,252	\$	14,000		
Other	Data Governance	7.3.7.2 Collaborative research on utility ignition and/or wildfire	NA			2021						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	General operations		\$	1,796	\$	14,000	\$	15,799	\$	1,012	\$	14,000	\$	13,698	\$	2,252	\$	14,000		
Other	Data Governance	7.3.7.3 Documentation and disclosure of wildfire-related data and algorithms	NA			2021						NA	In compliance with regulations	GO 95; PRC 4293; FAC-003-4	General operations		\$	1,796	\$	14,000	\$	15,799	\$	1,012	\$	14,000	\$	13,698	\$	2,252	\$	14,000		
Other	Data Governance	7.3.7.4 Tracking and analysis of near miss data	NA			2021																												