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OFFICE OF ENERGY INFRASTRUCTURE SAFETY OF THE CALIFORNIA NATURAL
RESOURCES AGENCY

SUBJECT: Southern California Edison Company's Quarterly Notification Pursuant to Public Utilities Code Section 8389(e)(7) Regarding the Implementation of Its Approved Wildfire Mitigation Plan and Its Safety Culture Assessment and Safety Recommendations

Southern California Edison Company (SCE) hereby submits this Notification detailing the implementation of its 2021 Wildfire Mitigation Plan (WMP) Update,¹ recommendations of the most recent safety culture assessment, a statement of the recommendations of its board of directors' safety committee² (Committee) during meetings that occurred during the fourth quarter of 2021, and a summary of the implementation of Committee recommendations in the fourth quarter of 2021 from previous meetings.

PURPOSE

The purpose of this Notification is to comply with the provisions of Public Utilities Code (PUC) Section 8389(e)(7), established by California Assembly Bill (AB) 1054 as amended by AB 148.

¹ Public Utilities Code Section 8389 requires a quarterly notification detailing the implementation of a utility's approved WMP. SCE is reporting on the implementation of its 2021 WMP Update, which was approved on August 19, 2021. Advice 4437-E (submitted March 8, 2021) and SCE's 2020 Annual Report on Compliance (ARC, submitted March 31, 2021) provide details on implementation of SCE's approved 2020-2022 WMP.

² SCE's board of directors' safety committee is known as the Safety and Operations Committee of the Board of Directors and referred to herein as the "Committee."

BACKGROUND

AB 1054 was signed into law by Governor Newsom on July 12, 2019 and AB 148 was signed into law on July 22, 2021. Section 8389(e)(7), which was added to the PUC by AB 1054 as amended by AB 148, reads:

The Director of the Office of Energy Infrastructure Safety shall issue a safety certification to an electrical corporation if the electrical corporation provides documentation of the following: ...The electrical corporation is implementing its approved wildfire mitigation plan. The electrical corporation shall file a notification of implementation of its wildfire mitigation plan with the office and an information-only submittal with the commission on a quarterly basis that details the implementation of both its approved wildfire mitigation plan and recommendations of the most recent safety culture assessments by the commission and office, and a statement of the recommendations of the board of directors safety committee meetings that occurred during the quarter. The notification and information-only submittal shall also summarize the implementation of the safety committee recommendations from the electrical corporation's previous notification and submission. If the office has reason to doubt the veracity of the statements contained in the notification or information-only submittal, it shall perform an audit of the issue of concern. The electrical corporation shall provide a copy of the information-only submittal to the office.³

SCE provides the required information below:

(1) Implementation of Wildfire Mitigation Plan

On February 5, 2021, SCE submitted its 2021 WMP Update,⁴ a comprehensive WMP covering 2021-2022 and building on its 2020 WMP. The Update included discussion of 2021 programs and activities, including successes and lessons learned. On June 3, 2021, SCE submitted its 2021 WMP Update Revision, which included responses to four Critical Issues identified by the Wildfire Safety Division (WSD). On July 1, 2021, the WSD transitioned from the California Public Utilities Commission (Commission or CPUC) to the California Natural Resources Agency and became the Office of Energy Infrastructure Safety (OEIS or Energy Safety). On July 16, 2021, the CPUC contemporaneously issued a draft Resolution WSD-020 and comment letter ratifying Energy Safety's draft Action Statement approving SCE's 2021 WMP Update. On August 19, 2021, the Commission ratified SCE's 2021 WMP Update.⁵

In 2021, SCE performed 39 specific wildfire-related programs and activities that constitute its 2021 WMP Update, including additional grid hardening, enhanced inspection and repair programs, continuation of robust vegetation management,

³ Pub. Util. Code § 8389(e)(7).

⁴ SCE submitted a Supplement to the Update on February 26, 2021.

⁵ WMP approval statement available at: <https://energysafety.ca.gov/wp-content/uploads/final-resolution-wsd-020.pdf>.

increased situational awareness and response, and augmented activities for Public Safety Power Shutoff (PSPS) resilience and community engagement, particularly for underrepresented groups and access and functional needs customers.

In Attachment A (SCE's 2020-2022 Wildfire Mitigation Plan Progress Update – Q4 2021), SCE presents detailed information about the implementation status of each of these wildfire-related mitigation programs and activities. As referenced in Attachment A, SCE met the majority of the 2021 targets including grid design and system hardening, asset management and inspections, vegetation management and inspections and PSPS as set forth in the 2021 WMP Update, but notes that six of the activities did not meet the year-end target. Attachment A provides more details on Behind Plan activities including actions to improve performance.

(2) **Implementation of Most Recent Safety Culture Assessment**

Safety is the first of SCE's core values and this is demonstrated through the company's commitment to creating and maintaining a safe environment for employees, contractors, and the public. SCE continues to improve its safety culture through ongoing focus on safety ownership by leaders, safety culture training, engagement and message reinforcement, and the incorporation of feedback from all levels of the organization.

Energy Safety initiated its 2021 Safety Culture Assessment (SCA) process for electrical corporations and conducted its first assessment for SCE on June 14, 2021. SCE partnered with OEIS and DEKRA, its third-party administrator, to complete the organizational self-assessment, workforce safety culture survey, and accompanying focus groups. On September 2, 2021, Energy Safety issued the 2021 SCA Report for SCE⁶ and SCE is implementing the findings and recommendations in the SCA report. The recommendations included: "(1) Update current safety leader activities to address issues noted by the workforce concerning wildfire communications, roles, and decisions; (2) Use Safety Culture Pulse Surveys to evaluate progress of supervisors in engaging frontline workers on wildfire hazards and providing clear communication about wildfire-related procedures; (3) Embed learning organization concepts into the culture via training, incident investigations and corrective action systems; and (4) Recognize and take action to mitigate the serious exposure posed by interactions with certain discontented members of the public."⁷

Addressing the First Recommendation, SCE is:

- Taking steps to improve awareness and engagement between leaders and field workers on wildfire safety protocols and decisions via training and refinement of communication strategies. Implementation plan includes

⁶ <https://energysafety.ca.gov/wp-content/uploads/2021-sca-report-sce.pdf>.

⁷ 2021 SCA Report for SCE, pp. 1-2.

training and organizational change management (OCM) designed to drive timely and specific awareness of changes, engagement at all levels, learning and development, and targeted two-way communication.

- Conducting and documenting outreach to field workforce at high fire risk area (HFRA) sites to listen to concerns, share information and reinforce PSPS protocols. Since September, the PSPS operations team has reached out to the field workforce and continues to assess training processes and refine OCM strategy.

Addressing the Second Recommendation, SCE:

- Administered quarterly Pulse Survey to monitor the effectiveness of PSPS OCM strategy and wildfire communication improvements. Baseline questions have been included in the Q4 2021 Pulse Survey and responses will be continued to be monitored quarterly.

Addressing the Third Recommendation, SCE:

- Deployed process to evolve information sharing practices on incident learnings to be more targeted communications for frontline employees that clearly link root cause, lessons learned and work practices.
- Is developing approach to re-launch Human and Organizational Performance training to drive focus on systems and process learnings across the field workforce.

Addressing the Fourth Recommendation, SCE is:

- Regularly tracking and trending incidents of employee instances of hostile interactions with members of the public, in order to identify drivers and mitigating actions which are disseminated through newsletters, safety messages, and safety presentations; in conjunction with roadshows to supplement existing training to help employees recognize and mitigate the risk of customer threats (e.g., avoid conflict through advance notice, SCE identifiers, etc. and de-escalation tips if they encounter a threatening/hostile customer).

(3) Recommendations of Safety and Operations Committee

The Committee had two regular meetings during the fourth quarter of 2021 on October 27, 2021 and December 8, 2021. During these meetings, the Committee focused on wildfire and safety issues in the following categories: Wildfire Safety, Worker Safety, and Public Safety, among other topics.

Each of these areas is separately addressed below. In addition to quarterly meetings, the Committee Chair meets regularly with SCE management to discuss wildfire and worker safety issues.

Wildfire Safety

Discussions on wildfire safety during the fourth quarter meetings covered wildfire operations and progress made on the WMP, the PSPS Action Plan and the OEIS SCA; mitigation activities; ignitions in HFRA; and ignitions caused by secondary conductors.⁸

At its October meeting, the Committee received an overview of wildfire operations, including progress to date on the 2021 WMP Update, the PSPS Action Plan, and the management of third-party equipment risk. The report included the validation by a third-party consultant of the wildfire mitigation risk reduction achieved by SCE, the analysis supporting continued deployment of covered conductor, and the ongoing review of expanding undergrounding as part of risk reduction measures. Management and the Committee discussed various topics, including the maturity of the risk analysis, the impacts of climate change on mitigations, benchmarking on undergrounding, and labor availability among contractors.

Also at the October meeting, the Committee was briefed on the progress on the 2021 WMP Update and areas that are off-track due to vegetation management contractor safety stand downs. Management described the PSPS Action Plan progress, including exceeding goals on reduction in customer minutes interrupted and improvements in customer notifications and customer care resources. Finally, the Committee and management discussed the recent communications that Pacific Gas and Electric Company received from the Commission regarding fast trip settings resulting in increased customer outages. Management noted the evaluation of SCE's practices.

At its December meeting, the Committee received an overview of wildfire mitigation activities. The Committee also received a report on the conditions and circumstances around the November PSPS events. Management noted areas for improvement and that the grid hardening investments demonstrated value in communities that had been most frequently subject to PSPS events in the past. The Committee and management also discussed the unique conditions and volatility in forecasted weather for the Thanksgiving event that resulted in PSPS for areas with non-frequently impacted circuits, the challenges with timely customer notifications and deployment of customer care resources to impacted communities. Management described the feedback from customers, state agencies and regulators on SCE's PSPS operations. The Committee and

⁸ A secondary conductor is a conductor that branches off from the primary conductor to service lower voltages such as residential loads.

management discussed various topics, including public and customer communications improvements. The Committee also received an update on WMP progress including discussion of the factors affecting the activities at risk of being off-track and the corresponding potential impacts. The Committee and management discussed plans for the 2022 WMP Update submittal. The Committee received a report on Commission reportable ignitions data, ignitions within HFRA vs. non-HFRA, including a breakout of secondary conductor ignitions within HFRA vs. non-HFRA. Management described the primary driver of secondary-caused ignitions as equipment failure, the locations of secondary conductors being closer to populated neighborhoods, which typically are lower fire risk due to less burnable fuel nearby and customer drivers including overloading. The Committee and management discussed the plan to incorporate mitigations to address secondary-caused ignitions in the 2022 WMP Update submittal. The Committee also received an update on the OEIS safety culture assessment recommendations being implemented at SCE.

Worker Safety

Discussions on worker safety during the fourth quarter meeting in December covered contractor and worker safety performance, a contractor fatality, and engagement with the contractor's leadership.

The Committee received a report on the serious injuries and fatalities (SIF) and Days Away, Restricted or Transferred (DART) metrics, noting improvement in the SIF rate but continued challenges in DART rates. The Committee and management discussed the effect of the Safety Action Plans in target districts and the progress on the 2021 focus areas of the safety program and plans for 2022 focus areas, including foundational areas of leader ownership and accountability. The Committee and management discussed various topics, including line leader feedback to the planned 2022 focus areas and increasing safety observations as a leading indicator. Management also summarized engagement with external partners to improve SIF prevention.

The Committee received a report on contractor safety performance. Management noted improvement in contractor SIF and DART rates, with the exception of one contractor fatality. The Committee and management discussed the fatality, potential contributing factors and actions taken with the relevant contractor, including a complete stand down of their work for SCE. The Committee and management discussed various questions, including SCE's policy on the use of mobile devices in vehicles. The Committee and management also discussed flash incidents and the ongoing work under the risk-based safety program to evaluate the various flash incidents.

Public Safety

The Committee received a report on public safety at its fourth quarter meeting in October, which included an update on the operational mitigations for improperly installed guy wire anchor rods. The update addressed progress made on inspections and remediations, areas for continued inspections for equipment based on structural risk, and high priority areas. The Committee and management also discussed the scope of the inspections and mitigations, utilization of contractors for the remediation, verification of their work by SCE quality control efforts, and potential regulatory developments. Management also reported on the financial viability of the contractors of interest and responded to Committee questions regarding the engineering analysis that informed the mitigation prioritization and resource deployment.

Committee Recommendations

In addition to discussing the wildfire and safety topics during fourth quarter meetings, the Committee made the following recommendations and requests:

1. Recommended that management continue to report on safety performance regarding the recent trend in DART rates.
2. Recommended management continue to review the effectiveness of safety metrics like DART for future consideration.
3. Recommended management provide an update on implementation of the safety culture assessment recommendations.
4. Recommended management review PSPS customer notification effectiveness including after-event communications.
5. Recommended that management report on the 2022 WMP Update submission.
6. Recommended that management continue to report on guy wire anchor rod installations.
7. Recommended that management continue to report on contractor management improvement efforts.

Completed Management Responses to Committee Recommendations

In response to the Committee's recommendations in prior meetings, management provided the following responses during the third quarter meetings, the details of which are described above or were pending from

prior notifications:

1. Recommendation (Fourth Quarter 2020): The Committee recommended that management report back to the Committee on their risk evaluation and prioritization methodology in light of the significant increase in ignitions from secondary conductors.

Management response: The Committee received reports that covered ignitions from secondary conductors at its April and December 2021 meetings.

2. Recommendation (Second Quarter 2021): The Committee recommended that the evaluation of the Audit Plan related to safety audits for transmission work be ongoing.

Management Response: The Committee discussed its input into the 2022 Audit Plan with the General Auditor at the December 2021 meeting.

3. Recommendation (Third Quarter 2021): Recommended that management report on the results and recommendations of the OEIS safety culture assessment.

Management Response: The Committee received information on the results and recommendations of the OEIS safety culture assessment as part of the wildfire safety report at its December meeting.

Pending Management Responses to Committee Recommendations

The Committee has one special first quarter 2022 meeting and one regular first quarter 2022 meeting scheduled for January 26, 2022 and February 23, 2022, both of which will be summarized in the next quarterly report. Additional meetings will be scheduled as appropriate.

For questions, please contact June Bote at (714) 895-0585 or by electronic mail at june.bote@sce.com.

Southern California Edison Company

/s/ Shinjini C. Menon

Shinjini C. Menon

SCM:sl:cm
Enclosures

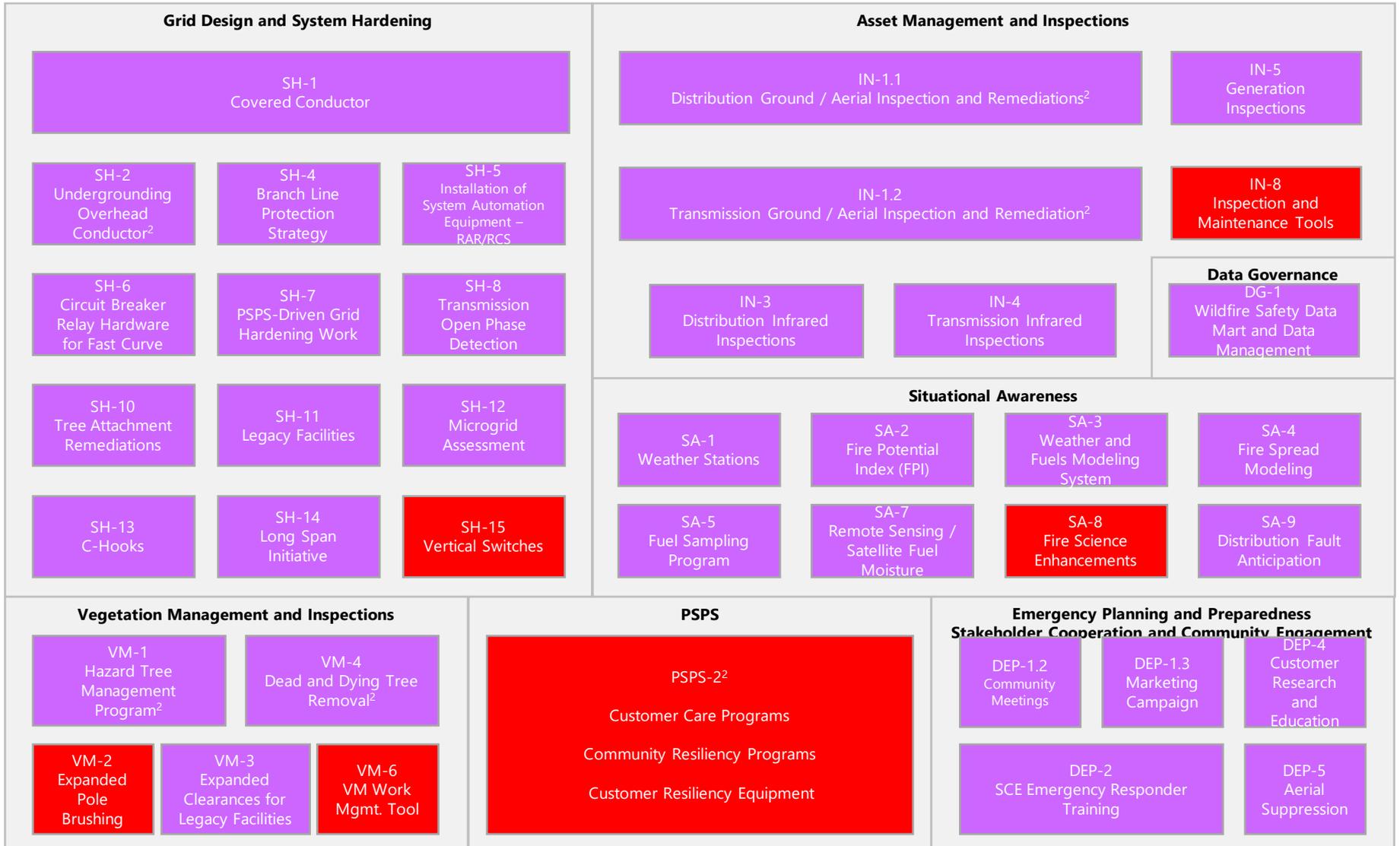
ATTACHMENT A

SCE's 2020-2022 Wildfire Mitigation Plan (WMP) Progress Update – Q4 2021

(All data is as of December 31, 2021)

WMP Activities Summary¹

Inactive
 Under Review
 Complete
 On Track
 Behind Plan, Likely to Meet Year-end Target
 Behind Plan, At-Risk of Not Meeting Year-end Target



¹ Source: All data is as of December 31, 2021 (+/- 5 business days). Reported numbers are subject to revision upon data validation.

² Activity included in 2021 Change Orders Report filed on November 1, 2021.

WMP Activities Summary

 Inactive  Under Review  Complete  On Track  Behind Plan, Likely to Meet Year-end Target  Behind Plan, At-Risk of Not Meeting Year-end Target

Situational Awareness Activities

Weather Stations

Weather Stations (SA-1)

Section 7.3.2.1 Page 196³

Program Target: SCE expects to install 375 weather stations but will attempt to install as many as 475.

Status Update: SCE met target by installing a total of ~400 weather stations in 2021.

Fire Spread Modeling

Fire Spread Modeling (SA-4)

Section 7.3.2.6.2 Page 205

Program Target: Develop a methodology and a strategy to test FireCast/FireSim implementation into PSPS decision making based on backcast information by Q3.

Status Update: SCE met the target by completing development of methodology for incorporating risk and consequence data.

Fire Potential Index (FPI)

FPI (SA-2)

Section 7.3.2.4.1 Page 201

Program Target: 1) Backcast 20 years of FPI using FPI 2.0 before typical height of fire season (Q3) to determine historical performance compared to current FPI 2) Run FPI 2.0 in parallel with the current FPI and compare outputs for the 2021 fire season.

Status Update: SCE met target by completing evaluation of FPI 2.0 performance against previous FPI methodology.

Fuel Sampling Program

Fuel Sampling Program (SA-5)

Section 7.3.2.4.2 Page 202

Program Target: Maintain periodic fuel sampling across SCE's HFRA and evaluate the need to sample additional locations.

Status Update: SCE has met the target by having vendor supply fuel sampling reports every 2 weeks through the end of the year. Assessed and verified quality of fuel sampling output with vendor in Q4.

Weather and Fuels Monitoring System

Weather and Fuels Monitoring System (SA-3)

Section 7.3.2.6.1 Page 207

Program Target: Install two additional High-Performance Computing Clusters (HPCCs) to facilitate the installation and Operationalization of the Next Generation Weather Modeling System, allowing for more precise, higher resolution output.

Status Update: SCE has met the target by producing higher resolution (1km x 1km) ensemble weather forecasts and extended PSPS forecast from 5 to 7 days.

Remote Sensing / Satellite Fuel Moisture

Remote Sensing / Satellite Fuel Moisture (SA-7)

Section 2.3.2.4.3 Page 204

Program Target: Initiate wind profiler pilot project to validate weather model performance for potential improvements to weather models.

Status Update: SCE met the target in October by completing first wind profiler deployment to align existing weather model and weather station output. Future deployments will further help to determine the level of predictability of surface wind velocities and how weather model performance can be improved.

³ Denotes section and page number within SCE 2021 Wildfire Mitigation Plan Update.

Situational Awareness Activities

Fire Science Enhancements

Fire Science Enhancements (SA-8)

Section 7.3.2.4.4 Page 205

Program Target: Evaluate current wildfire events in context of 40-year history of wildfires.

Status Update: SCE did not meet target. Vendor developed a climatology output containing a 40-year history of wildfires for multiple variables but unable to complete because vendor work was reprioritized to support other emergent work. Due to vendor resource constraints, evaluation will take place in 2022.

Distribution Fault Anticipation (DFA)

Distribution Fault Anticipation (DFA) (SA-9)

Section 7.3.2.2 Page 198

Program Target: Complete installation of 120 DFA units on circuits in SCE's HFRA and continue evaluation of DFA technology which may result in SCE installing up to 150 units.

Status Update: SCE met target by installing 130 DFA devices on circuits in HFRA in 2021.

WMP Activities Summary

 Inactive  Under Review  Complete  On Track  Behind Plan, Likely to Meet Year-end Target  Behind Plan, At-Risk of Not Meeting Year-end Target

Grid Design and System Hardening

Covered Conductor

140%
installed

Covered Conductor (SH-1)

Section 7.3.3.3.1 Page 214

Program Target: SCE expects to install 1,000 circuit miles of covered conductor in SCE's HFRA but will attempt to install as many as 1,400 circuit miles of covered conductor in SCE's HFRA, subject to resources constraints and other execution risks. SCE continues to reevaluate its covered conductor strategy and scope along with alternative strategies as appropriate to protect public safety.

Status Update: SCE met target by installing ~1,500 circuit miles of covered conductor in HFRA in 2021.

Undergrounding Overhead Conductor

Undergrounding Overhead Conductor (SH-2)⁴

Section 7.3.3.16.1 Page 228

Program Target: Install 4 miles of undergrounded HFRA circuits. SCE will attempt to install 6 miles of undergrounded HFRA circuits, subject to resource constraints and other execution risks, such as permitting, environmental or coordinating with other utilities.

Status Update: SCE met target by installing ~5.8 circuit miles in HFRA in 2021.

Branch Line Protection Strategy

Branch Line Protection Strategy (SH-4)

Section 7.3.3.7.1 Page 219

Program Target: Install or replace fusing at 330 fuse locations. SCE will strive to install or replace fusing at 421 locations, subject to resource constraints and other execution risks.

Status Update: SCE met target by completing ~350 fuse installations in 2021.

Install RAR/RCS

Installation of System Automation Equipment – RAR/RCS (SH-5)

Section 7.3.3.9 Page 223

Program Target: N/A – If RARs/RCSs are determined to be necessary based on the SH-7 analysis, SCE will develop appropriate project plans.

Status Update: : After SH-7 determined RARs/RCSs to be necessary, Corrective Action Plan (project plan) was developed and subsequently satisfied with installation of 23 devices.

Circuit Breaker Relay Hardware for Fast Curve

Circuit Breaker Relay Hardware for Fast Curve (SH-6)

Section 7.3.3.2 Page 213

Program Target: Replace/upgrade 60 relay units in HFRA. SCE will strive to replace/upgrade 86 relay units in HFRA, subject to Resource constraints and other execution risks.

Status Update: SCE met target in Q3 and finished 2021 with ~95 devices installed.⁵

PSPS-Driven Grid Hardening

PSPS-Driven Grid Hardening Work (SH-7)

Section 7.3.3.8.1 Page 221

Program Target: SCE will develop a methodology to project probability of PSPS de-energization and impact. Utilizing this methodology, SCE will adopt a more targeted approach by evaluating highly impacted circuits from the remaining 50% circuits in HFRA.

Status Update: SCE met target in Q4 after review of the second 50% of riskiest circuits.

⁴ Activity included in 2021 Change Orders Report filed on November 1, 2021.

⁵ 10 circuit breaker relays (SH-6) were installed in non-HFRA in 2021.

WMP Activities Summary

 Inactive  Under Review  Complete  On Track  Behind Plan, Likely to Meet Year-end Target  Behind Plan, At-Risk of Not Meeting Year-end Target

Grid Design and System Hardening

Transmission
Open Phase
Detection
100%
installed

Transmission Open Phase Detection (SH-8)

Section 7.3.3.17.1 Page 230

Program Target: Install transmission open phase detection devices on 10 transmission circuits.

Status Update: SCE has met target by completing installation on 10 transmission circuits.

Tree Attachment Remediation (SH-10)

Section 7.3.3.3.2 Page 217

Program Target: Remediate 500 tree attachments. SCE will strive to complete over 600 tree attachment remediations, subject to resource constraints and other execution risks.

Status Update: SCE has met target by completing ~520 remediations.

Legacy Facilities (SH-11)

Section 7.3.3.17.2 Page 231

Program Target: Perform evaluation on 5 circuits for possible hardening. Create 2 project plans based on 2020 engineering assessments on low voltage site. Complete 12 additional assessments on grounding studies/lighting arrestor.

Status Update: SCE has met target by completing five Hydro Control Circuits assessments, Completed 2 Low Voltage Site Hardening project plans based on 2020 engineering assessments, and completed 12 additional Grounding Studies/Lightning Arrestor assessments.

Microgrid Assessment (SH-12)

Section 7.3.3.8.2 Page 222

Program Target: Perform internal assessment of vendor bid and location options. If assessment favorable, issue engineering procurement construction (EPC) contract.

Status Update: SCE target of completing internal assessment of vendor bid and location options. Conditional Engineering-Procurement-Construction (EPC) contract is in place with contingency on finalization of land agreement.

C-Hooks

C-Hooks (SH-13)

Section 7.3.3.15.1 Page 227

Program Target: Replace C-Hooks on at least 40 structures in HFRA. SCE will strive to replace all C-hooks in HFRA, currently estimated between 50 - 60 structures.

Status Update: SCE target met in Q4 with ~50 C-Hooks removed.

Long Span
Initiative

Long Span Initiative (SH-14)

Section 7.3.3.12.1 Page 226

Program Target: Complete all field assessments for locations and corresponding remediations. Remediate the highest risk locations, estimating that 300, and up to 600, locations will be remediated in 2021, subject to the completion timeline for inspections, resource constraints and other execution risks.

Status Update: SCE has met target by completing ~360 remediations.⁶

Vertical
Switches

Vertical Switches (SH-15)

Section 7.3.3.17.3 Page 232

Program Target: Install 20 switches in HFRA. SCE will strive to install 30 switches in HFRA.

Status Update: SCE did not meet target for 2021. Installed 16 of 20 vertical switches in 2021. Crews and material for the remaining 4 were reassigned due to storm restoration efforts. The final 4 installations have been scheduled for installation in Q1 2022.

⁶ Additional spans that have been remediated in 2021 are being evaluated for inclusion.

WMP Activities Summary

Inactive
 Under Review
 Complete
 On Track
 Behind Plan, Likely to Meet Year-end Target
 Behind Plan, At-Risk of Not Meeting Year-end Target

Asset Management and Inspections

YTD Status

Ground

113%

Aerial

110%

Distribution Ground / Aerial Inspections and Remediations (IN-1.1)⁷

Section 7.3.4.9.1 Page 242

Program Target: Inspect between 163,000 and 198,000 structures in HFRA, via both ground and aerial inspections.

Status Update: SCE has met target by inspecting ~184,900 ground and ~180,300 aerial structures in HFRA.

Transmission Infrared Inspections

Infrared Inspection, Corona Scanning and High Definition (HD) Imagery of Transmission facilities and equipment (IN-4)

Section 7.3.4.5 Page 239

Program Target: Inspect 1,000 transmission circuit miles on HFRA circuits

Status Update: SCE has met target by inspecting ~1,000 transmission circuit miles in HFRA.

YTD Status

Ground

125%

Aerial

125%

Transmission Ground / Aerial Inspections and Remediations (IN-1.2)⁷

Section 7.3.4.10.1 Page 248

Program Target: Inspect between 16,800 and 22,800 structures in HFRA, via both ground and aerial inspections.

Status Update: SCE met target by inspecting ~20,800 ground and ~20,800 aerial structures in HFRA.

Generation Inspections

Generation Inspections and Remediations (IN-5)

Section 7.3.4.9.2 Page 246

Program Target: Complete inspection of 181 generation-related assets in HFRA.

Status Update: SCE has met target by completing ~230 Generation inspections in HFRA.

Distribution Infrared Inspections

100%

Targeted Circuits Inspected

Infrared Inspection of energized overhead distribution facilities and equipment (IN-3)

Section 7.3.4.4 Page 238

Program Target: Inspect approximately 50% of distribution circuits in HFRA.

Status Update: SCE met target by completing inspections on ~ 50% of distribution circuits in HFRA.

Inspection and Maintenance Tools

Inspection and Maintenance Tools (IN-8)

Section 7.3.4.3.1 Page 236

Program Target: Transition Aerial⁸ and Transmission ground inspection process to a single digital platform with at least 75% of inspectors trained to use the tool by year end 2021. Deploy scope mapping tool with GIS visualization to Distribution.

Status Update: SCE partially met targets. T&D Aerial completed transition of inspection processes to a single digital platform and met target to train at least 75% of inspectors. Transmission Ground did not complete transition of inspection processes to a single digital platform and did not meet target to train at least 75% of inspectors. Key artificial intelligence/machine learning (AI/ML) models met target. Scope Mapping Tool (SMT) did not meet target to deploy tool to Distribution Planning and Engineering users. Remediation mobile software and iPad devices were deployed for Transmission however target was not met for Distribution users.

⁷ Activity included in 2021 Change Orders Report filed on November 1, 2021.

⁸ Aerial includes both transmission and distribution.

WMP Activities Summary

 Inactive  Under Review  Complete  On Track  Behind Plan, Likely to Meet Year-end Target  Behind Plan, At-Risk of Not Meeting Year-end Target

Vegetation Management and Inspections

HTMP

109%
Trees Assessed

Hazard Tree Management Program (VM-1)⁹

Section 7.3.5.16.1 Page 278

Program Target: Assess between 150,000 and 200,000 trees for hazardous conditions and perform prescribed mitigations in accordance with program guidelines and schedules.

Change Orders submitted 11/1/2021 updated year end target to assess between 120,000 and 130,000 trees in hazardous conditions and perform prescribed mitigations in accordance with program guidelines and schedules.

Status Update: SCE has met updated Change Orders target by assessing ~131,400 trees and performing prescribed mitigations in accordance with program guidelines and schedules in 2021.

Dead and Dying
Tree Removal

Dead and Dying Tree Removal (VM-4)⁹

Section 7.3.5.16.2 Page 280

Program Target: Perform Drought Relief Initiative (DRI) annual inspections and perform prescribed mitigations in accordance with program guidelines and schedules.

Status Update: SCE met target by completing first and second pass on ~1,300 circuits and performing prescribed mitigations in accordance with program guidelines and schedules.

Expanded Pole
Brushing

82%
Poles Cleared

Expanded Pole Brushing (VM-2)

Section 7.3.5.5.1 Page 265

Program Target SCE plans to pole brush between 200,000 and 300,000 Distribution poles.

Status Update: SCE did not meet 2021 target. This activity cleared ~163,100K of the 200K poles and fell short of meeting the target due to contractor performance, loss of crews, access constraints, and delays in obtaining environmental permitting. The activity cleared or made a reasonable attempt to clear all Non-Exempt & Unknown poles in the 2021 inventory to meet compliance requirements (PRC 4292).

VM Work
Management
Tool (Arbora)

VM Work Management Tool (Arbora) (VM-6)

Section 7.3.5.19 Page 282

Program Target: Continue Work Management Tool (Arbora) agile development and releases in accordance with project plan – complete full rollout of Dead & Dying Tree Removal and Hazard Tree Mitigation, and conduct discovery and design architecture associated with Line Clearing.

Status Update: SCE did not meet 2021 target. SCE did complete initial discovery and design architecture for the routine Line Clearing portion of this activity and deployed as planned. However, SCE had to re-design architecture for the Hazard Tree Management Program and Dead and Dying Tree Removal due to data volume limitations and inability to calculate and assess risk scores, requiring additional development time and moving timeline to 2022.

Expanded
Clearances for
Legacy Facilities

Expanded Clearances for Legacy Facilities (VM-3)

Section 7.3.5.5.2 Page 266

Program Target: Treat 46 sites

Status Update: SCE met target by treating ~60 sites in 2021.

⁹ Activity included in 2021 Change Orders Report filed on November 1, 2021 and pending approval. Per Energy Safety guidance, appropriate to measure activity against updated target.

WMP Activities Summary

 Inactive  Under Review  Complete  On Track  Behind Plan, Likely to Meet Year-end Target  Behind Plan, At-Risk of Not Meeting Year-end Target

Emergency Planning and Preparedness Stakeholder Cooperation and Community Engagement

Community Meetings

Customer Education and Engagement – Community Meetings (DEP-1.2)

Section 7.3.10.1.1 Page 324

Program Target: Host at least 9 virtual community meetings. SCE will complete additional meetings as needed in 2021, based on PSPS impact to communities, up to 18.

Status Update: SCE met target by completing 11 virtual community meetings through 2021.

Customer Research and Education

Customer Research and Education (DEP-4)

Section 7.3.10.1.4 Page 333

Program Target: Administer at least 4 PSPS-related surveys (PSPS Tracker Survey to capture feedback on the 2020 events, wildfire Community meeting feedback survey, CRC/CCV feedback survey, In-Language Wildfire Mitigation Communications Effectiveness Pre/Post Survey).

Status Update: SCE met target after completing and capturing feedback on 9 PSPS-related surveys to include 2020 events, wildfire community meetings, CRC/CCV visitation surveys, and In-Language Wildfire Mitigation Communications Effectiveness.

Marketing Campaign

Customer Education and Engagement – Marketing Campaign (DEP-1.3)

Section 7.3.10.1.3 Page 331

Program Target: PSPS Awareness target: 50%

Status Update: SCE met target after finishing 2021 with PSPS awareness at ~60%.

Aerial Suppression

Aerial Suppression (DEP-5)

Section 7.3.10.3 Page 337

Program Target: Will enter a Memorandum of Understanding (MOU) with CAL FIRE and local county fire departments to provide standby cost funding for up to 5 aerial suppression resources strategically placed around the SCE service area.

Status Update: SCE has met target by having 3 Memoranda of Understanding (MOUs) signed by SCE and each respective county. Payments disbursed to all 3 counties in Q2.

SCE Emergency Responder Training

SCE Emergency Responder Training (DEP-2)

Section 7.3.9.1 Page 313

Program Target:

IMT (Incident Management Team): Have all PSPS IMT and Task Force members fully trained and qualified or requalified by July 1, 2021.
UAS (Unmanned Aircraft System): In 2021 SCE plans to expand the program by an additional 50 operators over 2020 levels.

Status Update:

IMT: Activity met target by completing PSPS IMT trainings and qualifications in Q2.
UAS: Activity met target by having 60 Resources pass the FAA 107 exam in 2021, bringing the two-year total to 104.

Data Governance

Wildfire Safety Data Mart and Data Management

Wildfire Safety Data Mart and Data Management (WiSDM / Ezy) (DG-1)

Section 7.3.7.1 Page 303

Program Target:

WiSDM:

- Complete the WisDM solution analysis and design for centralized data repository.
- Initiate staggered consolidation of datasets from SCE Enterprise systems.

Ezy Data:

- Implement the cloud platform infrastructure for Ezy Data.
- Build a solution for data consumption, storage and visualization of inspection data (LiDAR, HD video, photograph).
- Enable an environment for Artificial Intelligence (AI) assisted analytics.

Status Update:

- Ezy Data met target to include implementing the cloud platform infrastructure for Ezy Data and enabling an environment for Artificial Intelligence (AI) assisted analytics.
- WiSDM met target in December 2021 after initiating the staggered consolidation of datasets and included two datasets, weather stations and HD cameras, into the WiSDM centralized repository.

WMP Activities Summary

 Inactive  Under Review  Complete  On Track  Behind Plan, Likely to Meet Year-end Target  Behind Plan, At-Risk of Not Meeting Year-end Target

PSPS

Customer Care Programs

Customer Care Programs (PSPS-2)¹⁰

Section 7.3.6.5.2 Page 294

Program Target:

- 2a: Community Resource Centers (CRC): Adjust as needed.
- 2b: Community Resiliency Programs: Targets for Resilience Zones dependent on community leaders identifying potential customers. Targeting to obtain 5 to 10 agreements.
- 2d: Complete installation of microgrid islanding (CREI) capability on second pilot customer.
- Customer Resiliency Equipment:
 - 2c: Critical Care Backup Battery (CCBB): Expand program to eligible medical baseline (MBL) customers who are enrolled in CARE/ FERA and reside HFRA. Expand marketing and outreach plans.
 - 2e: Well Water & Residential Battery Station Rebates: Enhance the programs to increase customer participation by 20% - 40%.

Status Update: SCE partially met targets.

- 2a: 64 CRC sites enrolled (62 of which are indoor) as of end of 2021 based on evaluation of circuits likely to be impacted by PSPS events.
- 2b: Community Resiliency Programs: SCE did not meet its 2021 target. Obtained 4 out of 5 customer agreements. This pilot will be discontinued in 2022.
- 2d: Microgrid Islanding (CREI) missed its 2021 target of completing installation due to global supply chain constraints.
- 2c: CCBB program: Target met by expanding CCBB program to eligible MBL and established additional partners (CBOs).
- 2e: Well Water & Residential Battery Station Rebate: program: Target met by increasing customer participation by 93%.

¹⁰ Activity included in 2021 Change Orders Report filed on November 1, 2021.

2021 WMP Activity Narratives

Off-track or other notable activities



YE Status	Current Target	Narrative ¹¹
	<p>SA-8: Fire Science Enhancements</p> <p>Evaluate current wildfire events in context of 40-year history of wildfires.</p>	<p>Summary: SCE did not meet target. Vendor developed a climatology output containing a 40-year history of wildfires for multiple variables but unable to complete because vendor work was reprioritized to support other emergent work. Evaluation will take place in 2022.</p> <p>Progress:</p> <ul style="list-style-type: none"> No notable progress was made after Q3. While this activity did not meet the year-end target, it was not intended to directly mitigate wildfire risk in 2021. <p>Risks or Challenges:</p> <ul style="list-style-type: none"> Vendor redirected to work on initiatives mitigating PSPS risk in 2021; as a result, development of climatological products that support evaluation of current wildfire events was not completed in 2021. Development of climatological products and operationalizing historical weather data output are project plan milestones that were not met in 2021 and will now begin work in Q4 2022. <p>Actions to Improve Performance / Get Well Plan:</p> <ul style="list-style-type: none"> Fire Science Enhancements will remain a WMP activity in 2022, but the scope of the activity will expand to also include the following activities from 2021 WMP: <ul style="list-style-type: none"> FPI (SA-2) Fire Spread Modeling (SA-4) Fuel Sampling (SA-5) Remote Sensing (SA-7) Fire Science Enhancements (SA-8)

¹¹ Sources: Data as of 12/31/2021 unless otherwise noted.

2021 WMP Activity Narratives

Off-track or other notable activities



YE Status	Current Target	Narrative ¹²
	<p>SH-15: Vertical Switches</p> <p>Install 20 switches in HFRA</p>	<p>Summary: SCE did not meet target of installing 20 switches in HFRA. Installed 16 of 20 vertical switches in 2021. Crews and material for the remaining 4 were reassigned due to storm support restoration efforts. The final 4 installations have been scheduled for install in Q1 2022.</p> <p>Progress:</p> <ul style="list-style-type: none"> • 16 of 20 vertical switches were installed in 2021. • Crews and material were available for installation and scheduled for installation in December; however, were reassigned due to storm support reprioritization. • Final 4 installations have been scheduled for install in Q1 2022. <p>Risks or Challenges:</p> <ul style="list-style-type: none"> • Reprioritization of crews for storm support. <p>Actions to Improve Performance / Get Well Plan:</p> <ul style="list-style-type: none"> • Materials and crews are in place for installations rescheduled to Q1 2022.

¹² Sources: Data as of 12/31/2021 unless otherwise noted.

2021 WMP Activity Narratives

Off-track or other notable activities

Inactive
 Under Review
 Complete
 On Track
 Behind Plan, Likely to Meet Year-end Target
 Behind Plan, At-Risk of Not Meeting Year-end Target

YE Status	Current Target	Narrative ¹³
	<p>IN-8: Inspection and Maintenance Tools</p> <p>Transition Aerial¹⁴ and Transmission Ground inspection processes to a single digital platform with at least 75% of inspectors trained to use the tool by year end 2021.</p> <p>Key AI/ML models leveraged by the Aerial inspection process;</p> <p>Deploy scope mapping tool with GIS visualization to Distribution Planning and Engineering users;</p> <p>Deploy remediation mobile software and iPad devices for transmission and distribution.</p>	<p>Summary:</p> <ul style="list-style-type: none"> T&D Aerial completed transition of inspection processes to a single digital platform and met target to train at least 75% of inspectors. Transmission Ground did not complete transition of inspection processes to a single digital platform and did not meet target to train at least 75% of inspectors. Key artificial intelligence/machine learning (AI/ML) models met target. Scope Mapping Tool (SMT) did not meet target to deploy tool to Distribution Planning and Engineering users. Remediation mobile software and iPad devices were deployed for Transmission however target was not met for Distribution users. <p>Progress:</p> <ul style="list-style-type: none"> Transmission Ground implementation and training is currently scheduled to occur in Q1 2022. Key artificial intelligence/machine learning (AI/ML) models met target and are being leveraged to support Aerial Inspection process. Scope Mapping Tool (SMT) implementation is currently scheduled to continue into 2022. Remediation mobile software and iPad devices deployment is scheduled to continue through mid-2022 for Distribution users. <p>Risks or Challenges:</p> <ul style="list-style-type: none"> Transmission Ground implementation and training experienced delays due to offline syncing issues and data volume constraints. Scope Mapping Tool (SMT) implementation experienced delays due to technical issues between the planned tool and existing datasets. Remediation mobile software and iPad devices deployment experienced delays due to technology and resource issues. <p>Actions to Improve Performance / Get Well Plan:</p> <ul style="list-style-type: none"> These activities will continue into 2022 and are currently tracking to meet their respective targets. Scope, schedule, and resources are being closely monitored to ensure key milestones can be achieved.

¹³ Sources: Data as of 12/31/2021 unless otherwise noted.

¹⁴ Aerial includes both transmission and distribution.

2021 WMP Activity Narratives

Off-track or other notable activities



YE Status	Current Target	Narrative ¹⁵
	<p>VM-2 Pole Brushing</p> <p>SCE plans to pole brush between 200,000 and 300,000 Distribution poles</p>	<p>Summary: SCE did not meet 2021 target. This activity cleared ~163K of the 200K poles and fell short of meeting the target due to contractor performance, loss of crews, access constraints, and delays in obtaining environmental permitting. The activity cleared or made a reasonable attempt to clear all Non-Exempt & Unknown poles in the 2021 inventory to meet compliance requirements (PRC 4292).</p> <p>Progress:</p> <ul style="list-style-type: none"> • Poles brushed in Q4 equaled ~18,800, bringing the total for 2021 to 163K poles. <p>Risks or Challenges:</p> <ul style="list-style-type: none"> • Contractor performance, lack of crews, no access poles and environmental delays. <p>Actions to Improve Performance / Get Well Plan:</p> <ul style="list-style-type: none"> • SCE is addressing lessons learned to address and mitigate some of the challenges experienced in 2021, some include: <ul style="list-style-type: none"> • All Contractors will attend mandatory pole brushing and environmental training in Q1 2022. • Program will begin RFP for new prime contractor in Q1 2022.

¹⁵ Sources: Data as of 12/31/2021 unless otherwise noted.

2021 WMP Activity Narratives

Off-track or other notable activities

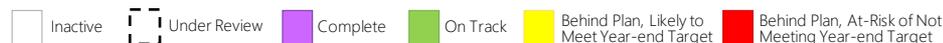


YE Status	Current Target	Narrative ¹⁶
	<p>VM-6: VM Work Management Tool (Arbora)</p> <p>Continue Work Management Tool (Arbora) agile development and releases in accordance with project plan – complete full rollout of Dead & Dying Tree Removal and Hazard Tree Mitigation, and conduct discovery and design architecture associated with Line Clearing</p>	<p>Summary: SCE did not meet its year end target due to mobile product data volume limitations during the pilot. New design architecture will be utilized to remedy the issue but the critical need to calculate and assess risk scores required additional development time, moving timeline to 2022.</p> <p>Progress:</p> <ul style="list-style-type: none"> The Arbora project had a projected HTMP/DRI Pilot Deployment delivery date of Q4 2021, which has been delayed due to failing user acceptance testing (UAT) Testing and finding of ~40 defects to fix. Full Deployment delivery date is yet to be determined. This technology-focused activity experienced the same issues as the other IT focused activities; offline syncing issues along with data volume constraints caused delays (vendor’s inability to send data for offline use and editing). <p>Risks or Challenges:</p> <ul style="list-style-type: none"> Vendor inability to send data for offline use and editing. Failed UAT Testing. <p>Actions to Improve Performance / Get Well Plan:</p> <ul style="list-style-type: none"> Currently there is no opportunity for an improvement to the timeline due to development delays by SCE technical partners. SCE working to remedy the defects that were found during UAT testing. Pilot launch timeline has shifted to 2022 but do not currently have pilot or full deployment timeline.

¹⁶ Sources: Data as of 12/31/2021 unless otherwise noted.

2021 WMP Activity Narratives

Off-track or other notable activities



YE Status	Current Target	Narrative ¹⁷
Behind Plan, At-Risk of Not Meeting Year-end Target	<p>PSPS-2: Resiliency Zone¹⁸ (RZ)</p> <p>Targets for Resilience Zones dependent on community leaders identifying potential customers. Targeting to obtain 5 to 10 Agreements.</p>	<p>Summary: SCE did not meet its 2021 target. Obtained 4 out of 5 customers. This pilot will be discontinued in 2022 due to lack of customer participation.</p> <p>Progress:</p> <ul style="list-style-type: none"> • Outreach was conducted to 17 potential customer sites including 3 Tribal Nations throughout 2021. <p>Risks or Challenges:</p> <ul style="list-style-type: none"> • This activity was dependent on community leaders providing resiliency zone sites and customers' willingness to participate in the program; willingness levels and leader input varied. • In some instances, customers had already installed their own switching equipment and purchased generators • Tribal Nations did not participate in the program as expected. <p>Actions to Improve Performance / Get Well Plan:</p> <ul style="list-style-type: none"> • As this activity was a pilot and based on performance, this activity will not be continued in 2022. • SCE will continue to support the current 8 signed customer agreements.
Behind Plan, At-Risk of Not Meeting Year-end Target	<p>PSPS-2d: Microgrid Islanding (CREI)</p> <p>Complete installation of microgrid islanding (CREI) capability on second pilot customer.</p>	<p>Summary: SCE did not meet target In 2021. Activity progress included a signed customer agreement with an elementary school in the Rialto Unified School District and approval of the Single Line Diagram (SLD) and budget. The developer was due to receive project equipment (battery, transfer switch, etc.) at the end of October but equipment delivery was delayed due to global supply chain constraints that prevented a 2021 installation. Target completion in late Q1 or early Q2 2022.</p> <p>Progress:</p> <ul style="list-style-type: none"> • Developer provided an updated project timeline; new project completion date shown as late Q1 2022. • Storage battery has been received and stored in warehouses in the U.S. by end of 2021. <p>Risks or Challenges:</p> <ul style="list-style-type: none"> • Installation was not completed in 2021 due to global supply chain constraints. <p>Actions to Improve Performance / Get Well Plan:</p> <ul style="list-style-type: none"> • Developer is working with its suppliers to implement a plan to ensure all materials are received for an end of Q1 2022 project completion date. • This activity will continue to be monitored for progress in 2022 but will not be included as a 2022 WMP activity.

¹⁷ Sources: Data as of 12/31/2021 unless otherwise noted.

¹⁸ Activity included in 2021 Change Orders Report filed on November 1, 2021.