

October 23, 2019

ADVICE 4089-E (U 338-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA ENERGY DIVISION

SUBJECT: Southern California Edison Company's Quarterly Advice Letter

Pursuant to Assembly Bill 1054 Regarding the Implementation

of Its Approved Wildfire Mitigation Plan and Its Safety

Recommendations

Southern California Edison Company (SCE) hereby submits this Tier 1 Advice Letter (AL) detailing the implementation of its approved 2019 Wildfire Mitigation Plan (WMP),¹ recommendations of the most recent safety culture assessment, and a statement of the recommendations of its board of directors' safety committee² meetings that occurred during the quarter.

PURPOSE

The purpose of this AL filing is to comply with the provisions of Public Utilities Code (PUC) Section 8389(e)(7), established by California Assembly Bill (AB) 1054, for the first quarter following SCE's receipt of its Initial Safety Certification. As directed by the statute, the AL provides details of the implementation of SCE's 2019 WMP, a status update relative to SCE's most recent safety culture assessment, and a statement of the recommendations of SCE's Committee meetings that occurred during the quarter.

BACKGROUND

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

The executive director of the commission 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 tier 1 advice letter on a

See Decision (D.)19-05-038.

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."

quarterly basis that details the implementation of both its approved wildfire mitigation plan and recommendations of the most recent safety culture assessment, and a statement of the recommendations of the board of directors safety committee meetings that occurred during the quarter. The advice letter shall also summarize the implementation of the safety committee recommendations from the electrical corporation's previous advice letter filing. If the division has reason to doubt the veracity of the statements contained in the advice letter filing, it shall perform an audit of the issue of concern.

SCE provides the required information as indicated below:

(1) Implementation of Wildfire Mitigation Plan

On October 25, 2018, the California Public Utilities Commission (Commission or CPUC) opened Rulemaking (R.)18-10-007 to implement the provisions of Senate Bill (SB) 901 related to electric utility wildfire mitigation plans. New provisions of PUC 8386, enacted as part of SB 901, require all California electric utilities to prepare and submit wildfire mitigation plans that describe the utilities' plan to prevent, combat, and respond to wildfires affecting their service territories. On February 6, 2019, SCE submitted its 2019 WMP that describes strategies, programs, and activities that were in place, being implemented, or were under development at the time, to proactively address and mitigate the threat of electrical infrastructure-associated ignitions that could lead to wildfires, further harden the electric system against wildfires, and enhance wildfire suppression efforts.

After an extensive review process that included discovery, workshops and comments, the Commission, on May 30, 2019, found that SCE's WMP contained each of the required elements and approved SCE's 2019 WMP in D.19-05-038, subject to certain reporting, metrics, data and advice letter requirements. Since approval of its 2019 WMP, SCE has complied with the follow-up requirements ordered in D.19-05-038 and D.19-05-0363 including filing three Tier 1 advice letters4 and submitting its Data Collection on Wildfire Mitigation Plans Report.

The requirement to file two Tier 3 advice letters entitled "Reports on Possible Off Ramps" describing any concerns about the effectiveness of any program in the WMPs are due to be filed six and twelve months post the May 30, 2019 effective data of D.19-05-036 and SCE is on track to meet these advice letter requirements.

On July 5, 2019, SCE submitted the following three Tier 1 advice letters in compliance with D.19-05-038: Advice 4030-E that describes SCE's wildfire mitigation work that it has completed, plans to complete, and may do during the 2019 WMP year in high fire risk areas (HFRA) outside the Commission's High Fire Threat District (HFTD) map; Advice 4031-E that describes SCE's Enhanced Overhead Inspections (EOI) initiative by clarifying the differences from SCE's existing inspections, explaining what the EOI involve, the specific activities that will be performed, and the data that will be collected as well as databases

SCE is tracking 58 specific wildfire-related mitigation activities included in its 2019 WMP. Some of these activities such as risk-based tree removals, Enhanced Overhead Inspections, and installing covered conductors are designed to reduce the risk of ignitions associated with utility infrastructure. Others are targeted towards situational awareness and emergency preparedness in the event a wildfire occurs. Still others are associated with customer and community notifications during Public Safety Power Shutoff (PSPS). SCE is also exploring and evaluating several alternative technologies to potentially improve its ability to prevent and better respond to wildfire-related events. In Exhibit A, SCE presents detailed information about the implementation status of each of these wildfirerelated mitigation activities. Exhibit A sets forth SCE's current (as of August 31, 2019) progress towards meeting the wildfire mitigation programs and activities along with 2019 goals and metrics in its Commission-approved 2019 WMP. Overall, SCE is on track to meet the vast majority of those targets by year-end 2019. Exhibit A is similar to SCE's presentation to the Commission at the September 17, 2019 workshop in Phase 2 of R.18-10-007 updated to reflect the progress made through August 2019.

(2) <u>Implementation of Most Recent Safety Culture Assessment</u>

As noted in its initial safety certification, SCE has not yet undergone a CPUC-led safety culture assessment. Pursuant to PUC Section 8389(d)(4), a CPUC-led safety culture assessment for SCE may not occur until early 2021. Notwithstanding this, 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. Over the past several years, SCE has increased management focus on safety oversight, accountability, and partnering with employees, contractors, and communities to improve worker and public safety. SCE continues to improve its safety culture via in-person meetings, trainings, corporate messaging and the incorporation of feedback from all levels of the organization. SCE looks forward to working with the CPUC and other interested stakeholders to further review its safety culture and build upon existing efforts to strengthen it.

(3) Recommendations of Safety and Operations Committee

In this section, SCE briefly describes the role, purpose, and general qualifications of members who serve on the Committee. It also describes recent items which came before the Committee.

Overall, the entire SCE Board of Directors (Board) is committed to the safety of SCE's workers, its customers and the community. The Board provides oversight for all aspects of SCE's business including safety, and various committees of the

related to EOI; Advice 4032-E that describes and justifies covered conductor installation outside the Commission's HFTD map as part of SCE's Wildfire Covered Conductor Program.

Board have responsibility for oversight of specific areas. The Committee is responsible primarily for safety oversight at SCE, and links oversight of safety to SCE's operational practices. The Committee oversees SCE's safety performance, culture, goals, risks (including wildfire) and significant safety-related incidents involving employees, contractors, or members of the public. It consists of five members of SCE's Board with relevant safety experience, each of whom meets the independence requirements of the New York Stock Exchange. The Chair of the Committee (Chair), Timothy O'Toole, who is also a board member of the National Safety Council, is a recognized safety leader both in the United States and internationally and has decades of direct management experience in the rail and bus transportation industry where worker and public safety is a paramount concern.

The Committee members take an active role in overseeing SCE's safety and operational practices. Significant focus areas for the Committee include oversight of the implementation of SCE's Grid Safety and Resiliency Program and WMP, worker and public safety, SCE's safety culture, safe decommissioning of the San Onofre Nuclear Generating Station, the safety and security of SCE's grid assets, safety metrics and benchmarking, and operational response plans in the event of earthquakes or other natural disasters.

The Committee members actively engage in each meeting, asking probing and thoughtful questions of management, and bringing their relevant safety experience to bear. The meetings provide a forum for the Committee to hold management accountable for achieving the company's safety goals. At each meeting, the Committee has an opportunity to meet in executive session without management present to discuss Committee priorities. Feedback is provided to management by the Chair regarding issues raised during the meeting, which is useful to management in prioritizing its initiatives and developing the agenda for the next meeting. After each meeting, the Chair then reports on the Committee meeting to the Board at its next meeting, which is typically held the following day. The Committee had one meeting in the preceding quarter, on August 21, 2019. At this meeting, the Committee discussed several topics relating to worker and public safety, and the 2019 WMP.

At the August 21 meeting, management reported on safety performance and metrics, including a reduction in serious injuries and no employee fatalities year-to-date. The Committee discussed the metric that tracks lost employee time due to injuries, challenges to reducing incidents, and the safety training and other actions being taken to address the challenges. Management provided reports on the circumstances regarding two recent contract worker fatalities. Management also reported on two incidents in which third-party tree trimmers, not affiliated with or hired by SCE, were fatally injured. Efforts to influence third-party tree trimmers to engage with SCE prior to working near high voltage lines in order to ensure their safety and reduce and eliminate these types of accidents were discussed. The Committee and management also discussed SCE's safety

culture, the AB 1054 safety certification requirements, and the Board's role in the process. The Committee and management discussed continued efforts to implement effective safety and performance metrics and discussed safety-related goals for 2020.

The Committee also had discussions regarding the implementation of SCE's 2019 WMP including the process to refine the PSPS protocols. Management's presentation included an overview of the EOI initiative and prioritization of remediation plans to reduce the risk of ignitions in High Fire Risk Areas (HFRA). The Committee and management discussed vegetation management, including challenges experienced with software tools and plans to address these challenges and resources being acquired to address the volume of work.

Throughout the meeting, the Committee provided input and guidance to management, probed management's plans and assumptions, and discussed actions to be taken by SCE. The Committee recommended that management follow up with the Committee at its next meetings on the topics of proposed changes in safety performance metrics and implementation of the 2019 WMP.

The Committee has meetings scheduled in the next quarter on October 23 and December 11, 2019.

PROPOSED TARIFF CHANGES

There are no tariff changes triggered or are being requested through this AL.

No cost information is required for this AL.

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

TIER DESIGNATION

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

EFFECTIVE DATE

SCE respectfully requests that this AL become effective October 23, 2019, which is the same date as submitted.

NOTICE

Anyone wishing to protest this AL may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice letter. Protests should be submitted to:

CPUC, Energy Division Attention: Tariff Unit 505 Van Ness Avenue

San Francisco, California 94102 E-mail: <u>EDTariffUnit@cpuc.ca.gov</u>

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this AL should also be sent by letter and transmitted via facsimile or electronically to the attention of:

Gary A. Stern, Ph.D.
Managing Director, State Regulatory Operations
Southern California Edison Company
8631 Rush Street
Rosemead, California 91770
Telephone (626) 302-9645
Facsimile: (626) 302-6396

E-mail: AdviceTariffManager@sce.com

Laura Genao Managing Director, State Regulatory Affairs c/o Karyn Gansecki Southern California Edison Company 601 Van Ness Avenue, Suite 2030 San Francisco, California 94102

Facsimile: (415) 929-5544

E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may file a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this AL to the interested parties shown on the attached GO 96-B, R.18-10-007, R.18-12-005, and A.18-09-002 service lists. Address change requests to the GO 96-B service list should be directed by electronic mail to AdviceTariffManager@sce.com or at (626) 302-4039. For changes to all other service lists, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process Office@cpuc.ca.gov.

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

For questions, please contact Ryan Stevenson at (626) 302-3613 or by electronic mail at ryan.stevenson@sce.com

Southern California Edison Company

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

GAS:rs:jm Enclosures





California Public Utilities Commission

ADVICE LETTER UMMARY



LIVEROTOTIETT		
MUST BE COMPLETED BY UT	ILITY (Attach additional pages as needed)	
Company name/CPUC Utility No.:		
Utility type: ELC GAS WATER PLC HEAT	Contact Person: Phone #: E-mail: E-mail Disposition Notice to:	
EXPLANATION OF UTILITY TYPE ELC = Electric GAS = Gas WATER = Water PLC = Pipeline HEAT = Heat WATER = Water	(Date Submitted / Received Stamp by CPUC)	
Advice Letter (AL) #:	Tier Designation:	
Subject of AL:		
Keywords (choose from CPUC listing):		
AL Type: Monthly Quarterly Annu-		
ii At submined in compliance with a Commissi	on order, indicate relevant Decision/Resolution #:	
Does AL replace a withdrawn or rejected AL?	f so, identify the prior AL:	
Summarize differences between the AL and the prior withdrawn or rejected AL:		
Confidential treatment requested? Yes	No	
If yes, specification of confidential information: Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:		
Resolution required? Yes No		
Requested effective date:	No. of tariff sheets:	
Estimated system annual revenue effect (%):		
Estimated system average rate effect (%):		
When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).		
Tariff schedules affected:		
Service affected and changes proposed ^{1:}		
Pending advice letters that revise the same tariff sheets:		

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

CPUC, Energy Division		
Attention: Tariff Unit		
505 Van Ness Avenue		
San Francisco, CA 94102		

Email: EDTariffUnit@cpuc.ca.gov

Name: Title:

Utility Name: Address: City:

State: Zip:

Telephone (xxx) xxx-xxxx: Facsimile (xxx) xxx-xxxx:

Email:

Name:

Title:

Utility Name: Address: City:

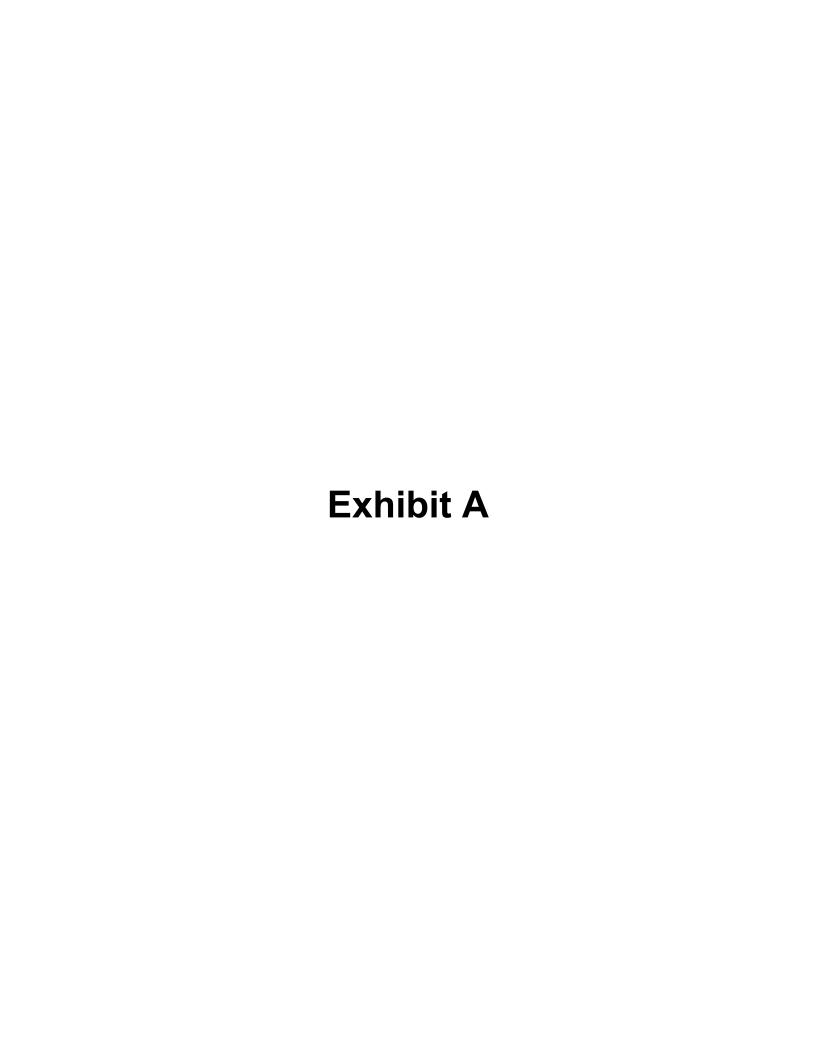
State: Zip:

Telephone (xxx) xxx-xxxx: Facsimile (xxx) xxx-xxxx:

Email:

ENERGY Advice Letter Keywords

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

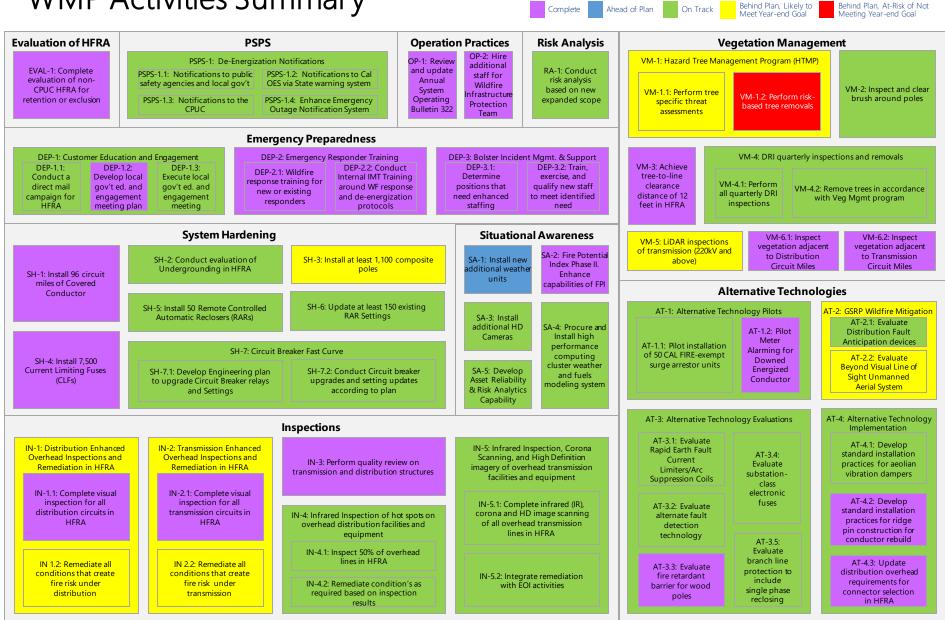


SCE's 2019 Wildfire Mitigation Plan (WMP) Progress Update

(All data is as of August 31, 2019 or later)



WMP Activities Summary





Operational-related Activities

PSPS: De-Energization Notifications (PSPS-1):

Local Govt and Agency PSPS Notifications

> On Track

Notifications to Public Safety Agencies and Local Government (PSPS-1.1)

Volume vs 2019 Goal: Sent notifications for each of the 10 events to date in 2019

Key Actions: This Activity is triggered by a PSPS event where SCE is required to submit ESRB-8 documentation to confirm it met the requirements outlined by the CPUC.

State PSPS Notifications

> On Track

CPUC PSPS
Notifications

On Track

Emergency Notification Enhancements

Track

Notifications to Cal OES via State Warning System (PSPS-1.2)

Volume vs 2019 Goal: Sent notifications for each of the 10 events to date in 2019

Key Actions: This Activity is triggered by a PSPS event where SCE is required to submit ESRB-8 documentation to confirm it met the requirements outlined by the CPUC.

Notifications to the CPUC (PSPS-1.3)

Volume vs 2019 Goal: Sent notifications for each of the 10 events to date in 2019

Key Actions: This Activity is triggered by a PSPS event where SCE is required to submit ESRB-8 documentation to confirm it met the requirements outlined by the CPUC.

<u>Enhance Emergency Outage Notification System</u> (PSPS-1.4)

Volume vs 2019 Goal: PSPS messaging will be delivered in English plus the five primary additional languages within SCE's service area **Key Actions:** All work tracks for this goal have begun. SCE is in the process of creating landing pages for In-language PSPS notifications. Translation vendor is in process of voice and text translations into the 5 additional languages. PSPS notification vendor ready to begin work to integrate voice messaging into their platform as soon as translation recordings are delivered.

HFRA Boundary Evaluation

Complete

Evaluation of HFRA (EVAL-1)

Volume vs 2019 Goal: Evaluation complete; PFM filed on 8/19/2019 **Key Actions:** The technical review of non-CPUC HFRA evaluation results was completed and the non-CPUC HFRA boundary Petition for Modification (PFM) was submitted.

Wildfire Risk Analysis

> On Track

Expansion of Wildfire Risk Analysis (RA-1)

Volume vs 2019 Goal: On track to conduct risk analysis incorporating 2018 fire ignition data, additional system information, and consequence modeling to evaluate wildfire risk at a circuit segment level.

Key Actions: SCE is developing and testing revisions to its wildfire risk modeling methodology that include segment-level probability of ignition calculations that incorporate system characteristics, fault / fire history, and local conditions, as well as localized ignition consequence risk.

SOB Review and Update

Complete

Review and Update Annual System Operating Bulletin 322 for Non-CPUC HFRA (OP-1)

Volume vs 2019 Goal: Review and update to non-CPUC HFRA complete

Key Actions: Non-CPUC HFRA was revised to include additional details on operating restrictions during elevated fire weather threats, blocking subtransmission reclosers, fast curve settings, and operations during PSPS events.

Hire Additional Meteorologist

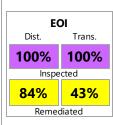
Complete

Hire Additional Staff for Wildfire Infrastructure Protection Team (OP-2)

Volume vs 2019 Goal: Hired one additional meteorologist **Key Actions:** Completed hiring of one additional meteorologist for the Wildfire Infrastructure Protection Team.



Inspection-related Activities



Enhanced Overhead Inspections (IN-1 & IN-2) Volume vs 2019 Goal:

Distr. 100% of structures inspected Distr. 84% of notifications remediated Trans. 100% of structures inspected Trans. 43% of notifications remediated

Key Actions: Continued monitoring of past due P2 notifications and work execution cycle. Achieving year-end 2019 goal is dependent on the number of PSPS and storm events that draw upon the same resources.

QC HFRA Inspections

228%

Structures Inspected

QC HFRA Inspections (IN-3)

Volume vs 2019 Goal: 17,116 of 7,500 structures inspected **Key Actions:** Performed quality reviews on transmission and distribution structures in HFRA based on EOI inspections, more than doubled the goal amount, no further actions expected.

Overhead Line Inspections

26%

IR Scans Completed

Infrared Inspection of Hot Spots on Overhead Distribution Facilities and Equipment (IN-4)

Volume vs 2019 Goal: 1,167 of 4,532 miles scanned

Key Actions: The projected completion date has been extended to December due to initial data issues; however a definitive schedule has been created and distributed for the IR team to execute accordingly. The scanning project has produced approximately 24 hotspot findings in multiple district and a majority (11) of the findings have been P1 notifications.

Infrared Inspections & HD Imagery

> On Track

Infrared Inspection, Corona Scanning, and High Definition Imagery of Overhead Transmission Facilities and Equipment: Complete IR, Corona and HD Image Scanning of All Overhead Transmission Lines in HFRA (IN-5.1)

Volume vs 2019 Goal: 5,716 of 6,513 miles planned of overhead transmission lines have been flown utilizing IR and corona scanning. 452 miles were loaded above 40% of rated capacity.

Key Actions: Data collection was temporarily restarted in June to collect IR/corona data on generation ties coming out of Big Creek and Bishop. That data has been analyzed. Additional data collection is currently on hold until ground temperatures decrease.

Integrate Remediation w/EOI Activities

On Track Infrared Inspection, Corona Scanning, and High Definition Imagery of Overhead Transmission Facilities and Equipment: Integrate Remediation with EOI Activities (IN-5.2)

Volume vs 2019 Goal: Working to integrate remediation with EOI work.

Key Actions: Any Priority 1 conditions or notification items are immediately evaluated and remediated. Priority 2 and 3 notifications will go through internal validation prior to being entered into SAP with a completion date based on HFRA Tier compliance timelines.



System Hardening Activities

WCCP

107%

Circuit Miles Installed

WCCP (SH-1)

Volume vs 2019 Goal: 103 of 96 (107%) circuit miles installed **Key Actions:** 324 circuit miles of non-Grid Resiliency overhead conductorwork has been redesigned for covered conductor in HFRA. Some of this work will be executed in 2019. Advancing a portion of work scheduled to begin construction in 2020 to 2019.

Composite Poles

18%

Poles Installed

Composite Pole Installation (SH-3)

Volume vs 2019 Goal: 202 of 1,100 (18%) poles installed **Key Actions:** The current plan to meet the 1,100 composite pole installations is more heavily weighted with installations in Q4 2019 as compared to the original goal plan created in 2018. Working with vendor on production issue for 50' composite poles that is limiting installations at that size. Current outlook is Activity is expected to meet goal by year-end.

Underground work in HFRA

On Track

Evaluation of Undergrounding in HFRA (SH-2)

Volume vs 2019 Goal: On track to conduct assessment of undergrounding for HFRA

Key Actions: SCE has identified high risk circuit segments in HFRA for internal evaluation and consideration as a potential wildfire risk mitigation. SCE is evaluating potential underground scope at a local level for mitigation effectiveness, construction feasibility, and conditions/attributes that support undergrounding of overhead lines to mitigate wildfire risk.

Fuses

101%

Fuse locations completed

Current Limiting Fuses (SH-4)

Volume vs 2019 Goal: 7,575 of 7,500 (101%) fuse locations completed

Key Actions: Met threshold target of 7,500 in August. Expect to reach 8,000 installs by end of October. Inventory of X-limiter fuses has been swapped outfor SMU-20s.



System Hardening Activities

RARs

28%

RARs Installed

<u>Install 50 Remote Controlled Automatic Reclosers</u> (RARs) (SH-5)

Volume vs 2019 Goal: 14 of 50 (28%) RARs installed. Although the goal plan assumed 10 installations permonth from August through December, the current plan accelerates RAR installations and will result in being ahead of plan each month until the goal is met. **Key Actions:** Additional 8 RARs are being accelerated from 2020 to help ensure the successful 2019 outcome for RAR installations.

Circuit Breaker Fast Curve

> On Track

<u>Circuit Breaker Fast Curve: Develop Engineering</u>
<u>Plan to Upgrade Remaining Circuit Breaker Relays</u>
<u>and Update Settings (SH-7.1)</u>

Volume vs 2019 Goal: CB relays and update settings SH-7.1.A: 60 Substations with 300 circuits scoped SH-7.1.B: 45 Substations with 68 circuits being scoped **Key Actions:** 7.1.A Projects scoped and handed off for design. 7.1.B Job walks scheduled for scoping activities to be completed by yearend.

RAR Settings

93%

RARs Updated

Update At Least 150 Existing RAR Settings (SH-6)

Volume vs 2019 Goal: 139 of 150 (93%) updated RAR settings **Key Actions:** Install remaining 11 RAR settings in substations by year end to meet 2019 goal.

Circuit Breaker Fast Curve

> On Track

<u>Circuit Breaker Fast Curve: Execute Circuit Breaker</u> <u>Relay and Settings Upgrades according to plan (SH-7.2)</u>

Volume vs 2019 Goal: All projects have commenced engineering design, engineering contracts have been issued to the regional engineering vendors who are currently working on the design. **Key Actions:** Construction dates are being scheduled for 2020.

Complete Ahead of Plan On Track Behind Plan, Likely to Meet Year-end Goal Meeting Year-end Goal

Situational Awareness Activities

Weather Stations

97%
Weather
Stations

Weather Stations (SA-1)

Volume vs 2019 Goal: 307 of 315 (97%) Weather stations complete **Key Actions:** Preparing crews for more rural areas; install pace will slow due to accessibility challenges with remote locations of remaining sites.

HPCC Modeling System

On Track

<u>Procure and Install High Performance Computing</u> <u>Cluster Weather and Fuels Modeling System (SA-4)</u>

Volume vs 2019 Goal: 1 out of 2 HPCCs operational **Key Actions:** Backup HPCC will be moved from PSSC Labs to the Alhambra Data Center on October 24th. Expecting to meet goal by year end.

FPI Phase 2

Complete

HD Cameras

90%

Cameras Installed

Fire Potential Index Phase 2: Enhance Capabilities of FPI (SA-2)

Volume vs 2019 Goal: Enhanced capabilities of FPI by increasing granularity, adding historical climatology data, and expanding to cover all of SCE's service territory.

Key Actions: Fire Potential Index (FPI) Phase 2 consisted of the FPI being calculated at the circuit level across its HFRA below 6,000 feet.

Analytics

On Track

HD Cameras (SA-3)

Volume vs 2019 Goal: 56 of 62 (90%) HD cameras installed Key Actions: SCE working closely with local fire agencies and SCE fire management team to site the remaining locations. <u>Develop Asset Reliability & Risk Analytics Capability</u> (SA-5)

Volume vs 2019 Goal: Complete implementation of advanced analytics platform and tools.

Key Actions: Completed demo of fire simulation software. Historical fire data is now being analyzed by High Performance Computer Cluster. SCE will continue to develop and mature its ignition modeling and the ability of wildfire mitigations to reduce risk at a structure/pole/conductor level.

Complete Ahead of Plan On Track Behind Plan, Likely to Meet Year-end Goal Meeting Year-end Goal

Vegetation Management Activities

Enhanced Veg. Mgmt

50%

Trees Assessed

Enhanced

Veg. Mgmt

Trees

Removed

Perform Tree Specific Threat Assessments (VM-1.1)

Volume vs 2019 Goal: 62,365 of 125,000 trees Short of plan by 12,495 (17%)

Key Actions: An accelerated plan for assessment has been defined: new assessor resources have been obtained and productivity is anticipated to increase. Likely will meet goal by year-end 2019.

Perform Risk-based Tree Removals (VM-1.2)

Volume vs 2019 Goal: 1,347 of 7,500 trees

Short of plan by 4,653 (78%)

Key Actions: SB 901 / GSRP Settlement amount of 7,500 removals threatened by lack of permission from private and public property owners; Developing strategy to unlock these and target alternative locations. Likely will not meet goal due to lack of approvals.

Poles

63%

Poles Cleared

New Clearance

Distance

Implemented

Inspect and Clear Brush Around Poles (VM-2)

Volume vs 2019 Goal: 62,652 of 100,000 poles (63% of YE target) **Key Actions:** Contractor continues to add resources needed to complete work on increased pole population. On track to meet goal by year-end 2019.

Achieve Tree-to-line Clearance Distance of 12 Feet in HFRA (VM-3) Pruning Achieve Tree-to-line Clearance Distance of 12 Feet in HFRA (VM-3) Volume vs 2019 Goals Obtain clearance distance of 12 as

Volume vs 2019 Goal: Obtain clearance distance of 12' as achievable

Key Actions: New standard (12' at time of trim) for distribution voltages piloted in Q1 and Q2. Implemented across HFRA for pruning taking place in June and beyond. Tree-specific exceptions evaluated to ensure required clearance distance maintained. Hired "notification consultants" to provide direct customer interaction and address local opposition to deeper pruning. Working with local governments that have imposed additional restrictions/approvals to deeper cuts.

DRI Inspection

8,838

Trees Identified

DRI Volu

97%

Removals

% Active Inv. < 180 days

LiDAR 23%

Circuit Miles Inspected

QC HFRA
Inspections
Dist. Trans.

225% 146%

Circuit Miles Inspected

Perform All Quarterly DRI Inspections (VM-4.1) Volume vs 2019 Goal:

• Quarterly DRIInspections on track

8,838 trees identified for removal in 2019 YTD

Key Actions: Continue historical program for inspections (repeating approximately every 3 months) of areas identified by the CA Tree Mortality Task Force to identify trees that are dead, diseased, or dying.

DRI Tree Inspections & Removals (VM-4.2)

Volume vs 2019 Goal: > 96% of active inventory removed less than 180 days old

8,838 trees identified for removal in 2019 YTD

• 8,355 trees removed in 2019 YTD

 Year-end outlook tracking to ~50% of ~30,000 WMP metric forecast

Key Actions: Continue historical program for removal of trees identified as dead, diseased, or dying. Easing of drought conditions has reduced the volume of trees requiring removal (30,000 originally forecast based on historical average).

<u>LiDAR Inspections of Transmission (220kV and above) (VM-5)</u>

Volume vs 2019 Goal: 232 of 1,000 circuit miles flown 70% of YTD target, Short of plan by 101 (30%)

Key Actions: Continue to monitor and control vendor efforts. With all vendors flying in month of September, forecasting to complete 1,000 conductor miles by November 2019. Completed volume to date inspections was revised down from 290 to 232 due to 58 of those miles having been performed in 2018.

Inspect Vegetation Adjacent to T&D Circuit Miles (VM-6.1 & VM-6.2)

Volume vs 2019 Goal: Inspected vegetation adjacent to 1,013 of 450 distribution circuit miles and 584 of 400 transmission circuit miles

Key Actions: Independent QC of annual pruning implemented across territory. Evaluates clearance distance obtained and prioritizes higher QC volume in HFRA. Work is ongoing in accordance with annual cycle.

Energy for What's Ahead[™]

Complete Ahead of Plan On Track Behind Plan, Likely to Meet Year-end Goal Meeting Year-end Goal

Alternative Technology Activities

Surge Arrestor Units

82%

Units Installed

Alternative Technology Pilots: Pilot Installation of 50 CAL FIRE-exempt Surge Arrestor Units (AT-1.1)

Volume vs 2019 Goal: 41 Locations of 50 pilot locations installed **Key Actions:** Pilot units being installed in Victorville District and plan to have all pilot locations installed by end of year.

Fault Current Limiters/ Arc Suppression Coils

> On Track

Alternative Technology Evaluations: Evaluate Rapid Earth Fault Current Limiters/Arc Suppression Coils (AT-3.1)

Volume vs 2019 Goal: Conduct assessment by end of 2019 **Key Actions:** Candidate substations/circuits identified and engineering models for pilot substation built. CAD model for target substation developed.

Meter Alarming

Complete

Alternative Technology Pilots: Pilot Meter Alarming for Downed Energized Conductor (AT-1.2)

Volume vs 2019 Goal: Completed pilot meter alarming for downed energized conductor

Key Actions: Pilot is now operational system wide.

Fault Detection

On Track <u>Alternative Technology Evaluations: Evaluate</u> <u>Alternate Fault Detection Technology (AT-3.2)</u>

Volume vs 2019 Goal: Conduct technology assessment by end of 2019

Key Actions: Open Phase Protection - 12 units installed in alarming mode for monitoring. Pilot radio deployment targeted for Q4, testing of isolation banks completed, work paper in progress, targeted completion in Q4.

Fault Devices

On Track GSRP Wildfire Mitigation: Evaluate Distribution Fault Anticipation Devices (AT-2.1)

Volume vs 2019 Goal: 3 of 4 milestones completed:
Finalizing locations for install, working with vendor to address cyber security and issued PO, received all required material. 4th milestone from September to December. Engineering design is complete for 60 DFA devices to be installed at 7 substations. Installation at 1 substation has been completed as of end of September.

Key Actions: Need to commission the installed devices and complete installations at the remaining substations.

Fire Retardant Pole Wraps

Complete

Alternative Technology Evaluations: Evaluate Fire Retardant Barrier for Wood Poles (AT-3.3)

Volume vs 2019 Goal: Evaluate use of wood pole with protective barrier

Key Actions: Completed evaluation of new fire-retardant wrap for wood poles as an alternative to fire-resistant composite poles; published associated design standards. Implementing fire-retardant wrap based on positive testing.

Unmanned Aerial Systems

Slightly Off Track GSRP Wildfire Mitigation: Evaluate Beyond Visual Line of Sight Unmanned Aerial System (AT-2.2)

Volume vs 2019 Goal: Develop statement of work, issue RFP, select vendor, and perform demonstration flights

Key Actions: Assessing necessary cyber protections to ensure secure data handling. Assessment work can be performed in parallel with demo flight planning. Likely will meet goal by year-end 2019.

Fuses

On Track Alternative Technology Evaluations: Evaluate Substation-class Electronic Fuses (AT-3.4)

Volume vs 2019 Goal: Conduct technology assessment by end of 2019

Key Actions: Engineering evaluation is complete and determined to not move forward with this technology, completing evaluation work paper in Q4.



Alternative Technology Activities (Cont.)

Branch Line Protection

On Track Alternative Technology Evaluations: Evaluate Branch Line Protection to Include Single Phase Reclosing (AT-3.5)

Volume vs 2019 Goal: Complete evaluation

Key Actions: Published pilot FuseSaver standards. Material finalized for pilot unit installs. Mock install scheduled for October. Targeting 4th quarter installation of 8 pilot units in Menifee. Evaluation expected to be completed by year end.

Vibration Dampers

On Track Alternative Technology Implementation: Develop Standard Installation Practices for Aeolian Vibration Dampers (AT-4.1)

Volume vs 2019 Goal: Evaluate need for aeolian vibration dampers publish standards for use. Standards published for use of aeolian dampers with existing conductor.

Key Actions: SCE is working with vendors on product evaluation for need and use of aeolian dampers with covered conductor.

Conductor Rebuild Standards

Complete

Alternative Technology Implementation: Develop Standard Installation Practices for Ridge Pin Construction for Conductor Rebuild (AT-4.2)

Volume vs 2019 Goal: Standards published and operational **Key Actions:** Installation practices updated for inclusion of ridge pin construction in high wind areas and is operational.

Dist. Overhead Requirements

Complete

Alternative Technology Implementation: Update
Distribution Overhead Requirements for Connector
Selection in HFRA (AT-4.3)

Volume vs 2019 Goal: Design and Construction standards published for connector selection for use in HFRA

Key Actions: The connector selection standards updated to require the use of CAL FIRE exempt bolted wedge connectors when working in HFRA



Emergency Preparedness Activities

Direct Mail Campaign

On Track

<u>Customer Education and Engagement: Conduct a</u> <u>Direct Mail Campaign for HFRA (DEP-1.1)</u>

Volume vs 2019 Goal: On track to reach approximately 1.5 million customers in HFRA through 2019 direct mailer

Key Actions: SCE's Dear Neighbor letter has been sent to all customers in HFRA. The Dear Neighbor Letter for customers in non-HFRA has a target mail date of mid-October.

Develop Local Meeting Plans

Complete

<u>Customer Education and Engagement: Develop</u> <u>Local Government Education and Engagement</u> Meeting Plan (DEP-1.2)

Volume vs 2019 Goal: Develop meeting plan **Key Actions:** Local Government Education and Engagement Community Meeting Plan has been developed and is the framework for SCE's execution.

Execute Local Meeting Plans

88%

Cities Engaged

WF Response Training

Complete

<u>Customer Education and Engagement: Execute Local</u> <u>Government Education and Engagement Meetings</u> <u>According to Plan (DEP-1.3)</u>

Volume vs 2019 Goal: 127 of 145 (88%) community meetings **Key Actions:** Of the 145 cities in HFRA, SCE has met with 127 cities as of 9/19/2019.

Emergency Responder Training: Wildfire Response Training for New or Existing Responders (DEP-2.1)

Volume vs 2019 Goal: Conducted wildfire response training for new or existing responders

Key Actions: Conducted training sessions for initial design of PSPS Incident Management Teams; IMT staffing is being expanded from initial design and trainings will be held as necessary for the remainder of the year.

IMT De-Energization Training

Complete

Enhance Staffing

Complete

Emergency Responder Training: Conduct Internal IMT Training Around Wildfire Response and Deenergization Protocols (DEP-2.2)

Volume vs 2019 Goal: Conducted internal IMT Training around wildfire response and de-energization protocol

Key Actions: Conducted initial training of 175 persons on PSPS Incident Management Teams; Have continued to train additional persons as needed and identified and will continue trainings as needed.

<u>Bolster Incident Mgmt. & Support: Determine</u> <u>Positions That Need Enhanced Staffing (DEP-3.1)</u>

Volume vs 2019 Goal: Expanded teams to enable additional scalability and additional training sessions will be held for new personnel being added to the teams

Key Actions: Stood up dedicated PSPS IMT and Task Force effective June, 2019. Provided specialized training and exercises for all PSPS IMT members.

Train New Staff

Complete

Bolster Incident Mgmt. & Support: Train, Exercise, and Qualify New Staff to Meet Identified Need (DEP-3.2)

Volume vs 2019 Goal: Expanded teams to enable additional scalability and additional training sessions will be held for new personnel being added to the teams

Key Actions: Stood up dedicated PSPS IMT and Task Force effective June 2019. Provided specialized training and exercises for all PSPS IMT members.

Appendix

Behind Plan Activities Details

2019 WMP Activities - Details (1/4)

Behind Plan Activities

Status	Current Goal	Narrative
		Summary: Short of plan by 98 (33%). Resources have been re-aligned to balance the installation of poles with the EOI effort. Execution plan for composite poles is backloaded in Q3 and Q4 to coincide with the covered conductor work. Q3 is progressing per plan. Expected to meet the goal at year-end.
	SH-3: Install at least 1,100 composite poles 202 of 1,100 composite poles installed (18%)	Progress/Challenges: Work orders including approximately 900 composite pole installations are already in construction. Potential shortage of 50-foot poles in some regions, working with vendors to expedite delivery of 50-foot composite poles.
		Actions to Improve or Sustain Performance: Confirming poles and work order completion manually to clearly track composite pole installations. In addition, construction of two circuits has been advanced from 2020 to 2019 that will contribute circuits on which poles may be installed to meet the 2019 goal. Currently, an assumed 30% of these circuits can be completed in 2019.
	AT 2.2: Evaluate Revend	Summary: A few weeks delay has been incurred due to data streaming and cybersecurity concerns. Approval was granted to move forward with the vendor purchase order and to begin kickoff meetings. Progress/Challenges: Using a third-party to livestream video has raised some cybersecurity concerns.
	AT-2.2: Evaluate Beyond Visual Line of Sight Unmanned Aerial System	Additional encryption of the streaming system will be assessed with the vendor.
		Actions to Improve or Sustain Performance: Further assessing necessary cybersecurity protections to ensure secure data handling. This assessment work can continue in parallel while we plan the demo flights.

Complete Ahead of Plan On Track Behind Plan, Likely to Meet Year-end Goal

2019 WMP Activities - Details (2/4) Behind Plan Activities

Status	Current Goal	Narrative
	VM-1.1: Perform tree specific threat assessments 62,365 of 125,000 trees complete (50%)	Summary: Short of plan by 12,495 (17%). On track for year-end goal to meet 125,000 tree-specific threat assessments in HFRA. An accelerated plan for assessment has been defined: new assessor resources have been obtained and productivity is anticipated to increase. Progress/Challenges: Daily and weekly tree assessment productivity quota requirements have yielded positive results. Additional assessor contractors on-boarded in September. Weekly status reports on hiring from contractors are being reviewed. SCE personnel to perform or validate palm tree and substation facility assessments. Actions to Improve or Sustain Performance: Manage production to accelerated plan requirements to meet year-end goal.
	VM-1.2: Perform risk-based tree removals 1,347 out of 7,500 complete (18%)	Summary: Short of plan by 4,653 (78%). Currently targeting SB 901 goal of 7,500, but success is threatened because permission to remove up to 3,500 trees has not been obtained from the National Forest. Progress/Challenges: 8,100 trees have been identified for removal and have not yet been removed. Delays in removal are largely due to challenges in obtaining permission for removal of 3,500 trees in Inyo Forest due to the volume of trees implicated. Exacerbating factors include local contractor performance challenges and customer notifications being behind on 2,400 removals. Efforts are being made to streamline customer refusal process and will be implemented in Q4 2019. Actions to Improve or Sustain Performance: Developed plan for staged submittal of 200-300 trees in Inyo Forest to start and build up comfort with program. Developing strategy for targeted sweep of circuits in Lake Arrowhead area to increase removal productivity rate. Additional focus on palm tree removal to contribute to 2019 target. Added two SCE personnel to facilitate work scheduling and expediting access/authorization issues. Obtained agreement to limit environmental review requirements to public lands only, which expedites processing of prescriptions, effective mid-August.

Complete Ahead of Plan On Track Behind Plan, Likely to Meet Year-end Goal

2019 WMP Activities - Details (3/4)

Behind Plan Activities

		Meet Year-end Goal Meeting Year-end Goal
Status	Current Goal	Narrative
	VM-5: LiDAR inspections of transmission (220kV and above) 232 out of 1,000 complete (23%)	Summary: Short of plan by 101 (30%). Use LiDAR to inspect/accept at least 1,000 conduct miles in HFRA. Progress/Challenges: Multiple vendors are flying lines in September. Still in the process of resolving cybersecurity concerns to enable four LiDAR vendors to securely upload and download data to SCE's data cloud.
		Actions to Improve or Sustain Performance: Continue to monitor and control vendor efforts to track to the goal. With all vendors flying in month of September, monthly goal achievement will be Off Track September-October while data is processed and accepted, but plan will be On Track to complete/accept 1,000 conductor miles by November.
	IN 1.2: Remediate all conditions that create fire risk under distribution	Summary: EOI distribution remediation program is off track due to outstanding past-due priority 2 notifications. Work execution plans have been established to ensure year-end date compliance. Data issues (e.g., missing GIS information) have resulted in decreased work execution rates, but data clean-up efforts are close to completion. Plan is being created to follow up on notices sent to third-party renters on SCE structures to remediate identified issues.
		Progress/Challenges: Distribution work scope could increase as additional notifications are identified through aerial inspections, distribution IR scanning, and additional long-span scope. Distribution continues to balance work on EOI notification remediation with other wildfire mitigation work including Wildfire Covered Conductor Program and fire-resistant pole replacements. PSPS activations could impact distribution crews' ability to meet compliance due dates.
		Actions to Improve or Sustain Performance: Distribution has developed tactical reporting to track adherence to established work execution plans. Distribution is coordinating with aerial EOI effort to understand the timing and volume of additional notifications that will trigger remediation requirements. In process of establishing a streamlined and standardized process to improve scope changes and priority of work determinations.

2019 WMP Activities - Details (4/4)

Behind Plan Activities

Status	Current Goal	Narrative
		Summary: Within EOI, SCE is balancing the remediation work for both past due and future due notifications. For example, in certain parts of SCE's service territory, work crews are addressing future due notifications because their due dates occur during months where snow conditions are anticipated to create accessibility issues. For certain weed abatement, work crews have experienced slower than expected closure rates primarily due to site access limitations, including the required use of helicopters and other unanticipated measures.
	IN 2.2: Remediate all conditions that create fire risk under transmission	Progress/Challenges: SCE is currently working on a quality control process for approximately 7,800 inspections that could potentially lead to additional notifications. About 4,000 of these inspections have already been reviewed and will not lead to a notification. The remaining 3,800 are currently under review; SCE anticipates all Tier 3 and Tier 2 notifications to be completed in October 2019. Transmission work scope could increase as additional notifications are identified through aerial EOI. Transmission remediation work could be slowed in certain parts of SCE's service territory by high fire risk conditions, PSPS events, or materials constraints.
		Actions to Improve or Sustain Performance: SCE has developed enhanced reporting capabilities to more effectively process, prioritize, schedule, and complete remediation work. SCE's Transmission organization is coordinating with the aerial EOI effort to anticipate additional notifications requiring remediation. SCE is also working to increase the number of pole brushing crews to reduce past due volumes.