

CPUC/ENERGY SAFETY **PUBLIC MEETING ON SAFETY**

Steve Powell

Chair, SCE Board
President and Chief Executive Officer, SCE

Tim O'Toole

Chair, SCE Safety and Operations Committee, SCE Board Director

Available for Q&A:

David Heller

Chief Risk Officer, SCE; Vice President, Enterprise Risk Management & Insurance and General Auditor, SCE

Andrew Martinez

Chief Safety Officer, SCE; Vice President of Safety, Security, and Business Resiliency, SCE

July 20, 2023



SAFETY IS INTEGRATED INTO OUR BUSINESS THROUGH OUR VALUES AND MISSION

MISSION

Safely provide reliable, clean and affordable energy to our customers

VALUES

Safety

Integrity

Excellence

Respect

Continuous
Improvement

Teamwork

RISK-INFORMED SAFETY FOCUS AREAS

Public Safety

- Reduce risk of significant wildfires
- Maintain/replace assets to avoid hazardous failures
- Create awareness of potential hazards

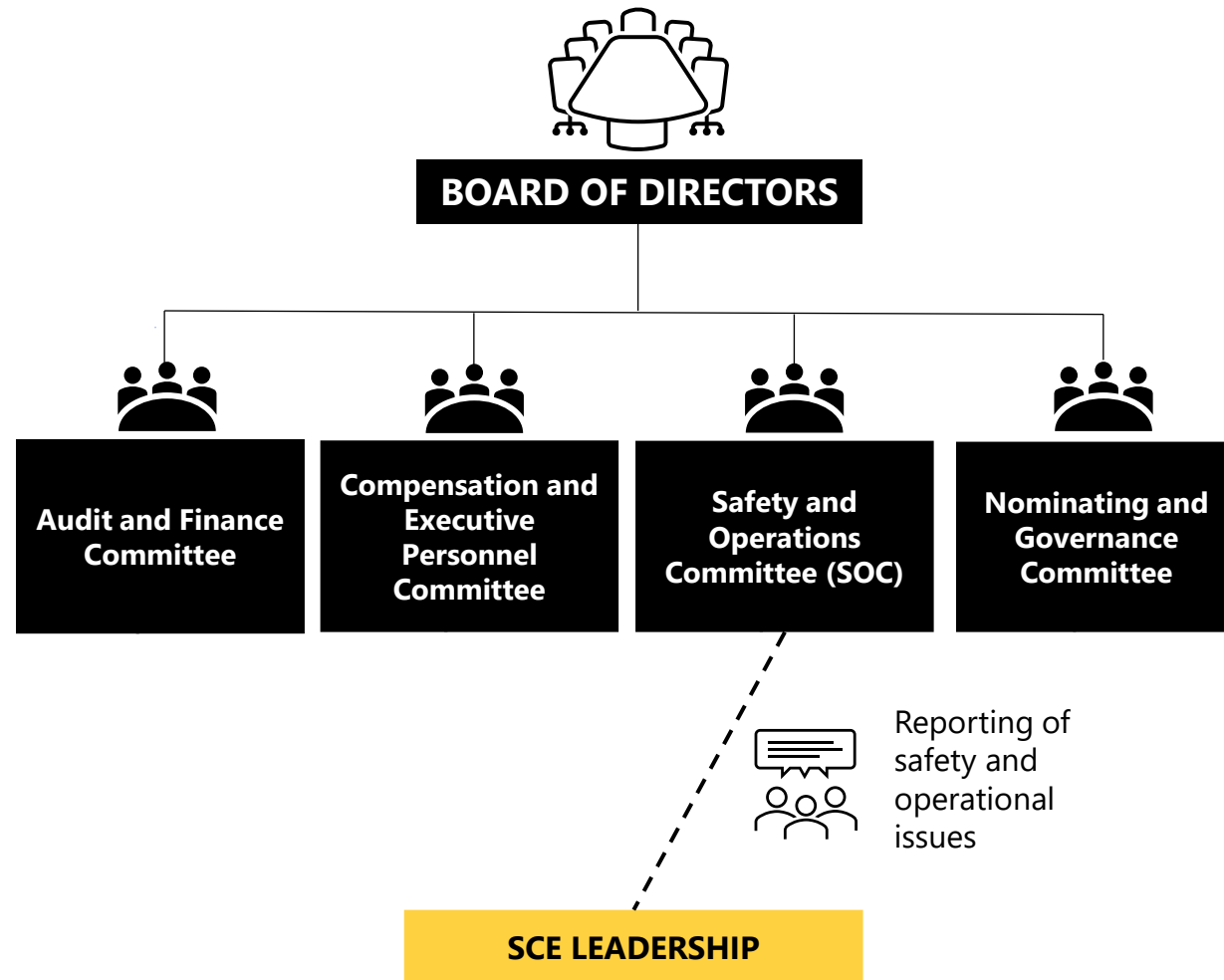
Worker Safety

- Avoid serious injuries and fatalities through enhanced data analytics and safety programs
- Better manage our contractors to improve safety, quality and compliance

Safety Culture

- Evolve safety culture maturity
- Improve leader ownership and accountability

CORPORATE GOVERNANCE: SCE'S SAFETY AND OPERATIONS COMMITTEE (SOC)

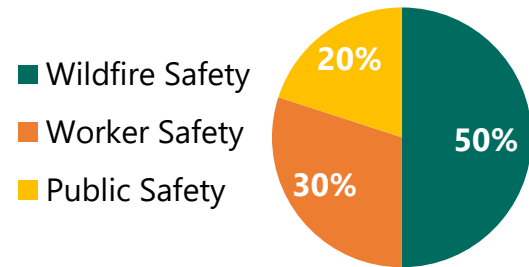


- Safety and Operations Committee (SOC) oversees SCE's safety performance and culture, operational goals, safety and operational risks, and significant safety-related incidents involving employees, contractors or members of the public
- SOC meets at least five times a year and receives regular reports from SCE leadership on safety; SCE Board regularly observes operations across SCE service area
- SOC provides input on operational goals to the Compensation and Executive Personnel Committee; works with Audit and Finance Committee on oversight of operational risk
- SOC Chair reports to the full Board of Directors on key safety and operational updates at each Board meeting

SOC RECEIVES REGULAR BRIEFINGS ON KEY SAFETY ISSUES AND RECOMMENDS FURTHER ACTIONS FOR MANAGEMENT

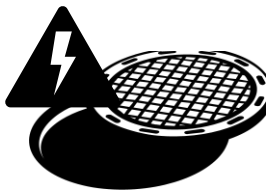
- Safety issues reviewed by the SOC include: Public Safety, Wildfire Safety, and Worker Safety, among other topics
- SCE has completed 100% of the 2021 SOC recommendations, and all but one of the 2022 SOC recommendations

2021 and 2022 SOC Recommendations by Category*



*Figures are rounded

Examples of SOC Recommended Areas of Focus



Underground equipment failure and wire down events and the impacts of mitigations [Q1 2022]



Proactive customer communications on wildfire mitigation efforts [Q4 2022]



Potential tools/technologies that can support the safety of workers performing solo work [Q1 2023]

Note: The full set of recommendations can be found in SCE's Quarterly Notification Letters, which are located at: <https://www.sce.com/safety/wild-fire-mitigation>

SOC AND MANAGEMENT MONITOR SAFETY PERFORMANCE USING A COMPREHENSIVE SET OF METRICS ACROSS KEY SAFETY RISK AREAS

- Safety performance metrics span wildfire, public, and worker safety areas to provide a holistic view of company safety performance
- Annual targets are set to achieve a balance between being challenging and attainable

REPRESENTATIVE METRICS REGULARLY REVIEWED BY SOC (NOT EXHAUSTIVE)



WILDFIRE

- CPUC reportable ignitions in HFRA
- Covered conductor circuit miles installed
- Vegetation Line Clearing: % of trims on time
- Ground & aerial HFRA inspections & remediations
- PSPS customer notifications: % of timely notifications



PUBLIC SAFETY

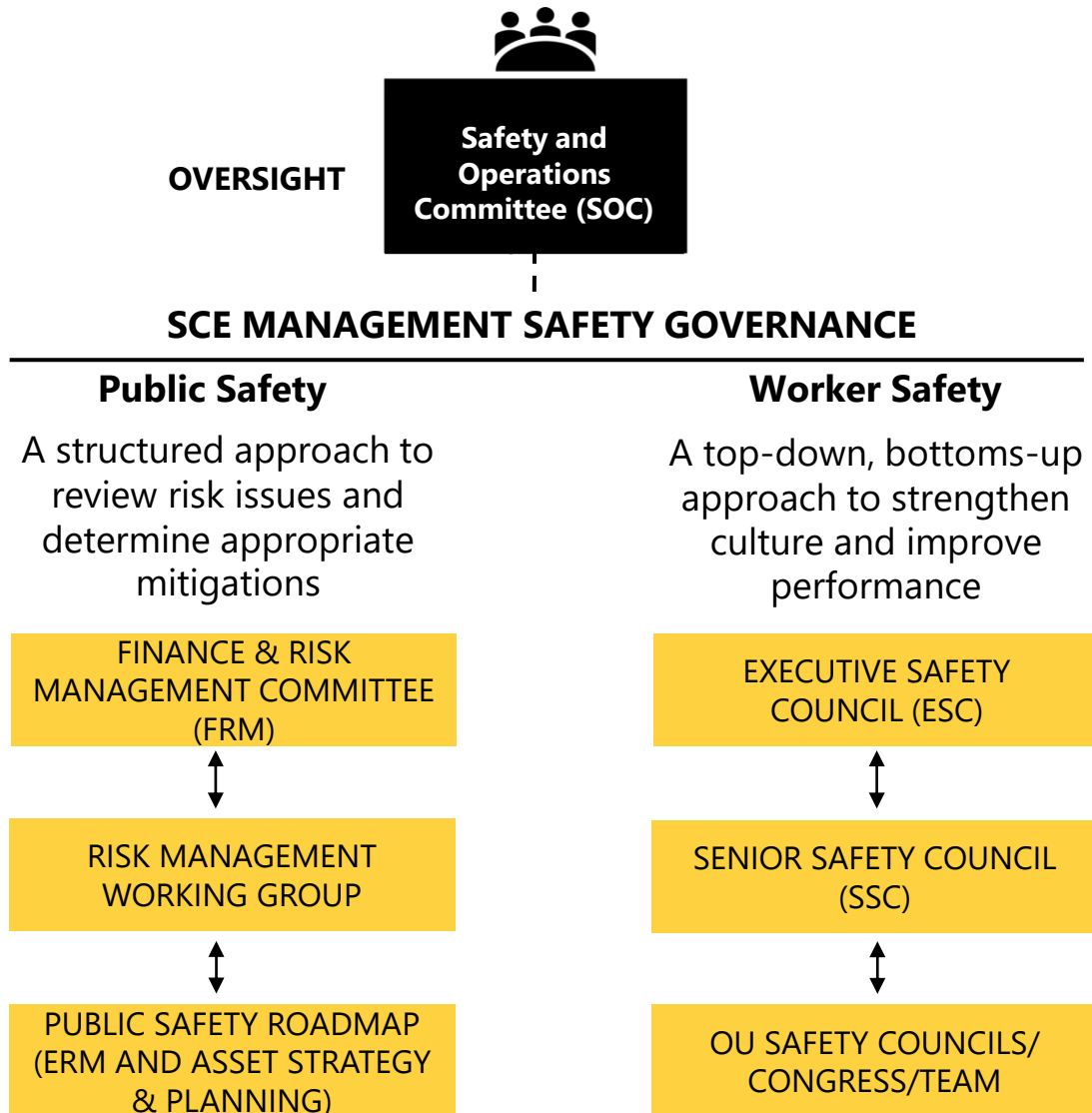
- Public SIFs due to system failures
- Public SIFs reported to CPUC
- Wire downs across SCE territory
- Underground equipment failures
- Public safety campaign awareness



WORKER SAFETY

- Serious Injuries and Fatalities (SIFs)
- Days Away, Restrictions or Transfers (DART)
- Safety Observations
- Close calls
- Vehicle incidents

SCE'S SAFETY GOVERNANCE MODEL HELPS TO STRENGTHEN CULTURE AND IMPROVE SAFETY PERFORMANCE



ENTERPRISE RISK MANAGEMENT HELPS IDENTIFY ISSUES AND DRIVE IMPROVEMENTS IN PUBLIC SAFETY

ERM systematically helps identify and drive mitigation of operational and other risks through a common risk management framework, modeling, tools, and taxonomy



CLIMATE CHANGE



WILDFIRE / PSPS



CONTACT WITH ENERGIZED EQUIPMENT



UNDERGROUND EQUIPMENT FAILURE



SEISMIC



PHYSICAL SECURITY



CYBER ATTACK



HYDRO DAM FAILURE



DIG INS



VEHICLE HIT POLE

Public safety risk mitigations are prioritized based on risk assessment

- Infrastructure Hardening and Replacement
- Inspections & Remediations
- Vegetation Management
- Situational Awareness
- Data Governance
- Emerging Technology
- Emergency Preparedness
- Grid Operations & Protocols
- Customer Care Programs

SCE'S INTEGRATED WILDFIRE MITIGATION STRATEGY TAKES A RISK-INFORMED APPROACH TO MITIGATION SELECTION AND DEPLOYMENT

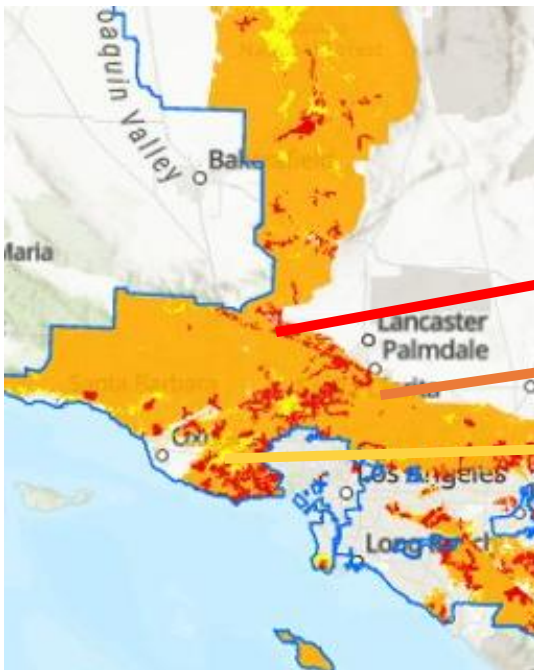
1 IDENTIFY AND PRIORITIZE RISKIEST AREAS USING RISK MODELS AND TOOLS



2 DETERMINE BEST MITIGATION(S) TO ADDRESS RISK DRIVERS IN EACH AREA



3 VALIDATE/REVISE MITIGATION SELECTION THROUGH EXPERT REVIEWS



***Other mitigations** include fire-resistant poles installation, asset inspections, fast curve settings for circuit breaker relays, along with vegetation management activities (as necessary), including hazard tree management program, pole brushing and line clearing

SEVERE RISK AREA MITIGATION

Covered conductor, Rapid Earth Fault Current Limiter (REFCL) & other mitigations* — OR — undergrounding for fire risk egress constrained locations, extreme high wind areas, communities of elevated fire concern, and/or extreme consequence areas

HIGH CONSEQUENCE AREA MITIGATION

Covered conductor & other mitigations* for locations that meet 300-acre confidence threshold at 8 hours, or locations at risk of PSPS

OTHER HFRA MITIGATION

Inspections & remediation, vegetation management & other mitigations* for locations not in severe risk or high consequence areas

SCE IS SEEING NUMEROUS PROOF POINTS AND RESULTS FROM ITS SUBSTANTIAL WILDFIRE MITIGATION EFFORTS SINCE 2018

4,580+ MILES
OF COVERED CONDUCTOR



71% fewer faults on fully covered circuits¹

2 MILLION+
TRIMS AND REMOVALS IN HFRA



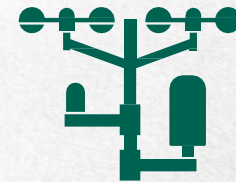
53% fewer tree-caused faults²

1 MILLION+
HFRA INSPECTIONS



61% lower defect find rate³

1,630+ **180+**
WEATHER STATIONS HD CAMERAS



90% visual coverage of HFRA

No ignitions due to failure of covered conductor⁴

98% fewer structures destroyed in 2021-22 compared to 2017-18

92% fewer acres burned in 2021-22 compared to 2017-18

15% fewer CPUC reportable ignitions in high fire risk areas in 2022 compared to 2021

1. Measured by faults covered conductor is expected to mitigate per 100 circuit miles on fully covered circuits as compared to bare circuits from 2018-2022 in HFRA

2. Measured by average monthly tree caused circuit interruptions in HFRA in 2022 compared to the average from 2017-2019

3. Measured as Total Defect Find Rate of Top Ignition Drivers (percentage of inspections) in 2022 as compared to 2019 (inception of program) for structures inspected every year

4. For the drivers that covered conductor is intended to mitigate

SCE CONTINUOUSLY EVALUATES NEW TECHNOLOGIES AND APPROACHES TO FURTHER REDUCE WILDFIRE RISK

- SCE pilots new technologies to evaluate their technical and operational capabilities, cost, feasibility to implement, and other factors prior to fully integrating into the mitigation portfolio
- These technologies can ultimately complement existing wildfire initiatives by mitigating risk drivers not previously addressed, or by potentially addressing drivers in more effective ways



RAPID EARTH FAULT CURRENT LIMITER (REFCL)

Detects and reduces ground fault energy before ignition can occur



OPEN PHASE DETECTION

Detects broken conductor and de-energizes before the line hits the ground



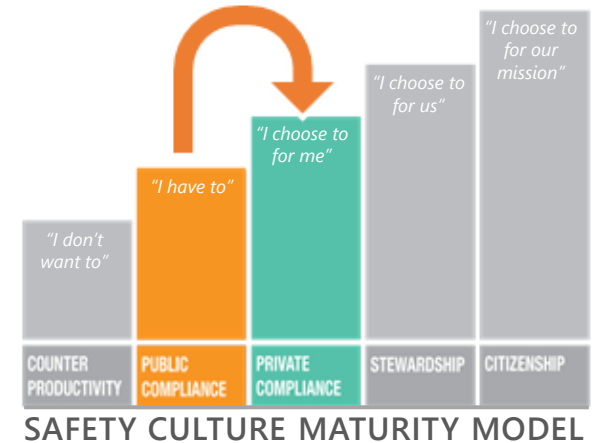
EARLY FAULT DETECTION

Detects deteriorated, damaged or compromised assets before a fault occurs

SAFETY CULTURE ASSESSMENT EFFORTS AT SCE

SCE: TRIENNIAL SAFETY CULTURE ASSESSMENT

- SCE has administered an independent comprehensive safety culture assessment triennially since 2017
- SCE's safety culture roadmap efforts have increased safety culture maturity and driven notable improvements in psychological safety and leader safety engagement



ENERGY SAFETY: ANNUAL SAFETY CULTURE ASSESSMENT

2021 RECOMMENDATIONS IMPLEMENTED



2022 APPROACH FOR RECOMMENDATIONS

- Embedding learning organization concepts into culture
- Mitigating serious exposure posed by interactions with discontented members of the public
- Improved safety-related communication concerning wildfire roles and decisions
- Improved wildfire employee communications
- Continue building capacity as a learning organization and improving organizational processes
- Sustain ongoing efforts to mitigate workers' risk exposure posed by interactions with discontented members of the public
- Strengthen safety communication channels between leadership and frontline workers
- Continue delivering REFCL training to frontline workers with enhanced training materials



CPUC/ENERGY SAFETY
PUBLIC MEETING ON SAFETY

Thank you

Appendix: Safety Metric Performance Examples

		2020	2021	2022
Wildfire Safety	CPUC reportable ignitions in HFRA	50	48	40
	Covered conductor circuit miles installed	965	1,454	1,399
	Vegetation Line Clearing: % of trims on time	82%	79%	88%
	Ground & aerial HFRA inspections and remediations ¹	72%	74%	80%
Public Safety	Public SIFs due to system failures	1	0	1
	Public SIFs reported to CPUC	12	9	5
	Wire downs across SCE territory ²	1,099	1,153	1,029
Worker Safety	Employee Serious Injuries and Fatalities (SIFs) Rate	0.124	0.062	0.088
	Employee Days Away, Restrictions or Transfers (DART) Rate	0.9	1.05	1.18
	Contractor SIF Rate	0.192	0.124	0.06
	Contractor DART Rate	0.45	0.36	0.26

[1] Represents the percentage of P2 findings remediated 30 days before compliance due date

[2] Includes distribution primary wire downs including major event days