DOCKETED	
Docket Number:	18-IEPR-05
Project Title:	Climate Adaptation and Resiliency
TN #:	224362
Document Title:	Southern California Edison Wildfire Mitigation & Grid Resiliency
Description:	Presentation by Bill Chiu, SCE, at the August 2 Joint Agency Workshop on Climate Adaptation and Resiliency
Filer:	Denise Costa
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	8/1/2018 7:57:45 PM
Docketed Date:	8/2/2018

Southern California Edison
Wildfire Mitigation & Grid Resiliency

2018 California Energy Commission
Integrated Energy Policy Report Update

August 2, 2018



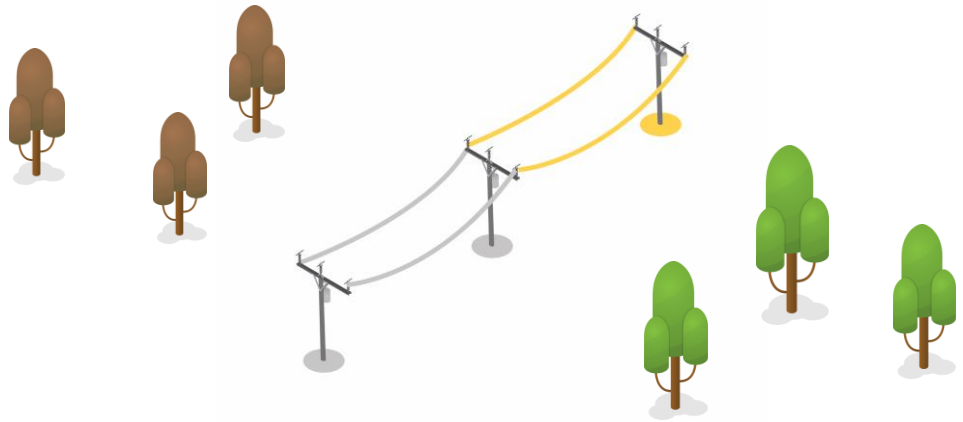
Energy for What's Ahead℠

SOUTHERN CALIFORNIA EDISON®

TOPICS

Wildfire Mitigation & Grid Resiliency

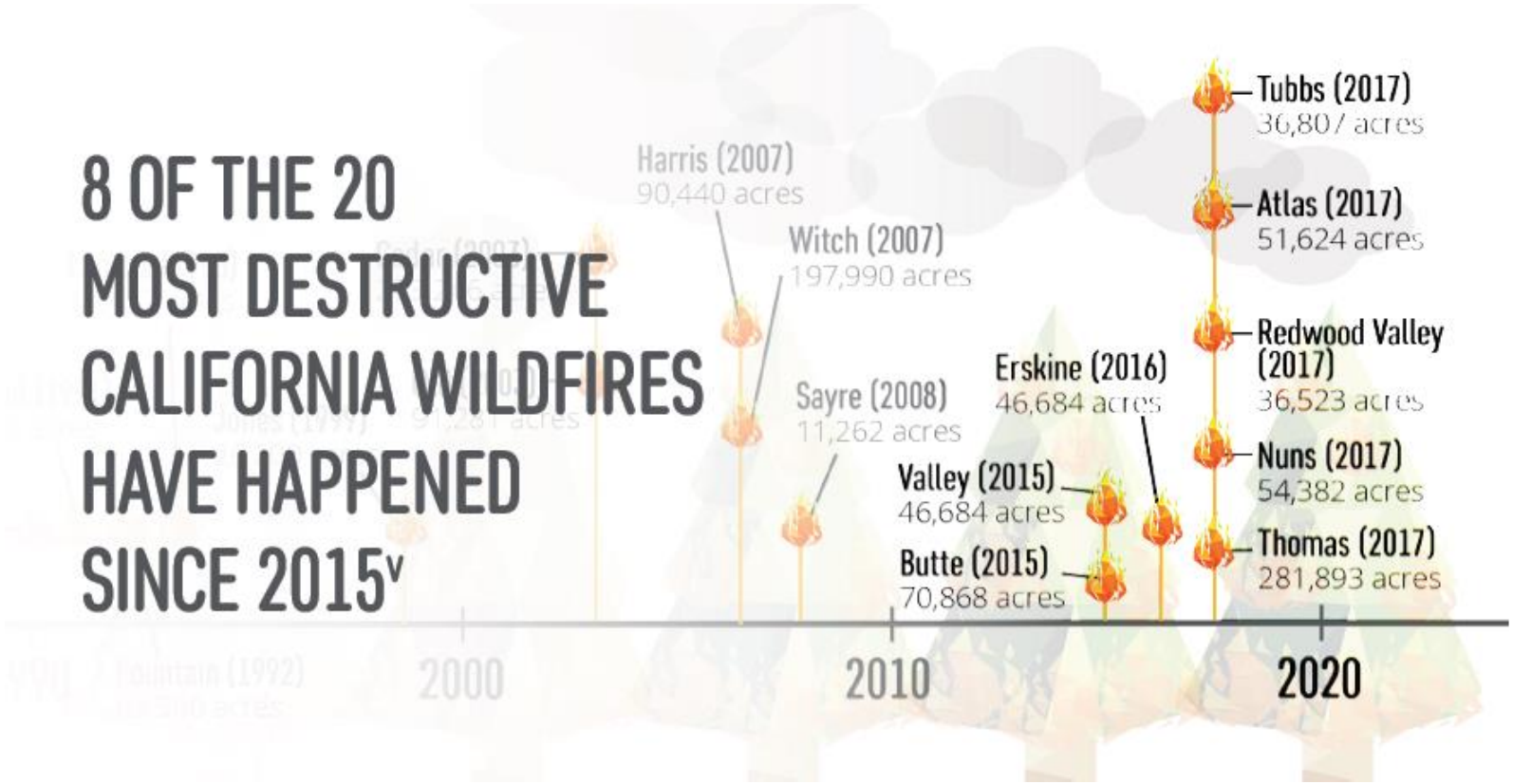
Public Safety Power Shutoff



CALIFORNIA'S WILDFIRE RISK

Year-Round Fire Season: Changes to California's climate means that the traditional notion of a fire "season" no longer exists

Hazardous fuel is building up: 9M acres of land contain ready-to-burn kindling from nearly 129M trees that have been killed or weakened by drought and bark beetle infestation



SCE HAS BEEN ADDRESSING THE NEW NORMAL

We have long taken substantial steps to reduce the risk of wildfires and continue to look for ways to enhance our operational practices and infrastructure

- **Operational practices:**
  - Restrict certain types of work and patrol lines in high fire-risk areas after a circuit interruption during a Red Flag Warning period
  - Update relay settings to speed up the response time of detecting and isolating faulted distributions lines and also to prevent them from re-energizing in high fire risk areas after a circuit interruption
  - Reduce fire risk via a Public Safety Power Shutoff, where power is shut off in high fire-risk areas during the most extreme weather conditions

- **Vegetation management:** Increase trimming and removal of trees may further mitigate safety risks posed by trees or debris

- **Situational awareness:** Expand meteorological monitoring and forecasting capabilities by installing additional weather stations and high-definition cameras to help SCE and fire agencies to better prepare, mitigate, and respond to reported fires

- **System hardening:** Increase the use of fire-resistant poles, composite cross-arms, covered conductors and non-expulsion type high speed current limiting fuses in high fire-risk areas

- **Engineering advances:** Evaluate design approaches and next-generation engineering technology to further enhance public safety

FIRE AND SEVERE WEATHER MONITORING

Weather Stations

Strategically deployed to collect high-resolution weather data

Enables more accurate forecasting at the circuit level

Situational Awareness Center

24/7 weather and situational awareness monitoring

Co-located with SCE's Emergency Operations Center and Watch Office

SCE meteorologists with electrical system and power delivery expertise

High Resolution Weather Data Visualization

Visualization shows weather conditions at the circuit level

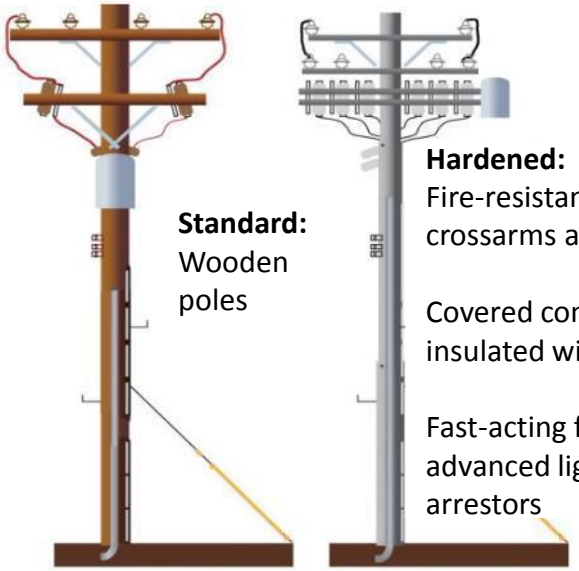
Alerts notify meteorologists and incident response teams when conditions reach pre-identified thresholds

Fire Monitoring Cameras

New, high-definition cameras installed on SCE telecom tower to monitor wildfire activity

Remote-controlled pan-tilt-zoom helps to pinpoint wildfire locations and improve response times

PREVENTION > MITIGATION > SYSTEM HARDENING



Standard:
Wooden poles

Hardened:
Fire-resistant poles, crossarms and insulators

Covered conductors/ insulated wire wrap

Fast-acting fuses and advanced lightning arrestors

Fault Tamer

X-Limiter CLF

PUBLIC SAFETY POWER SHUTOFF

Last resort public safety measure to mitigate wildfire risk

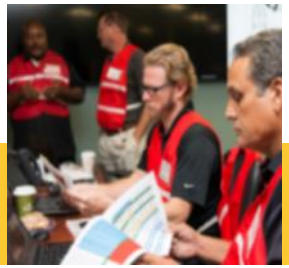
4-7 DAYS AHEAD

- When forecasts indicate extreme weather, SCE will begin predictive modeling to assess potential impact

3 DAYS AHEAD

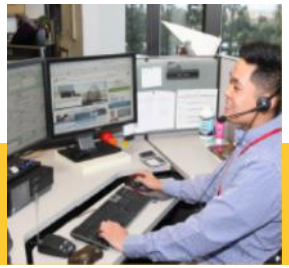
- SCE monitors fire weather watch alerts from the National Weather Service (NWS) and continues to refine predictive models

2 DAYS AHEAD



- Extreme fire weather conditions forecasted and NWS Red Flag Warning issued
- Coordinate with local gov't and agencies (e.g. emergency responders)
- Initiate customer notifications on possible power shutoff

1 DAY AHEAD



- Extreme fire weather conditions imminent; continued modeling and more accurate forecasts determine affected areas
- Continue to coordinate and communicate with local government, agencies and customers of possible power shutoff

POWER SHUTOFF

- Extreme fire weather and dangerous conditions validated by field resources
- Notify local government, agencies and customers of power shutoff

POWER RESTORATION

- Extreme fire weather subsides to safe levels and conditions validated by field resources
- Inspections and patrols of equipment begin, then power is restored to affected communities
- Agencies and customers notified of power restoration

PLANNING AND MONITORING | **OUTAGE**

Note: Actual onset of weather conditions and other circumstances beyond our control may impact coordination and notification efforts