



# **PUBLIC SAFETY POWER SHUTOFF**

CPUC Public Briefing

August 1, 2022



SOUTHERN CALIFORNIA  
**EDISON**<sup>®</sup>



# Introduction

**Lisa Cagnolatti**  
Senior Vice President  
Customer Service

# SCE 2022 PSPS PUBLIC BRIEFING

## AGENDA

FOCUS AREAS	TOPICS	PRESENTER
Introduction		Lisa Cagnolatti
Readiness Overview	PSPS preparedness by the numbers   Pre-season report overview	Shinjini Menon
Grid Hardening	Metrics and progress	Shinjini Menon
Operational Update	Decision-making criteria   Central Data Platform and system automations	Tom Brady
Communication with Agencies and Partners	Outreach to customers and tribal/local governments   Coordination with agencies   Reporting   Portal   Critical facilities/telecom	Tom Brady
Communication with Customers and the Public	Notifications   Website   Reaching customers and communities	Sandra Labib
Access and Functional Needs and Medical Baseline Outreach	Reaching customers with Access and Functional Needs   Reaching Medical Baseline customers   Critical Care Backup Battery Program	Dani Anderson Katie Sloan
Customer Support	Customer care programs	Katie Sloan
Recent PSPS Events	June and July event summaries	Shinjini Menon
Fast Curve Settings	Program information   Metrics	Shinjini Menon
Summary		Lisa Cagnolatti





# Readiness Overview

**Shinjini Menon**

Vice President

Asset Management & Wildfire Safety

# 2022 BY THE NUMBERS

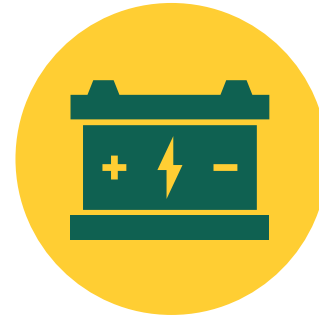
## READY TO GO



3,500+ miles of covered conductor installed to date



≥69% targeted reduction in PSPS scope on 50+ circuits



60% of eligible customers received a free battery through the Critical Care Backup Battery Program



100+ virtual and in-person meetings to solicit feedback and provide information



All 346 PSPS IMT members have been trained and participated in readiness exercises



More than 700 Public Safety Partners registered on Portal



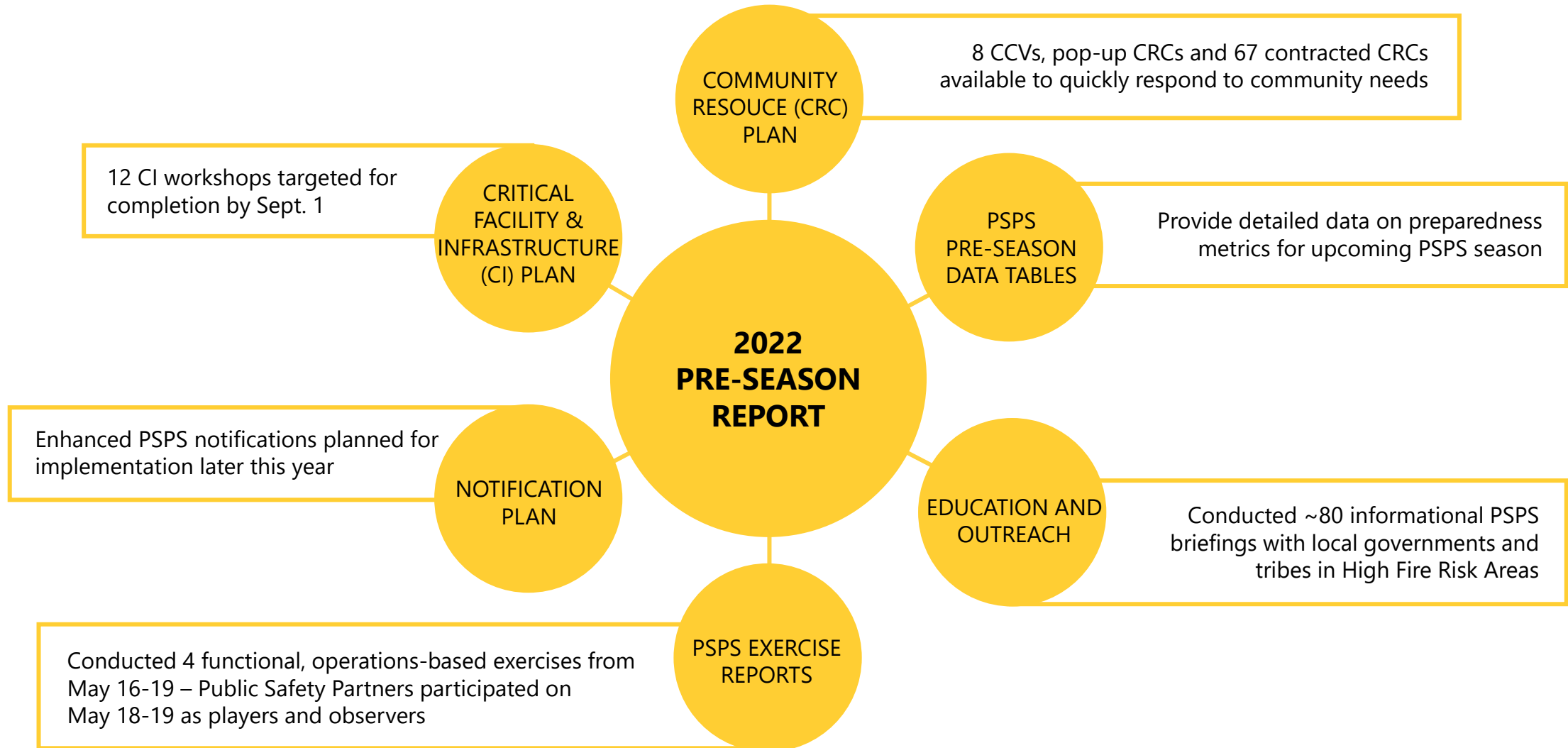
All customers sent a PSPS seasonal newsletter



Customer notification automation launched

# 2022 PSPS PRE-SEASON REPORT

## OVERVIEW







# Grid Hardening

**Shinjini Menon**

Vice President

Asset Management & Wildfire  
Safety

# GRID HARDENING METRICS AND PROGRESS

## ADDITIONAL SYSTEM HARDENING TARGETS OUR MOST IMPACTED CUSTOMERS

### 2022 GRID HARDENING METRICS

<b>Outage Reduction Goals (%)</b>	<ul style="list-style-type: none"> <li>14% reduction in <b>frequency</b> for PSPS-impacted circuits             <ul style="list-style-type: none"> <li>≥39% incremental reduction in <b>frequency</b> on 50+ targeted circuits<sup>1</sup></li> </ul> </li> </ul>
<b>Outage Duration</b>	<ul style="list-style-type: none"> <li>17% reduction in customer minutes of interruption (<b>CMI</b>) for PSPS-impacted circuits             <ul style="list-style-type: none"> <li>≥60% incremental reduction in <b>CMI</b> on 50+ targeted circuits</li> </ul> </li> </ul>
<b>PSPS Scope Reduction</b>	<ul style="list-style-type: none"> <li>Removing an additional 8,165 customers from PSPS consideration in 2022 through <b>circuit exceptions</b> process<sup>2</sup> <ul style="list-style-type: none"> <li>Reviewing 24,000 additional customers</li> </ul> </li> <li>25% reduction in <b>customers impacted</b> by PSPS             <ul style="list-style-type: none"> <li>≥69% incremental reduction in <b>customers impacted</b> on 50+ targeted circuits</li> </ul> </li> </ul>

### EXPEDITED GRID HARDENING ON 50+ CIRCUITS IMPACTED BY PSPS

Mitigation	Current Scope (planned for 2022)	YTD Completed (as of 6/30/22)
<b>Covered Conductor</b>	150+ miles	114 miles
<b>Underground Scope</b>	3 miles	0 miles
<b>Automated Switches</b>	8 switches	2 switches
<b>Weather Stations</b>	19 devices	15 devices

### MICROGRIDS

**Behind the Meter** microgrids pilots:

#1 completed in 2020, #2 to be completed in 2022

### TEMPORARY GENERATION

Planning 2 500kW generators on Dartmouth circuit serving Hemet and San Jacinto

Successful preliminary field test of Mobile Battery Energy Storage System for Energy circuit serving Chatsworth, Santa Susana and Simi Valley in June 2022

<sup>1</sup> In 2022, SCE is targeting over 50 circuits for grid hardening based on PSPS impacts.

<sup>2</sup> The 8,165 exempt customers includes 2,250 customers exempted due to switching protocol updates; exceptions to be reviewed annually.





# Operational Update

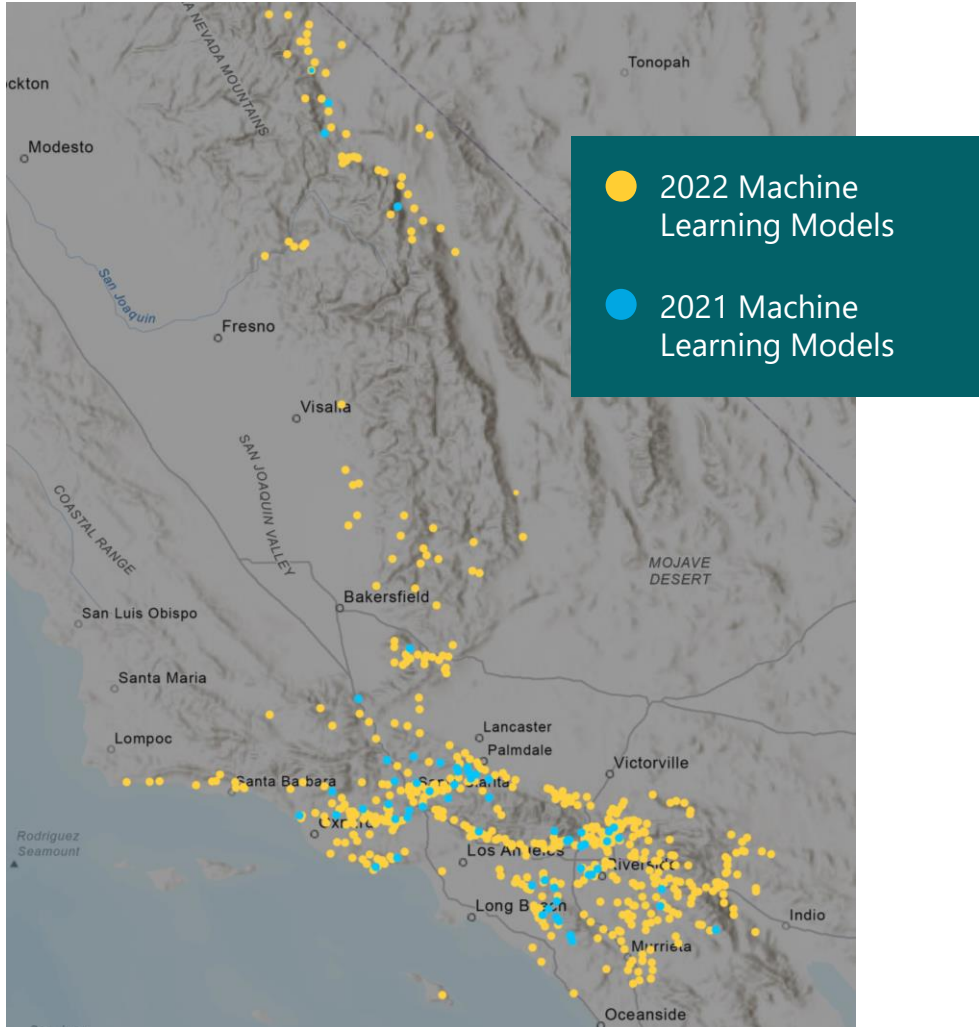
**Tom Brady**

Principal Manager

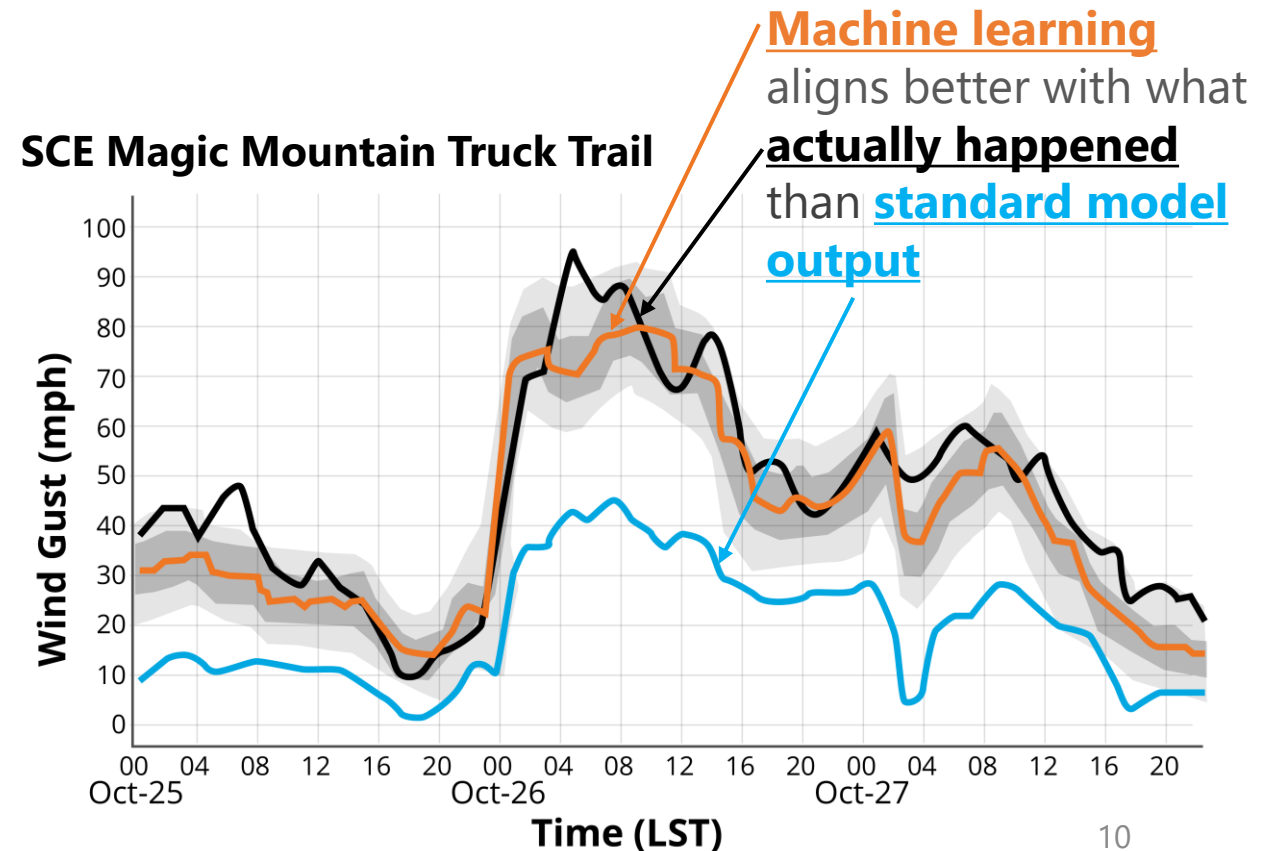
PSPS Readiness Lead

# DECISION-MAKING CRITERIA

## IMPROVING WEATHER FORECASTS WITH MACHINE LEARNING

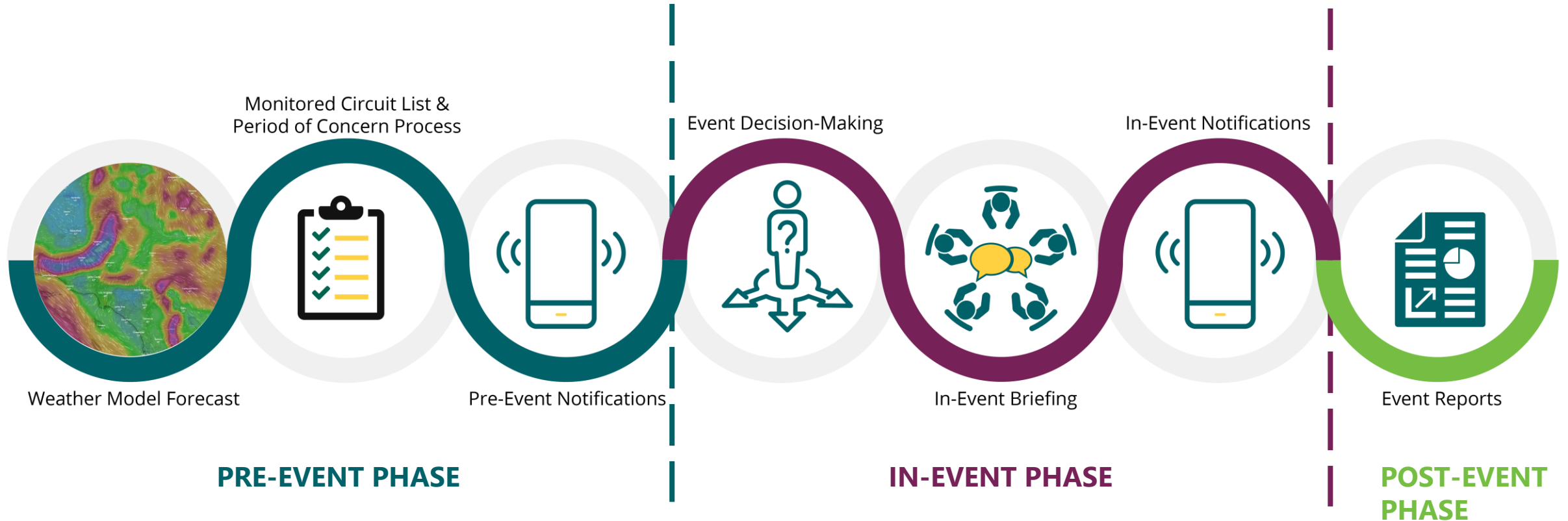


500 new machine learning models help us better understand actual weather behavior at a weather station by referring to past real-weather observations and using them to adjust forecasts. These more accurate forecasts improve our ability to predict PSPS conditions ahead of time.



# CENTRAL DATA PLATFORM

IMPROVING EVENT MANAGEMENT, NOTIFICATIONS AND REPORTING



Initial automation is performing well and will continue to be refined based on ongoing testing and lessons learned from activations. All PSPS IMT members have undergone rigorous training and multiple readiness exercises on the new system.



# Communication with Agencies and Partners

**Tom Brady**

Principal Manager

PSPS Readiness Lead



# INFORMING CUSTOMERS AND PARTNERS

## OUTREACH TO CUSTOMERS AND TRIBAL / LOCAL GOVERNMENTS

**Building on feedback to better communicate, coordinate and share information**

- 10** Community Meetings
- 13** PowerTalk Meetings
- 9** County Emergency Management Meetings
- 11** Critical Infrastructure Provider Workshops
- 8** PSPS Working Group and Advisory Board Meetings

### Engaging with all local and tribal governments in HFRA

- Provided PSPS Resiliency Guides to all tribal and local governments in HFRA
- Soliciting input on areas including CRC/CCV locations, AFN engagement, notification protocols and community safety
- Increasing in-person education and outreach on PSPS Readiness, Medical Baseline program, income-qualified programs, and offerings for batteries and generator rebates
- Engaging partners through tours of our Emergency Operations Center (EOC) and meetings on our PSPS protocols

### 2021 Survey of Local Governments in High Fire Risk Areas

- 94%** Familiar with or heard of SCE's work to reduce wildfire risk
- 98%** Familiar with or heard of SCE's PSPS Program
- 63%** Support SCE's PSPS Program

# COORDINATION WITH AGENCIES/REPORTING

AUTOMATION TO RECONCILE DATA ISSUES AND PROVIDE TIMELY UPDATES

## IN-EVENT BRIEFINGS

3 daily briefing calls - have streamlined and automated data to improve consistency and timeliness

- Statewide Executive Briefing
- County Coordination
- Critical Infrastructure



## REPORTING: DATA COLLECTION AND MANAGEMENT IMPROVEMENTS

- Increased accuracy and efficiency of PSPS Post-Event Reporting process through automation
- Developed data definitions, reporting methodologies and supporting business logic to automate PSPS post-event reporting tables based on SED's final post-event reporting template
- Worked with consultant to validate post-event data definitions and associated methodologies



# PUBLIC SAFETY PARTNER PORTAL

## INFORMING PARTNERS AND CRITICAL INFRASTRUCTURE CUSTOMERS



### **750+ registered users**

- Host bi-weekly office hours to troubleshoot user issues and solicit feedback

### **Additional functionality in 2022**

- ZIP code to circuit mapping
- Direct access to past PSPS event data
- Consolidated GIS information layer

# CRITICAL FACILITIES/TELECOM

## STRENGTHENING PARTNERSHIPS WITH COMMUNICATION SERVICE PROVIDERS



Working directly with communication service providers\*:

- Assisting providers in assessing their backup power needs by identifying circuits and equipment locations that are at risk for PSPS
- Providing one-on-one Public Safety Partner Portal trainings
- Engaging providers in PSPS and All-Hazard exercises

\*AT&T, Verizon, T-Mobile, Charter, Frontier, Cox Communications



# Communication with Customers and the Public

**Sandra Labib**

Senior Advisor

Outage Communications



# NOTIFICATION IMPROVEMENTS

## LISTENING AND FOCUSING ON THE CUSTOMER EXPERIENCE

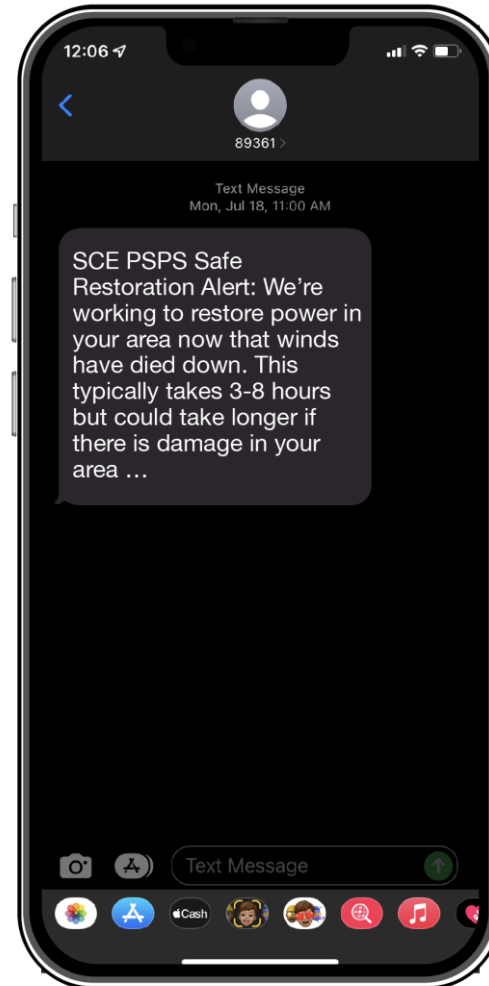
### Listening to our customers first

- Conducted 2 large PSPS-related surveys: PSPS Tracker and PSPS Notifications
- Other completed 2022 PSPS-related surveys include In-Language Wildfire Mitigation, Communications Effectiveness Pre/Post Surveys and PSPS Voice of Customer

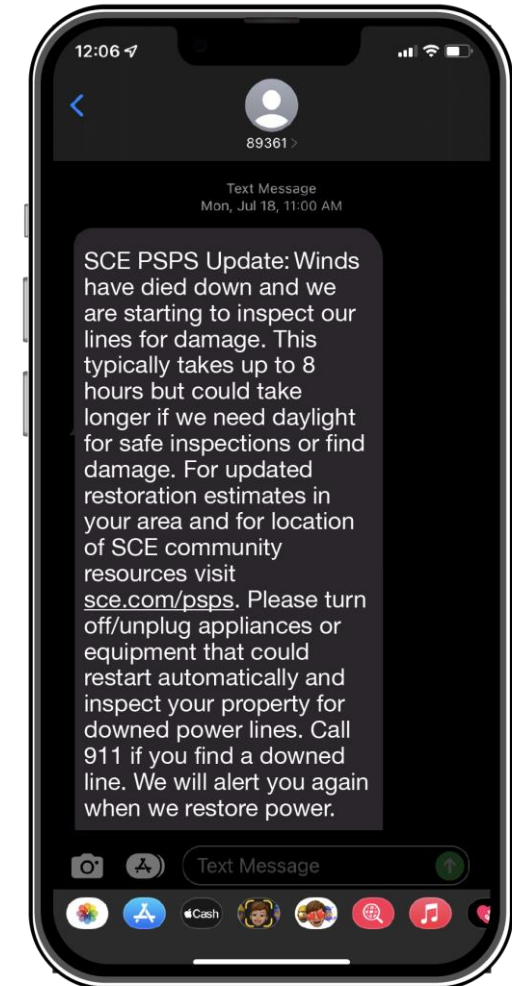
New email channel available for address-level (non-customer) alerts

Improved communication of estimated restoration ranges

2021



2022



# INFORMING PARTNERS AND CUSTOMERS

ENHANCING OUR WEBSITE TO BETTER INFORM OUR CUSTOMERS AND PARTNERS

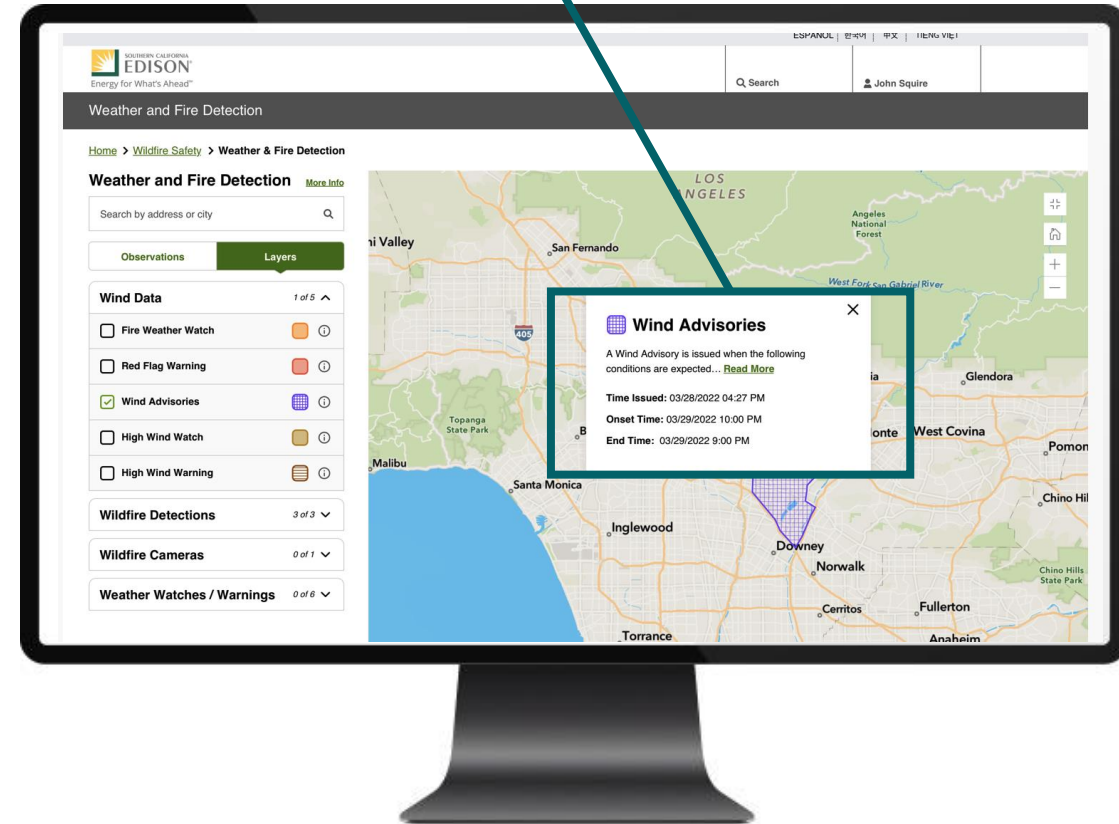
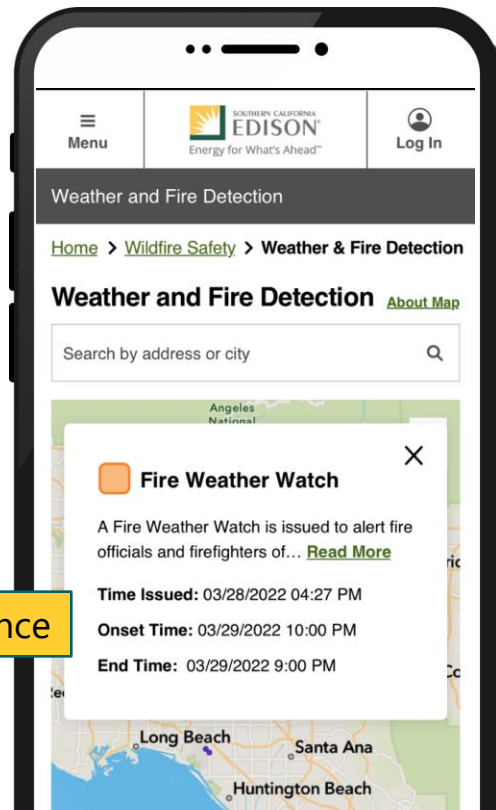
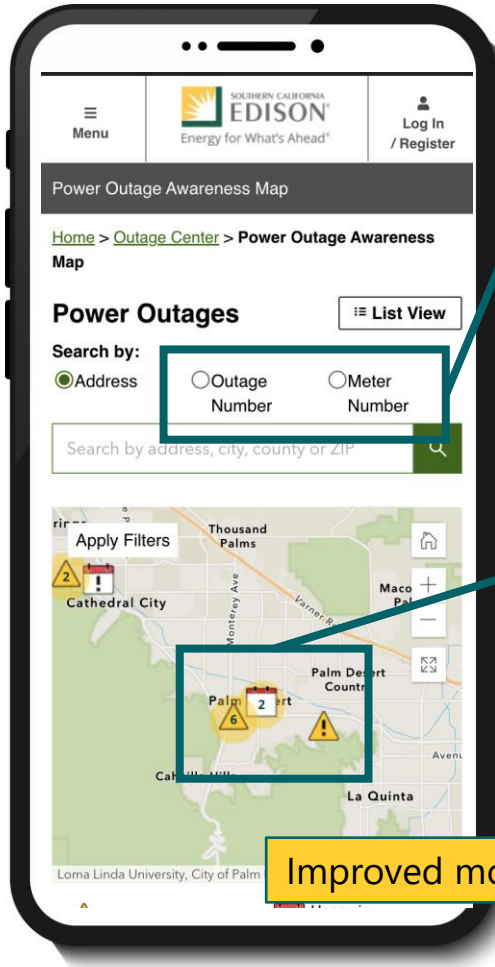
## NEW FEATURES IN 2022

Search by Meter Number or Outage Number

More dynamic outage information

Improved mobile user experience

New interactive weather and fire map including real time weather station information and location of active fires (Q4 2022)



# REACHING PARTNERS AND CUSTOMERS

## TAILORING OUR OUTREACH TO ENGAGE OUR DIVERSE COMMUNITY

### MEDIA

Contacted **100** journalists and **80** outlets

- Using paid and earned media to reach customers through digital and traditional channels
- Increasing community-based engagement to amplify coverage and increase engagement opportunities

### COMMUNITY MEETINGS

10 community meetings in 2022 for PSPS-impacted counties and individuals with AFN

**68%** of participants felt better informed about PSPS and wildfires

### DIRECT MAIL

- PSPS preparedness newsletter mailed to all 5 million SCE customers in 2022
- Separate version for HFRA and non-HFRA customers

**67%** of surveyed customers say that SCE takes proactive measures to protect communities from wildfires

### ADVERTISING

- Reaching wider audience through research-based channel mix
- All PSPS advertising is meeting or exceeding recall goals







# AFN and MBL Customer Outreach

## **Dani Anderson**

Senior Manager

PSPS Customer Experience

## **Katie Sloan**

Vice President

Customer Programs & Services

# ACCESS AND FUNCTIONAL NEEDS

INCREASING RELATIONSHIPS, PROGRAMS, SERVICES AND AVAILABILITY TO OUR AFN POPULATION

## EXPANDING PARTNERSHIPS TO BETTER SUPPORT CUSTOMERS

- Providing food support
- Keeping paratransit agencies and health care partners informed

## SUPPORTING COMMUNITIES WITH INDIVIDUALIZED EMERGENCY PLANNING

- Care Coordination in partnership with 211 launched in March 2022
- 2,567 Care Coordination contacts completed to date

## INCREASING ACCESSIBILITY OF PSPS COMMUNICATIONS

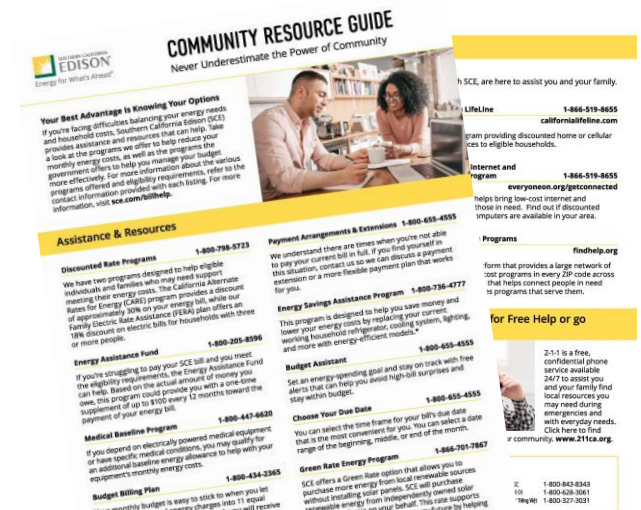
Will be offered this year in American Sign Language accompanied by English voice-over and accessible text

## STRENGTHENING CBO COORDINATION

Amplifying SCE CBO coverage by ~40% - 60%

## EVALUATING CUSTOMER EXPERIENCE

- Data and customer experience are the basis for programs and expansion
- **New:** AFN Self-ID pilot and customer surveys
- AFN Heat Map



# MEDICAL BASELINE CUSTOMER OUTREACH

## EXPANDING OUTREACH AND SERVICES FOR CUSTOMERS IN NEED

Outreach to **100k customers/month** in MBL email campaign

Ran **40 newspaper ads** targeting seniors and diverse communities

Ran digital ads in **6 languages**

Issued **63 \$500** generator rebates to MBL customers

### Recent Outreach Efforts:

- **Ongoing through December:** Running digital MBL ads in English, Spanish, Chinese, Korean, Tagalog and Vietnamese
- **July 13:** Sent mailing to nearly 117k enrolled MBL customers to provide resources and emergency preparedness tips for PSPS and request updated customer contact information on SCE.com
- **Mid-August:** Launching automated ongoing campaign to increase MBL enrollment



If you **rely on medical equipment**



in your home

### 2022 Digital Advertising



we can help you reduce your energy costs.

Find out if you qualify.

[Learn more](#)





# CRITICAL CARE BACKUP BATTERY PROGRAM

## IMPROVING RESILIENCY FOR ELECTRICITY-DEPENDENT CUSTOMERS

Since launching Critical Care Backup Battery (CCBB) program in July 2020, have **contacted 100% of eligible customers** and provided over **7,500 free portable backup batteries**, representing deployment to **more than half** the eligible population

- Newly eligible customers contacted monthly
- Increasing enrollment through:
  - “Doorbell rings” for hard-to-contact customers
  - Amplifying education and outreach through Community-based Organizations (CBOs)
- Using customer effectiveness surveys and benchmarking on best practices with other utilities to inform marketing approach

### 2022 Participation:

- Enrolled **1,063** customers and deployed **1,015** batteries
- Continuing outreach to all eligible customers, including repeated attempts when customers do not respond
- 2022 newly eligible customer population is shrinking: 460/month in 2021 vs. 245/month in 2022



# Customer Support

**Katie Sloan**

Vice President

Customer Programs & Services



# MITIGATING IMPACTS OF PSPS

## ENHANCED CUSTOMER CARE RESOURCES AND PROGRAMS FOR OUR CUSTOMERS

### 2022 COMMUNITY CARE RESOURCES TO DATE

#### 67 COMMUNITY RESOURCE CENTERS (CRC)

New sites in 2022

- Calabasas (Los Angeles County)
- Eastvale (Riverside County)

#### 8 COMMUNITY CREW VEHICLES (CCV)

#### 8 RESILIENCY ZONE SITES

#### 9 RESILIENT CRCs



#### SAFETY FAIRS

Fairs in HFRA communities of Malibu, Santa Clarita and the tribal communities of Morongo, Soboba, and Pechanga helped 800+ customers in to be more prepared

#### ENHANCED ACCESS & FUNCTIONAL NEEDS (AFN) SUPPORT

- Device charging Leave-behind Pilot
- Offering reusable thermal insulated bags for medication
- Providing privacy screens
- Offering water bowls and snacks for service animals
- Continuing to offer on-site translation service for 120+ languages including American Sign Language

### 2021 CRC CUSTOMER FEEDBACK

- 8.3 customer rating on 1-10 scale
- Visitors have generally been satisfied with the service they have received
- Grievances are typically related to inconveniences resulting from de-energizations (rather than services)



# Recent PSPS Events

**Shinjini Menon**

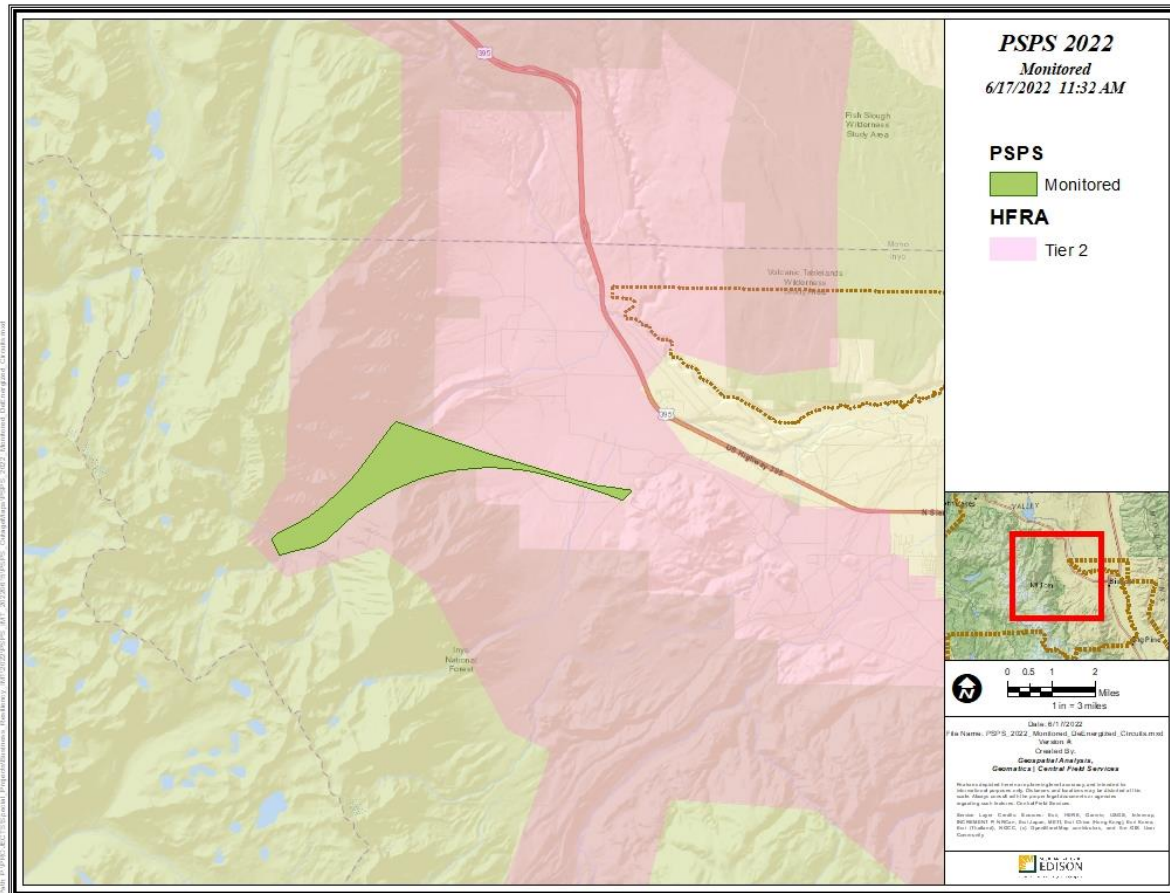
Vice President

Asset Management & Wildfire Safety

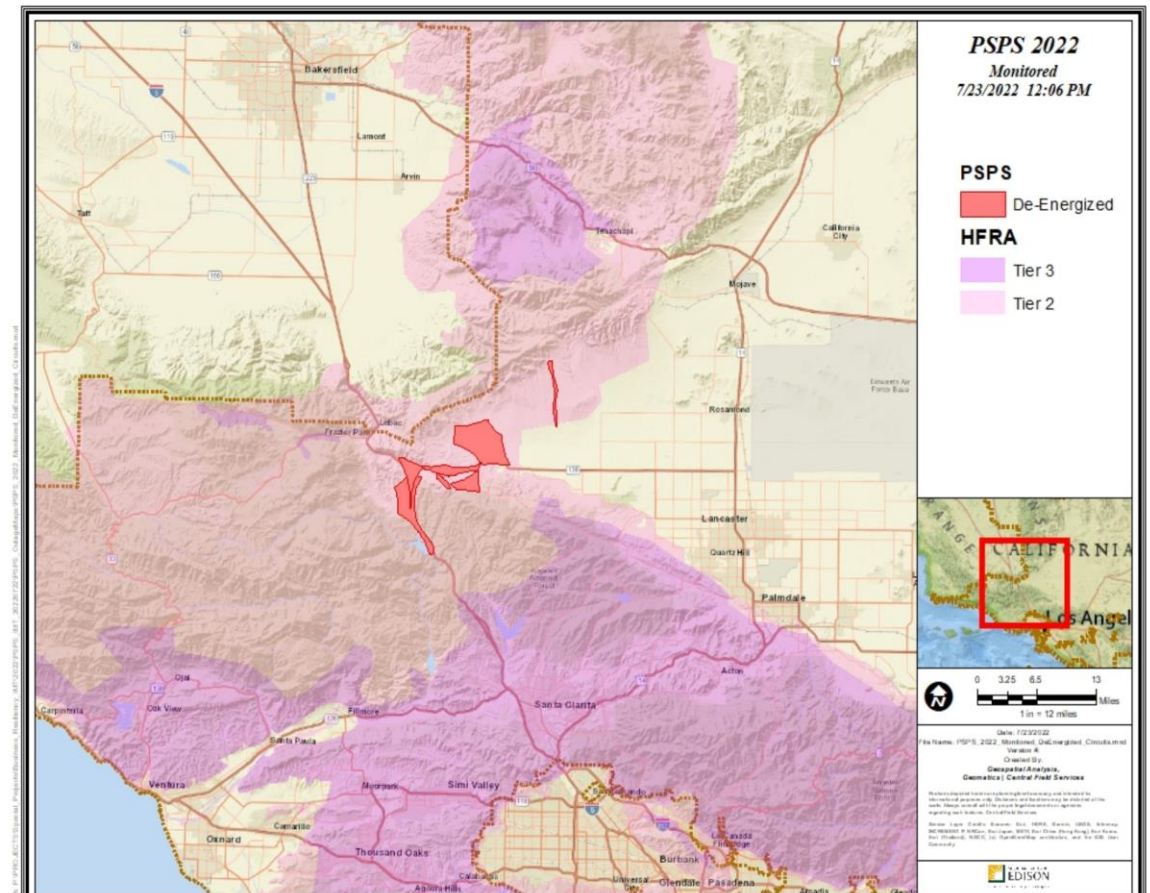
# 2022 PSPS EVENTS SUMMARY

## EVENTS 1 & 2

JUNE 2022



JULY 2022



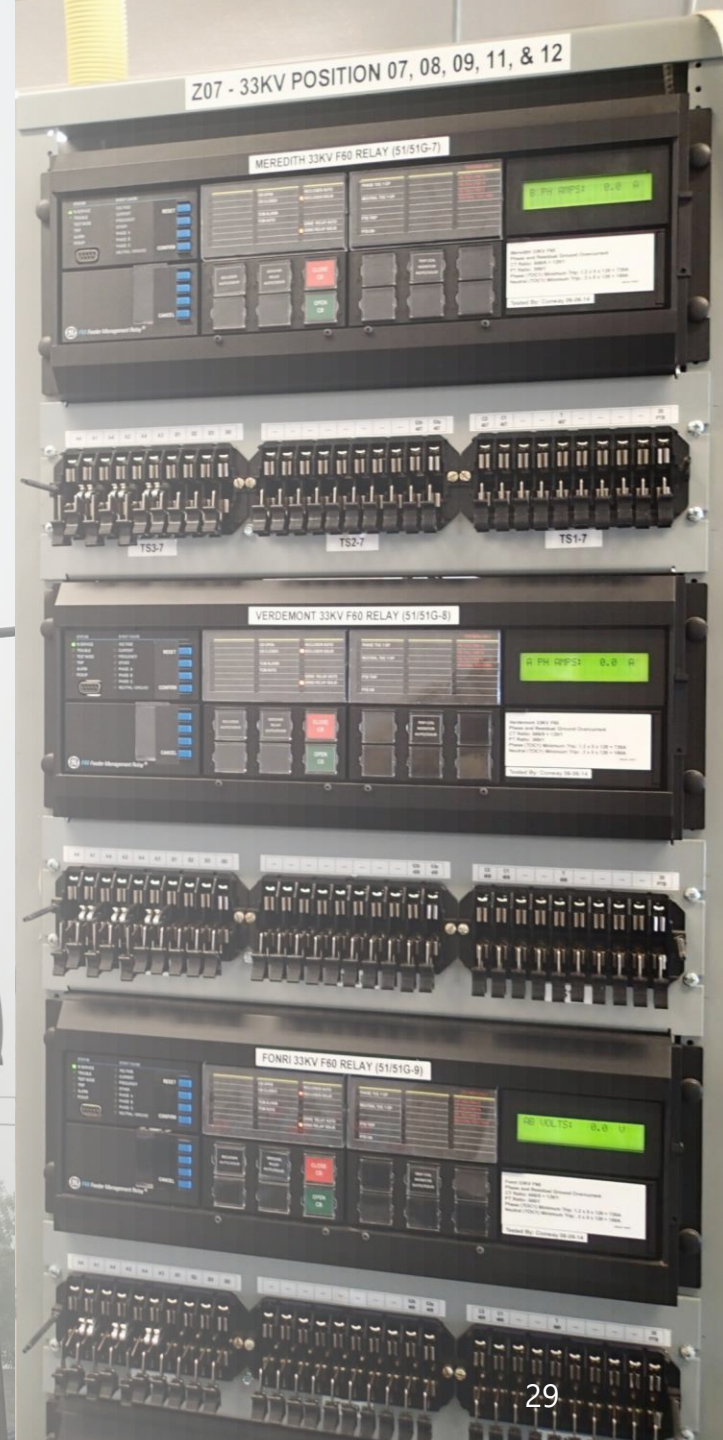


# Fast Curve Settings

**Shinjini Menon**

Vice President

Asset Management & Wildfire Safety



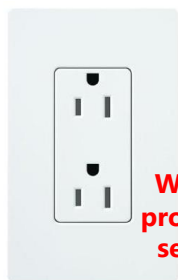


# FAST CURVE SETTINGS

REDUCE THE RISK OF IGNITIONS; ASSOCIATED OUTAGES ARE DISTINCT FROM PSPS

- Utilities use protection settings on circuits to reduce damaging impacts caused by excessive current and fault energy during a fault condition, such as a tree branch falling on the line or a downed wire
- Since 2018, we have been using faster and more sensitive protection settings (“fast curve settings”) in HFRAs as part of a suite of ignition risk mitigation measures
- We initially selected moderate fast curve settings to balance wildfire risks and reliability concerns. We are evaluating risk reduction and impacts to refine and adjust these settings. We are also deploying fast curve setting capability on additional circuits in HFRAs

## PROTECTION SETTINGS ANALOGY



Without protection settings



With protection settings

Protection settings, including fast curve settings, are similar to ground fault circuit interrupters (GFCI) in high-risk areas like kitchens and bathrooms

## FAST CURVE-RELATED OUTAGES VS PUBLIC SAFETY POWER SHUTOFFS

	FAST CURVE SETTINGS-RELATED OUTAGE	PUBLIC POWER SAFETY SHUTOFF (PSPS)
<b>Activation Criteria</b>	Red Flag Warning <sup>1</sup> , Fire Weather Threat, Fire Climate Zone Threat (typically peak wildfire season in certain zones) <sup>2</sup> , Thunderstorm Threat (dry lightning)	Fire Potential Index and windspeed thresholds are exceeded
<b>Outage Criteria</b>	Unplanned outage; occurs <b>after a fault is detected</b>	Planned, <b>proactive</b> de-energization to <b>prevent faults</b> from occurring as a tool of last resort
<b>Outage Duration</b>	Dependent on patrols and required repairs	Dependent on period of concern, patrols and required repairs
<b>Customer Notifications</b>	Standard unplanned outage notifications; updates also on <a href="http://sce.com/outagemap">sce.com/outagemap</a>	PSPS alerts prior, during and after de-energization and restoration; updates also on <a href="http://sce.com/outagemap">sce.com/outagemap</a>

1. Red Flag Warnings are declared by National Weather Services. Fire Weather. Fire Climate Zone and Thunderstorm Threats are declared by SCE Weather Services.
2. Seasonal approach based on zone-specific historical occurrence of fuel-driven fires.

# FAST CURVE SETTINGS IN USE SINCE 2018

## ALL OUTAGES ON CIRCUITS WITH FAST CURVE SETTINGS

CIRCUITS WITH FAST CURVE CAPABILITY <sup>1</sup>	CIRCUIT MILES WITH FAST CURVE CAPABILITY <sup>2</sup>	FAST CURVE SETTINGS ENABLED	OUTAGE IMPACTS FOR ALL CIRCUITS WITH FAST CURVE <sup>4</sup>	# OF OUTAGES ON CIRCUITS WITH FAST CURVE SETTINGS (2022) <sup>4</sup>
~900 circuits <sup>1</sup>	~8,000 miles	<b>2021</b> June 1 – Oct. 25	<b>Pre fast curve: (2016-2017)</b> Average outages per year: 1,464 Average Duration: 8.2 hours Average # of Customers: 590	<b>Out of ~900 circuits:</b>  196: 1 outage (all types)  104: 2 outages (all types)  66: 3+ outages (all types)
		<b>2022</b> May 14 – Dec.	<b>2021 (June-October)</b> All outages (including fast curve): 1,642 Average Duration: 7.2 hours Average # of Customers: 578	
		(for certain Fire Climate Zones <sup>3</sup> )	<b>2022 (May 14 to date)</b> All outages (including fast curve): 685 Average Duration: 8.7 hours Average # of Customers: 685	

1. About 85% of ~1,070 circuits in High Fire Risk Areas have reclosers or circuit breakers with fast curve capability. We plan to deploy fast curve capability to nearly all circuits in HFRA's by the end of 2023.
2. Primary overhead HFRA circuit miles.
3. Seasonal approach based on zone-specific historical occurrence of fuel-driven fires.
4. Includes all unplanned outages, including fuse-caused and transformer interruptions. Excludes PSPS and maintenance outages.



# In Summary

**Lisa Cagnolatti**

Senior Vice President

Customer Service



# 2022 PSPS READINESS

## SUMMARY

USE **PSPS** ONLY  
WHEN  
NECESSARY  
**TO PROTECT**  
**PUBLIC SAFETY**  
UNDER  
SIGNIFICANT  
FIRE-RISK  
WEATHER  
CONDITIONS

GRID HARDENING	<ul style="list-style-type: none"><li>• Targeting additional system hardening in the areas most affected by PSPS</li></ul>
OPERATIONS	<ul style="list-style-type: none"><li>• Increasing use of machine learning and automation to enhance forecasting</li><li>• Improving speed and accuracy of notifications through automation</li></ul>
COMMUNICATION	<ul style="list-style-type: none"><li>• Providing more dynamic ranges of estimated restoration times</li></ul>
CUSTOMER SUPPORT	<ul style="list-style-type: none"><li>• Tailoring education and outreach to include diverse communities</li><li>• Amplifying outreach through CBOs to provide programs &amp; services to those with Access &amp; Functional Needs</li><li>• Expanding offerings of resources and tools to support customers through PSPS events</li></ul>
WORKING WITH AGENCY PARTNERS	<ul style="list-style-type: none"><li>• Coordinating with agencies, local &amp; tribal governments to ensure transparency in decision-making and preparedness for PSPS</li><li>• Providing real-time information through Public Safety Partners Portal</li></ul>

A utility worker is shown from a low angle, working on a power line tower. The worker is wearing a white hard hat, safety glasses, and a high-visibility yellow safety vest over a dark shirt. An orange tool bag is slung over his shoulder. He is focused on the electrical equipment, which includes insulators and metal brackets. The background is a clear, bright blue sky. The text "THANK YOU" is overlaid in yellow on the right side of the image.

**THANK YOU**