

A helicopter is suspended in the air, holding a long rope that extends down to a power line. The helicopter is positioned in the upper center of the frame. Several power lines run diagonally across the sky from the bottom left towards the top right. In the background, there are rolling hills under a clear blue sky. The text 'PUBLIC SAFETY POWER SHUTOFF' is overlaid on the left side of the image in large, bold, yellow capital letters.

PUBLIC SAFETY POWER SHUTOFF

CPUC Staff Briefing

July 12, 2022



SCE 2022 PSPS STAFF BRIEFING

AGENDA

TOPIC
Lessons learned
Metrics
Exercise reports
Grid hardening
PSPS website
Notifications
Preparedness coordination with critical infrastructure
Preparedness coordination with local/tribal/county emergency response
Medical Baseline/Access and Functional Needs
Customer resources
Community Resource Centers

LESSONS LEARNED

2021 RESULTS AND 2022 RESPONSES

Delayed, missed or inaccurate notifications to customers and public safety partners	• Foundry and Integrated PSPS Event Management System (iPEMS) implementation automates PSPS workflow and notification process • 10 use cases completed and implemented by 6/30/22 • Additional 3-4 use cases to be completed by 12/31/22 • Ongoing training and drills to build competence for all PSPS IMT members • New machine learning forecasts at 500 additional weather station point locations provide additional forecast confidence
Manual process and inaccurate data definitions resulted in numerous post-event reporting errors	• Core post-event report data tables have been automated • 3rd party validation of data definitions and supporting calculations for all post-event report data attributes completed • All in-event actions and data are captured the Centralized Data Platform (CDP) and documented for post event reporting • June activation demonstrated efficacy of new automation
Challenges with real-time situational awareness data hampered in-event coordination with Public Safety partners (e.g. CalOES)	• Developed situational awareness dashboard in Foundry • Auto-populates CALOES notification forms for in event reporting daily and informs external briefing deck
Significant customer impacts to non-FIC customers	• 2022 Grid Hardening efforts include most-impacted circuits from Thanksgiving 2021 event

METRICS

REDUCING PSPS FREQUENCY, DURATION AND IMPACTS TO OUR CUSTOMERS

Question:
What are your goals for 2022 in terms of improving metrics? Percentage of fewer outages, decreased restoration time, fewer customers impacted, average outage duration.

Outage Reduction Goals (%)	• Targeting 14% reduction in outage frequency across service area • At least 39% reduction on 50+ targeted circuits¹
Outage Duration	• Targeting 17% reduction in customer minutes of interruption (CMI) across service area • At least 60% reduction on 50+ targeted circuits
PSPS Scope Reduction	• Removing 8,165 customers from PSPS consideration in 2022 through circuit exceptions process.² Reviewing an additional 24,000 customers • Targeting 25% reduction in customers impacted across service area • At least 69% reduction on 50+ targeted circuits
Restoration Time	• Tracking to 2019-2022 average of 6 hrs. estimated restoration time (ERT) • Working to address restoration timing through operational improvements • Customer notifications when ERT ranges are updated on SCE.com

¹ In 2022, SCE is targeting over 50 circuits for grid hardening based on PSPS impacts

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

EXERCISE REPORTS

ISSUES AND RESPONSIVE CHANGES

Question:
What issues
came up
during both
tabletop and
functional
exercises and
what changes
were made to
correct them
before the
2022 season?

- All 346 current PSPS IMT members (dedicated and surge) have met training and exercise qualifications, and all dedicated team members have been in multiple exercises and trainings
- Exercises and trainings to date:
 - 5 exercises (1 tabletop, 4 functional)
 - 9 user acceptance drills on new automation (to date and continuing bi-weekly)

Issue	Exercise	Corrective Action	Status
PSPS IMT requires additional experience managing situations where circuits not initially forecast to meet PSPS criteria are subject to sudden onset of unexpected weather	Tabletop 4/15/22	Build sudden onset of unexpected weather scenario into ongoing Central Data Platform (CDP) drills	Ongoing — recurring CDP drills
Some PSPS Surge Team members need additional proficiency in new CDP	Functional 5/16/22— 5/19/22	1. Will rely on dedicated PSPS IMT and fully-trained surge team members to oversee PSPS execution using Foundry until all IMT members are qualified 2. Providing additional Surge team inclusion in drills; Enhancing position-specific training to include Foundry modules when applicable	1.Ongoing — recurring CDP drills 2. Position-specific CDP training—ongoing phased approach
CDP does not currently separate event metric data at the county level for in-event reporting and external engagement, resulting in manual and time-intensive data processing	Functional 5/16/22— 5/19/22	Enhance the CDP application to allow users to query situational awareness data by county	Targeted for completion by 9/30/22

EXPEDITED GRID HARDENING

INCLUDING PLANNED VERSUS ACTUAL DATA

EXPEDITED GRID HARDENING ON 50+ CIRCUITS IMPACTED BY PSPS

Mitigation	Current Scope (planned for 2022)	YTD Completed (as of 6/30/22)
Covered Conductor	150+ miles	114 miles
Underground Scope	3 miles	0 miles
New Automated Switches	8 switches	2 switches
New Weather Stations	19 devices	15 devices
Exception Process	24 exceptions	11 approved
Switching Protocol Updates	12 updates	5 updates

Resiliency Zones

- 8 resiliency zone sites enable backup power generation at certain essential sites in remote communities
- 9 Community Resource Centers have installed or are in the process of installing a transfer switch and/or have a backup generator to become resilient CRCs

Microgrids

- Behind the Meter (BTM) microgrids pilot secured participation from two customers. One project was completed in 2020; goal to complete the second project in 2022
- Front of the meter (FTM) microgrid pilot opportunity not moving forward due to space constraints for required equipment and accelerated grid hardening in the area

Temporary Generation

- Planning for two 500kW generators on the Dartmouth 12kV (Mayberry substation in San Jacinto)
- Successful preliminary field test of Mobile Battery Energy Storage System (MBESS) in June 2022 on Energy Circuit

PSPS WEBSITE AND PORTAL

UPGRADES FROM PREVIOUS YEAR

Consolidated Outage Map

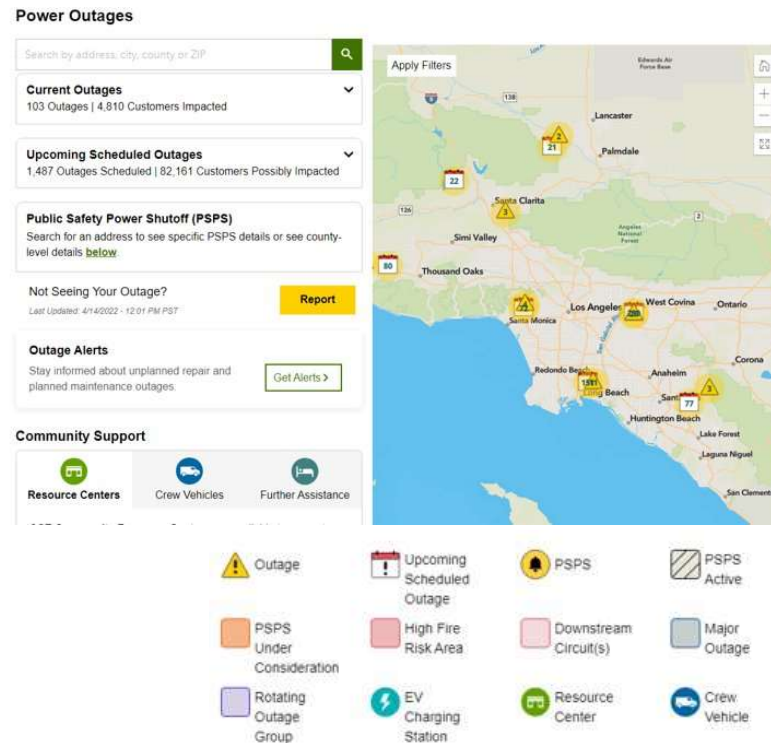
- Provides quick access for all outage types, including PSPS
- Mobile-friendly map and list views
- Outages searchable at City, County, ZIP Code or customer address level
- Searchable by meter or Trouble Order number
- Option to set alert preferences
- Map and list shows CRCs/ CCV locations during PSPS events
- EV charging station locations and charging availability during PSPS events
- Link to hotel discounts during events

Weather Awareness Map

- Provides a 7-day weather forecast with a PSPS threat level by county
- Map shows threat level by day for rolling 7 days

Weather/Fire Detection Map

- Developing an interactive weather/fire detection map – going live in September 2022



Public Safety Partner Portal

- Bi-weekly Public Safety Partner Portal office hours extended through 12/31/22
- Continuing to enhance both planning and in-event functionality
- Annual re-certification process for all users – June 2022
- 700+ registered Portal users and continued education/outreach efforts
- Data on planning section updated first Tuesday of every month
- Launching additional recruitment effort in Q3 for public agencies that have not signed up

NOTIFICATIONS

FEEDBACK AND RESPONSIVE ACTIONS

2021 Customer Feedback

Responses from de-energized customers who participated in the 2021 PSPS after-event surveys:

- Customers want more accurate and timely communications
- Customers want reduced event duration and more timely restoration
- De-energized customers were less satisfied with SCE's communications than those customers who were notified, but not de-energized

Insights from the annual PSPS Tracker containing feedback from customers about 2021 PSPS events will be available in August

Responsive Actions

Automation through Foundry including new Centralized Data Platform is improving notification processes and reducing manual handoffs

- Enhanced automation for advance and in-event customer notifications – improving accuracy and responsiveness
- Enabled timely notifications for customers added or removed from PSPS scope – improving ability to keep customers informed of changes in close to real time
- Improved secondary contact and escalation management (to door knocks, if necessary) for critical customer profiles (Medical Baseline – Critical Care – Self-Certified)
- Continued shutoff notification: Status update to those customers who have remained without power overnight
- Estimated Restoration Time (ERT) improvement planned for 2022 (Q4): Will provide, when possible, updated ERT for all circuits or circuit segments with ERTs longer than 8 hours (due to need for daylight or finding of damage on the line). If there is a significant change in the ERT from what has been previously communicated, we will send additional notifications directing customers to the website or call center for updates

2022 NOTIFICATION ISSUES OF CONCERN

CalOES 24-Hour reporting metrics

Issue: CalOES Standard Operating Guidelines (SOG) require IOUs to separate in-event metrics for periods of concern that are 24 hours or more apart. SCE currently uses 72-hour separation between back-to-back PSPS events in alignment with CPUC notification and reporting requirements

Concerns: Post-event reporting complexity and customer experience—we could be required to send multiple contradictory notifications, as per table below

Solution: Either exception or other resolution

Both events fall within one SCE 3-day reporting/notification window

Forecast Weather / status	Alert period	Alert period	Alert period	In POC Currently shutoff	Power restored	In POC Potential shutoff
3-day POC reporting metrics	72-hour alert (CI)	48-hour alert	24-hour alert	Imminent notification/ shutoff notification	Temporary restore notice (event continues)	Imminent notification/ shutoff notification
24-hour POC reporting metrics	72-hour alert (CI/ partners)	48-hour alert	24-hour alert 72-hour (CI/ partners) alert	Imminent notification 48-hour alert Shutoff notification	24-hour alert Restore notification	Imminent notification Shutoff notification

Sub-transmission customer notifications

Issue: Customers that are fed from sub-transmission circuits are provided personal notifications by account managers

Concern: While this is an atypical PSPS situation, there is a concern that notifications to sub-trans customers could be prone to human error or missed communications

Solution: Automated process is in development but might not be completed in 2022

CRITICAL INFRASTRUCTURE

PREPAREDNESS COORDINATION

Question:

What outreach has been done to critical facilities this year specifically to ensure they have the resources to adequately prepare for outages in advance of the 2022 season?

What resources are offered to assist this?

Meetings and feedback

- As in past years, SCE held sector-specific critical infrastructure workshops (11 in 2022), sharing tools and resources and industry-specific lessons learned and best practices
 - Attendance ranged from 3-83 participants, depending on sector's familiarity with PSPS
 - Discussion included clarifying questions for material presented; resolution on account-specific issues; and updates on notifications and tools/resources
- Held individual meetings with Critical infrastructure customers and Account Managers to share historical impact data
- Critical Infrastructure customers took part as planners and observers in the May PSPS readiness exercises

Resiliency support

- SCE shared information and resources during workshops including:
 - PSPS resources and tools, including enhancements to the Public Safety Partner Portal
 - Information about backup power options, microgrids and interruptible power supply
 - Information about the Infrastructure Investments Job Act (IIJA) with impacted sectors
 - Information about grants, resiliency guide and blue-sky all-hazards planning from EPA
- Telecommunication engagement meetings scheduled with all 6 major providers to discuss:
 - Notification process and messaging
 - Public safety and resiliency plans in rural communities
 - Their 72-hour back-up capabilities
 - CRC cell coverage availability in pre-identified locations with weak reception
- Annual communication to Critical Infrastructure requesting back-up generation information and update contact information
- Sending a questionnaire to Critical Infrastructure customers to request back up generation information and update contact information
- Improved data quality process for CFCI 24-hour contact updates

LOCAL, TRIBAL AND COUNTY EMERGENCY RESPONSE

PREPAREDNESS COORDINATION

Meetings and feedback

Meetings

- Meeting with local and tribal governments in high fire risk areas (HFRA) to help them prepare for the 2022 fire season including providing a PSPS Resource Guide
 - A 2021 survey of local and tribal government officials in HFRA conducted by an outside firm showed
 - 94% were familiar with SCE's Grid Hardening activities
 - 97% were familiar with PSPS
 - Requesting local and tribal governments provide input on Access and Functional Needs (AFN) issues, CRC locations and services, notification protocols and other PSPS issues
- Conducting tours of SCE EOC for local and tribal governments to share information and solicit feedback about PSPS and All-Hazards emergency response
- Held 10 virtual community meetings in 2022 with customers to review SCE's Wildfire Mitigation Plan
 - 57% of participants surveyed stated they were impacted by PSPS
 - 69% felt meetings better informed them about what SCE is doing to reduce risk of wildfires

IOU Liaison representative plans at counties and tribes

During PSPS events SCE has dedicated resources to coordinate issues with local and tribal governments

- A designated member of the IMT (Business Resiliency Duty Manager) coordinates with counties
- A Liaison Officer (LNO) is assigned to coordinate with local and tribal governments
- Local Public Affairs reps assist with local and tribal government issues
- Will assign an Agency Representative to County EOCs if necessary
 - Rare for counties to open EOC for PSPS events

ACCESS AND FUNCTIONAL NEEDS

PREPAREDNESS COORDINATION

Question:
How are you serving the Access and Functional Needs population?

How has this changed or expanded for 2022?

Increasing relationships, programs, and services, and the impact and availability of support to our customers representing the AFN population

- Workshops and trainings plus more specific work with:
 - Foodbanks: seeking partnerships in impacted areas to provide food support during and immediately after PSPS
 - Paratransit agencies: informing agencies of resources that could help their clients prepare for PSPS
 - Healthcare: joint IOU workshops within IHSS and healthcare providers throughout 2022, including brief for the Hospital Association of California

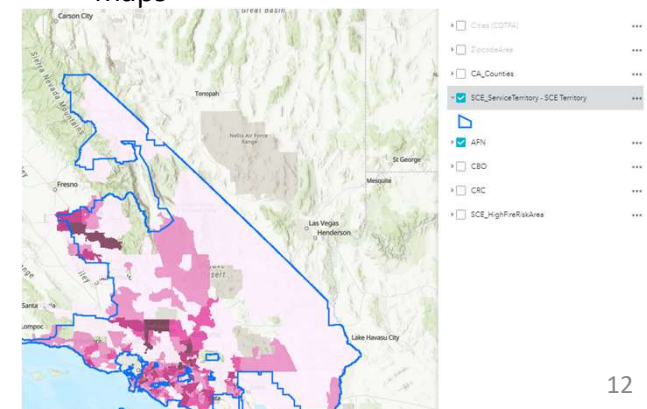
2-1-1 contract and CBO relationships have raised our ability to emphasize importance of preparation for PSPS/emergencies

- Care Coordination launched in March 2022 provides individualized emergency planning
- 2,567 Care Coordination contacts in 2022 thus far

Increasing accessibility of communications by offering PSPS notifications in American Sign Language videos with English voice-over and accessible text

Data and customer experience are the basis for programs and expansion:

- AFN Self ID Pilot and Customer Surveys
- AFN Heat Map
 - Density of AFN Customers by ZIP Code
 - Data collected by enrollment in:
 - Income qualified programs
 - Medical Baseline program
 - Self-certify
 - Older adult
 - Non-English
 - Large font or Braille bills
 - Exploring adding community resources to maps



MBL/CCBB PROGRAMS

PREPAREDNESS COORDINATION

Questions:

How is Medical Baseline program being communicated and expanded to maximize participation?

How have your backup power programs changed?
What improvements have been made?

Medical Baseline Communications

- Ran ads in 40 newspapers (1x insertion in May, 1x insertion in June) to reach older in-language and Black audiences who may be harder to reach online
- Digital ads May-December in English, Spanish, Chinese, Korean, Tagalog and Vietnamese
- Annual letter to current customers asking them to update contact information will be mailed by July 15
- Automated email enrollment campaign to launch in August and run to at least year end
- Effort to obtain, update and cleanse MBL customer contact preferences began last week and will include:
 - Analysis of historical undelivered MBL customer notifications
 - Updating missing customer outage contact data
 - Follow-up notifications test for MBL customers in HFRA to confirm delivery

Backup Power Program Improvements

Since launching the **Critical Care Backup Battery Program**, SCE has:

- Contacted all customers eligible for the CCBB program multiple times
- Expanded marketing and outreach to reach more customers
- Conducted a communications effectiveness survey and updated marketing material based on results
- Launched 'Doorbell Rings' for hard-to-contact customers to further increase participation
- Engaged SCE network of CBOs to help educate community members
- Regularly met with IOUs to better align program offerings

For **Battery and Generator Rebates**, SCE:

- In 2022, used direct mail, email, and for the first-time, social media ad campaigns (beginning in Q2) to promote the \$500 portable generator rebate for MBL customers residing in HFRA. Campaign extends through end of 2022
- Issued 63 portable generator rebates to MBL customer during the first half of 2022
- Additional awareness through cross-promotion with CCBB

CUSTOMER RESOURCES

FEEDBACK AND RESPONSIVE ACTIONS

Question:

Survey results show generally low awareness and usage of resources, such as CBOs. How are you increasing awareness beyond normal PSPS communications such as letters and emails? What are the most effective ways of disseminating PSPS information to the public and how will you use that to increase awareness and usage of resources?

Strengthening CBO Coordination

- Amplifying SCE CBO coverage from 50 to 80 CBOs, via RFP
- All CBOs receive monthly SCE messaging and resources to share via their communication channels, to educate constituents in anticipation of wildfire season
 - Messaging highlights SCE's customer assistance programs including 2-1-1, critical care backup battery, medical baseline allowance, etc.
 - Resources include turnkey messages, videos, infographics, talking points and fact sheets
- Working with CBOs to identify in-person engagement opportunities (Q3 & Q4)
- Mandatory quarterly training for CBOs to review SCE customer assistance programs and how SCE supports AFN communities

Efforts to increase awareness (advertising)

We start by reaching broad audiences with basic information through a mix of advertising channels selected through media research planning

- January—May ads were focused on HFRA (where customers are focused year-round on wildfire safety). We expanded to service-area wide messaging in June
- As of the end of Q2, PSPS advertising is meeting or exceeding goals for recall of PSPS messaging (53% YTD versus goal of 50% +/- 5%) and perception that SCE takes proactive measures to protect communities from wildfires (67% YTD versus goal of 65% +/- 5%)

2022 Advertising channels

Paid media

- Digital (streaming video / audio, and digital banners)
- Social (paid)
- Radio
- Search

Earned media

- Media relations campaign (~100 journalists/80 outlets)
- Newsletter
- CBO/AFN outreach
- Energized
- Wildfire preparedness school program
- Social (organic)

COMMUNITY RESOURCE CENTERS

UPDATES FOR 2022

2022 CRC Planning

- 67 contracted sites to date
- Continue to seek input from local and tribal governments for new locations
- Contracted with 2 new sites in 2022 in response to requests from the respective cities:
 - Calabasas (Los Angeles County) – indoor/outdoor
 - Eastvale (Riverside County) – indoor/outdoor

8 Community Crew Vehicles Offer Mobile Customer Care Support



Services provided at each type and changes from 2021

Services provided at all CRCs :

- PSPS event and preparedness information
- Restroom access
- Power for charging personal and portable medical devices that use standard power sources
- Access to communication (cellular or Wi-Fi)
- Water, snacks, ice/ice vouchers
- Customer resiliency kits: fact sheets, MBL application, CARE/FERA application, emergency LED lightbulb, pre-charged phone bank, PPE supplies (disposable masks and gloves, disinfectant wipes, hand sanitizer packets)
- Translation service for 120+ languages including ASL (as of September 2021)
- Medical thermal bags for customers who have an immediate need to keep medication cold

Added services for 2022:

- Leave-behind medical device charging
- Privacy screens
- Water bowl and snacks for service animals



Our 2022 PSPS Readiness commitment to our customers, partners and communities:

- **Reduce PSPS** through grid hardening
- **Improve notification accuracy**, timing and content
- **Mitigate impacts** for all customers, and especially for those with access and functional needs
- **Improve reporting** both in and post events

We pledge to listen, respond and improve our PSPS program so we can better care for our customers and communities while keeping them safe.

THANK YOU