

# SCE's 2020 Planning for Public Safety Power Shutoffs (PSPS)

May 28, 2020

# Executive Summary

- SCE has refined its approach to PSPS based on lessons learned from 2019 and feedback from customers, communities and stakeholders
- We are continuing to make modifications ahead of 2020 fire season focusing on:
  - Community Information, Engagement and Outreach
  - Stakeholder Collaboration for Emergency Preparedness & Response
  - SCE's Incident Management Team (IMT) Preparedness & Decision-Making During PSPS
  - Customer Care during PSPS
- SCE is exploring and implementing changes to its PSPS approach during the COVID-19 pandemic, as de-energization remains necessary to support public safety
  - We recognize greater inconvenience created by de-energization for customers working/learning at home
  - We will balance assistance to customers while following Centers for Disease Control (CDC) guidance and state and local orders

# SCE has refined its approach to PSPS based on lessons learned from 2019 and helpful feedback

| PSPS Activity  | SCE's Approach for 2020   |
|--|---|
| <b>Community Information, Engagement and Outreach</b>                                      | <ul style="list-style-type: none"> <li>• Continuing proactive outreach to communities prior to PSPS and enhancing notifications</li> <li>• Improving website capabilities to effectively support increased web traffic and provide additional, timely information</li> </ul>  |
| <b>Stakeholder Collaboration for Emergency Preparedness and Response</b>                   | <ul style="list-style-type: none"> <li>• Enhancing communication and collaboration with local governments and public safety partners, including additional information sharing regarding timing, location, scope and customer attributes to facilitate preparedness and response during PSPS events</li> <li>• Partnering with community-based organizations (CBOs), including independent living centers, to better assist vulnerable customers</li> </ul>   |
| <b>SCE's Incident Management Team (IMT) Preparedness &amp; Decision Making During PSPS</b> | <ul style="list-style-type: none"> <li>• Modifying organizational structure and enhancing training and documentation to improve effectiveness and standardization of actions taken before, during and after a PSPS event</li> <li>• Refining thresholds for de-energization decision-making based on augmented modeling and grid hardening; final decision to de-energize made when real-time conditions meet designated circuit safety thresholds</li> <li>• Continuing to prioritize input from emergency management agencies regarding public safety issues</li> <li>• Circuit-specific plans developed for targeted grid hardening and protocols for switching during events</li> </ul> |
| <b>Customer Care During PSPS</b>   | <ul style="list-style-type: none"> <li>• Actively pursuing new programs to help customers have access to backup power and provide goods and services during PSPS events</li> <li>• Focused planning underway to serve Access and Functional Needs (AFN) customers during PSPS</li> </ul>  |

# SCE is exploring and implementing changes to its PSPS approach due to COVID-19 pandemic

| PSPS Impacted Area   | Considerations for COVID-19   | Planned Approach   |
|--|---|--|
| <b>Community Information, Engagement and Outreach</b>                                      | <ul style="list-style-type: none"> <li>• Safer-at-home orders and physical distancing guidelines may prevent in-person engagements</li> </ul>   | <ul style="list-style-type: none"> <li>• Adjust plans to provide virtual options for meetings with local jurisdictions, critical infrastructure customers, communities, tribes, CBOs</li> </ul>  |
| <b>Stakeholder Collaboration for Emergency Preparedness and Response</b>                   | <ul style="list-style-type: none"> <li>• Emergency partners may need additional planning and preparation for convergence of wildfire season &amp; COVID-19 pandemic</li> <li>• Critical facilities and essential services responding to COVID-19 may have heightened need for reliable power</li> </ul> | <ul style="list-style-type: none"> <li>• Accelerating coordination with county and state emergency management officials to help ensure preparedness and contingency planning measures are in place for critical infrastructure providers</li> <li>• Prioritizing identification of healthcare facilities and other critical infrastructure providers supporting COVID-19 response, including additional temporary medical facilities</li> </ul>  |
| <b>SCE's Incident Management Team (IMT) Preparedness &amp; Decision Making During PSPS</b> | <ul style="list-style-type: none"> <li>• Physical distancing guidelines could prevent normal IMT operations and may impact field resources</li> <li>• De-energization impacts may be greater for critical care facilities and those caring for COVID-19 patients</li> </ul>                             | <ul style="list-style-type: none"> <li>• Adjust, plan, and practice for remote and hybrid remote IMT activations ahead of wildfire season, with a contingency plan to activate with PPE and physical distancing measures</li> <li>• Develop contingency plans for field resources and prepare contract resources / non-represented employees with qualified electrical worker (QEW) experience to be able to supplement loss of field resources if needed</li> <li>• Adhere to risk-informed decision making that considers weather, fuel, and grid attributes to ensure risks of imminent wildfire are reduced; but ramp up engagement, timely and useful communication and customer programs to mitigate customer impacts</li> </ul> |
| <b>Customer Care During PSPS</b>   | <ul style="list-style-type: none"> <li>• Safer-at-home orders could prevent previously envisioned operations for some programs</li> </ul>   | <ul style="list-style-type: none"> <li>• Adjust plans to safely provide in-person services where practicable (e.g., "drive-through/drive-in" option for Community Resource Centers (CRCs)) with proper precautions; Also enhance virtual services to customers (e.g., app / web page providing info, directing customers to resources)</li> </ul>  |

# Wildfire Season

- The start of wildfire season is typically declared by Cal FIRE when it moves to full staffing, and not by SCE.
- SCE maintains readiness to perform PSPS any time weather, fuel and grid conditions require it due to increased fire danger in our service area.
- Below, SCE uses a date of June 1 to report the status of its PSPS-related initiatives, although this date does not necessarily represent the beginning of wildfire season as declared by Cal FIRE.

# SCE's Progress Toward PSPS Enhancements

- Enhancements that are complete or expected to be complete by June 1, 2020:

| Enhancement  | Slide     |
|--|-----------|
| Switching playbooks for circuits in High Fire Risk Areas (HFRA)                                    | 27        |
| Increased sectionalizing devices   | 25-26     |
| Threshold / Trigger Modeling Refinement  | 9, 25     |
| Integrated IC Decision-making Dashboard  | 21        |
| Improved SCE.com capabilities and performance  | 12-14     |
| Increased precision for forecasting wildfire risk by improving weather and fuel modeling           | 9, 23, 25 |
| Additional weather stations to provide circuit level real-time wind speeds                         | 25, 28    |
| PSPS IMT Staffing Model and Plan developed and pending final approval                              | 21        |
| PSPS IMT Remote Activation procedures developed  | 21-22     |
| PSPS IMT training and exercises completed  | 21-22     |
| CCVs and CRCs with PPE and drive through options   | 34        |
| HFRA Customer and Well Water Customer Battery Rebates  | 35-37     |
| Targeted Community Meetings  | 15, 17    |
| Goods and services - water, ice, snacks, blankets, phone charging                                  | 34        |
| Improved Notifications and public alert tools  | 10, 12    |
| Notifications in more languages for 2020   | 10, 38    |
| Simplified circuit-based map on SCE.com showing notifications, outage areas, CRC and CCV locations | 9, 12, 13 |
| Resiliency Zones for essential services in remote communities                                      | 34, 37    |

# SCE's Progress Toward PSPS Enhancements

- Planned enhancements that will be complete after June 1, 2020:

| Enhancement  | Slide  |
|--|--------|
| Backup generation plans for underground customers: subject to environmental permitting               | 36     |
| Critical Care backup battery program: impacted by COVID-19 effects on inventory and in-home services | 35, 37 |

- SCE will consider the ongoing development of the PSPS Guidelines in the PSPS OIR proceeding, and update protocols and processes accordingly.
- SCE consistently seeks to improve its processes and capabilities to protect public safety. As these evolve, SCE will update the information it provides on its public website

# Customer Information, Engagement and Outreach



# SCE has taken several steps to augment availability and access to PSPS-related information

SCE recognizes the difficulty a de-energization event can create and is committed to supporting and assisting our customers and communities

- Increased frequency of PSPS updates
  - Providing information for period of concern to local governments and first responders by the hour
- Improving website capabilities
  - Supporting increased web traffic during PSPS events
  - Developing interactive, searchable maps depicting impacted areas
  - Providing circuit-specific information and refined estimates for periods of concern
  - Showing number of impacted customers during PSPS events
- Improving weather and fuel modeling capabilities to increase precision for forecasting wildfire risk during PSPS events

**SCE is continuing proactive outreach to communities prior to peak wildfire season to help them with preparedness.**

# SCE has improved its customer notification processes for PSPS monitoring and de-energization

- Continuing to provide PSPS notifications via email, text, voice call, and TTY formats
  - SCE aims to provide priority notification to first responders, public safety partners, and local governments 72 hours before a potential PSPS. Additional updates are made again at 24-hour intervals\*
  - SCE begins initial notification to remaining customers up to 48 hours in advance of a potential PSPS event. Notifications are then made to these customers in 24-hour intervals to provide updates\*
- Enhancing Emergency Outage Notification System to allow customers to select to hear and read PSPS notifications in their preferred language
  - In addition to English, languages include Spanish, Mandarin, Cantonese, Vietnamese, Korean and Tagalog
- Implemented zip code-level alert to provide notifications to people beyond SCE account holders
  - Allows people to receive PSPS notifications via email, text and voice call by providing their contact information and the desired zip code(s)
- SCE will include COVID-19-related safety language in its media and website messaging when a de-energization event coincides with a COVID-19-related stay-at-home order.
- PSPS notifications, which use an established format and message from an automated system, do not include this language but direct customers to the SCE.com PSPS page, which has COVID-19-related messaging

**SCE's improvements provide broader notification to interested persons in additional languages.**

\*Erratic or sudden onset of hazardous conditions that jeopardize public safety may impact SCE's ability to provide advance notice to customers

# Cadence of customer notification of PSPS monitoring and de-energization

| Stakeholder   | Initial Notification (Alert) | Update Notification (Alert) | Imminent Shut down (Warning) | De-energized (Statement)    | Preparing for Re-Energization (Statement) | Re-energized (Statement)    | PSPS Averted (Statement)                              |
|---|------------------------------|-----------------------------|------------------------------|-----------------------------|---|-----------------------------|---|
| First/Emergency Responders/<br>Public Safety Partners, local and tribal governments | 72 hours before              | 48 and 24 hours before      | 1 to 4 hours                 | When De-Energization Occurs | Before Re-Energization Occurs             | When Re-Energization Occurs | When circuits are no longer being considered for PSPS |
| Critical Infrastructure / Service Providers   | 72 hours before              | 48 and 24 hours before      | 1 to 4 hours                 | When De-Energization Occurs | Before Re-Energization Occurs             | When Re-Energization Occurs | When circuits are no longer being considered for PSPS |
| Customers   | 48 hours before              | 24 hours before             | 1 to 4 hours                 | When De-Energization Occurs | Before Re-Energization Occurs             | When Re-Energization Occurs | When circuits are no longer being considered for PSPS |

SCE will target the schedule above to notify customers. Circumstances such as erratic weather or the sudden onset of hazardous conditions that jeopardize public safety may affect SCE's ability to provide advanced notice to customers.

# SCE plans several enhancements regarding PSPS notifications in 2020

- Adding Nextdoor as a communications tool to communicate with account-holding and non-account-holding customers within its service area about PSPS notifications and alerts
- Working with technology partners to enable Public Alerts to provide area-based PSPS alerts for significantly increased reach, including transient populations (ETA June 2020)
- Displaying a simplified circuit-map-based system on [SCE.com](https://www.sce.com) (implemented in late 2019) allowing visitors to view PSPS alerts and notifications, as well as identifying the location of Community Crew Vehicles (CCVs) and Community Resource Centers (CRCs)
  - Automation will speed delivery of this information in table format underneath the maps to comply with Web Content Accessibility Guidelines (WCAG) standards

# Dedicated PSPS page on SCE.com is a “one-stop shop” for information before and during events

- Interactive map can zoom in to see street-level information including:
  - Areas that are under consideration for de-energization including the anticipated start date and time and anticipated end date and time for the period of concern
  - De-energized circuits with the estimated restoration date and time
  - Locations of Community Crew Vehicles (CCVs) and Community Resource Centers (CRCs) with the address, date, and hours of operation
  - Circuits that may be de-energized because they are in HFRA or cross into HFRA
- Address search functionality identifies if a location is under consideration, de-energized, or not impacted by PSPS
- Dynamic, near real-time information related to PSPS events (both monitored and de-/re-energized) including:
  - The number of customers whose power is currently de-energized and number of customers who are under consideration for de-energization, listed by county and total service area
- Ongoing information provided about PSPS decision-making process and the necessity for PSPS, including links for more information, notification sign-ups and FAQs

# Improved technology capabilities make PSPS website more robust for increased web traffic

- SCE has made significant investments to ensure SCE.com increased visitor traffic during PSPS or other events.
- Some other enhancements include:
  - Migrating SCE.com from on-premise data centers to a Microsoft Azure Cloud platform increasing bandwidth capacity
  - Implementing a Content Delivery Network solution resulting in the ability to cache static content pages
  - Implementing a vNet Peering solution that provides bandwidth auto-scaling capability, performance improvements due to latency reduction, and improved reliability as the number of network hops is reduced
  - Continuing collaboration between SCE's Solution Architects, Domain Architects and Operational Engineers to enhance SCE.com website and performance
  - Establishing a PSPS incident management protocol for increased monitoring and technical support during de-energization which is available 24 hours a day, seven days a week

# Coordination with local agencies, public safety partners & critical infrastructure before PSPS events

- SCE continues to hold meetings and workshops with county emergency management agencies, local government, public safety partners, and critical infrastructure providers
- Meeting topics include: how circuits are identified as being subject to PSPS, de-energization criteria, event notification process, Incident Command System structure, how requests from public safety partners are handled, and information sharing
- Bi-weekly meetings with county emergency management agencies were held in the 2019 Fire Season and early 2020 to address PSPS concerns
  - SCE has also participated in meetings held by CalOES, CalFire and the CPUC
- Monthly meetings with the Hospital Association of Southern California regarding de-energization issues
  - SCE has also presented information on grid hardening efforts and PSPS communication protocols at their regional meetings and board meeting
- Two resiliency workshops held in 2020 for water agencies to discuss best practices and resources available to assist these agencies with resiliency planning
  - SCE has also participated in events hosted by various water agencies and associations
- SCE has worked closely with telecommunications customers to improve communication methods during PSPS events
  - One way to improve communication during PSPS events is through SCE's Representational State Transfer (REST) service, which allows critical infrastructure customers and public safety partners to access real-time GIS information of de-energized circuits during PSPS events

# Stakeholder Collaboration



# SCE is continuing proactive outreach to communities prior to wildfire season to support emergency preparedness

- Planning to hold 8 to 12 community meetings, primarily in areas that were impacted by multiple PSPS de-energization events in 2019, to share information about PSPS, emergency preparedness, and SCE's wildfire mitigation plan
  - Meetings began in early May 2020
  - These meetings will likely be held virtually due to COVID-19 pandemic
- SCE will send approximately 915,000 letters with information about PSPS, emergency preparedness, and SCE's wildfire mitigation work to customers in HFRA and approximately 3,200,000 letters to customers in non-HFRA
- SCE's customer education campaign expects to reach approximately 5,000,000 customers to inform them about the purpose of PSPS, emergency preparedness, and SCE's wildfire mitigation plan
- SCE regularly engages with CalOES, CalFire, and the CPUC through bi-weekly meetings to discuss de-energization protocols and will continue to use these forums to communicate impacts and provide any updated PSPS protocols related to planning for COVID-19 pandemic

# Coordination with local agencies, public safety partners & critical infrastructure during PSPS events

- During PSPS events, SCE maintains regular communication with state/county emergency management and local government through the Business Resiliency Duty Manager and Liaison Officer, who are part of SCE's Incident Management Team
- SCE maintains an open invitation for CalOES and other public safety partners to send a representative to SCE's EOC when activated for PSPS
  - CalOES and other county emergency management agencies sent representatives to the SCE EOC during the 2019 PSPS season
- During PSPS events, SCE provides emergency management officials with data for critical infrastructure provider and medically sensitive customers
- During the larger PSPS events in 2019, SCE coordinated with the California Utilities Emergency Association (CUEA) to conduct daily operational briefings with critical infrastructure providers

# Data Sharing with local agencies, public safety partners & critical infrastructure

- Local and tribal government officials, public safety partners, and critical infrastructure managers can access outage and period of concern boundaries for HFRA circuits in the SCE service territory for planning purposes
  - There are two ways to access this information; through dynamic access to the SCE Representational State Transfer (REST), or through limited, static circuit map and GIS image files stored in the SCE Digital Asset Manager (DAM)
- REST is a web-based tool that provides password-protected access to information stored in an ArcGIS Online system.
  - Allows pre-enrolled users access to PSPS-related maps and GIS layers, as well as sensitive, critical information relating to PSPS events in the SCE service area
  - Authorized users can view both PSPS circuit outage boundaries and the associated aggregate customer information related to the circuit. This service is updated twice daily during PSPS events to maintain current status of monitored circuits
  - Contact [SCERestInfo@sce.com](mailto:SCERestInfo@sce.com) with any specific questions and for access.
- The Digital Asset Manager (DAM) is a static, non-public repository for sharing PSPS related documents including circuit maps and GIS image file. SCE uses the DAM in an open configuration to allow access to these resources without the need for a login or password. SCE's DAM can be found at [library.sce.com/](http://library.sce.com/).

# SCE's Incident Management Team (IMT) Preparedness & Decision Making During PSPS

# SCE is taking additional steps to improve and adjust PSPS IMT activation and resource availability

- Establishing dedicated full-time PSPS IMT, with assigned roles for PSPS coordination
- Practicing for remote IMT activations ahead of wildfire season to mitigate infection risk for employees during trainings and to prepare for potential activations during the pandemic
- Planning to have only the most critical IMT positions report to the Emergency Operations Center with Personal Protective Equipment (PPE) and physical distancing measures and adding new capabilities to better enable remote activations wherever possible
- Monitoring the impact of COVID-19 on workforce availability and developing contingency plans to maintain adequate levels of qualified staff for monitoring, patrols and remediation
- Instituting company policies for use of PPE, single vehicle occupancy and pod crews
- Coordinating with emergency management agencies to ensure preparedness and contingency planning measures are in place for critical infrastructures
  - CRC/CCV deployment to local community for distribution of potable water, ice, etc.
- Updating IMT dashboards, visualization and tracking tools, with additional consideration being given to remote access of tools during the COVID-19 pandemic

## SCE is adjusting its preparations for IMT activities in light of COVID-19

- SCE is working toward remote IMT capability but must address all related issues
  - SCE has no plans to sequester IMT team members at this point
  - Holding specialized training for dedicated resources to enable a remote IMT
  - SCE is taking necessary and appropriate precautions, including for employees who perform IMT roles, and will adjust its response plans as conditions change
- SCE will only conduct drills and exercises, such as tabletops, in person if we can provide for the safety and welfare of personnel in attendance
  - Specifically, we will utilize an expanded physical footprint so that personnel can have plenty of space to conduct their work and move about the facility. In some cases, this will include moving chairs, providing signage directing where people can and cannot work, and spreading tables out.
  - We will also utilize larger workspaces when feasible.
  - We will provide masks, antibacterial wipes, hand sanitizer, and hand soap.
  - There will also be an option for personnel to “self-select” out of the drill/exercise if they feel that they are in a high-risk category.

# SCE makes de-energization decisions based on risk analysis that takes several factors into account

- The Incident Commander bases de-energization decisions on a number of key inputs, including:
  - **Red Flag** – The National Weather Service issues Red Flag Warnings for high fire risk areas in our territory
  - **Meteorologists** – Ongoing assessments from our in-house meteorologists using high-resolution weather models, data from SCE weather stations and publicly available weather stations
  - **Fire Potential Index** – The SCE Fire Potential Index (FPI), a tool that utilizes weather data, fuel conditions, and vegetation moisture content to rate the daily fire potential across our region
  - **Winds** – Wind speeds, particularly when they exceed or are expected to exceed National Weather Service Wind Advisory levels (defined as 31 mph sustained wind speed and 46 mph gust wind speed) or exceed the top 1% of historical wind speeds in the area
    - Wind speeds are particularly important when we consider them in combination with other local conditions, such as dry vegetation, that could present a true hazard for the community
    - Wind speed thresholds may also be adjusted based on other factors or circuit design
  - **Public Authorities** – Specific concerns received from state and local fire authorities, emergency management personnel and/or law enforcement regarding public safety issues
  - **Impacts** – The expected impact of turning off power to essential services such as public safety agencies, water pumps and/or traffic controls
  - **Operational Situation** – Other operational considerations such as the state of the potentially impacted circuits, flying debris and/or downed wires
  - When possible and safe during extreme fire weather conditions, we can deploy on-the-ground observers in high fire risk areas to monitor live conditions in real time

NOTE: We are actively pursuing system hardening measures and other mitigation efforts to reduce the impact of PSPS on our customers. We will continue to evolve our de-energization criteria and will post updates as they become available.
- SCE attempts to de-energize the smallest area possible, leveraging the ability to sectionalize circuits
  - The level of sectionalization varies based on circuit configuration and severity of weather event

# De-energization decision-making process

- Primary considerations (thresholds) for de-energization include the combination of wind speeds and fuel conditions (FPI)
  - When FPI is in an elevated or extreme condition
  - When validated wind speeds exceed local thresholds
    - Primarily based on exceeding historical 99% percentile or National Weather Service High Wind Advisory/Warning levels
- Adjustments to de-energization thresholds may occur under the following conditions
  - Circuit health concerns are identified
  - Fire spread modeling indicates significant risk and consequence
  - Input from emergency managers or first responders regarding critical situations (e.g., evacuations or other emergencies)
  - Areas where circuits have been upgraded
- Decision making includes consideration of dispatching customer care (e.g., essential services, back up generation, CRC, CCV)
- In addition to the environmental factors considered, SCE's decision to de-energize a circuit is informed by weighing guidance from emergency management officials and first responder agencies, both prior to and during PSPS events, to understand the risks associated with de-energizing a given circuit.
- Although the presence of critical infrastructure on a particular circuit is something that SCE takes into consideration in its decision-making process, it is not the only criterion, and there may be times when it is appropriate to proceed with a de-energization despite the presence of critical infrastructure. In these instances, SCE seeks to give customers as much advance notice as possible.
- SCE includes information regarding its decision-making process in its post-event reporting pursuant to the PSPS Guideline requirements.

# SCE has enhanced its approach to de-energization

- Enhancements to de-energization approach includes:
  - Installing covered conductor
  - Improving accuracy of weather forecasts by improving calibration of models
  - Using advanced risk modelling and circuit health considerations
  - Upgrading remote switching and sectionalizing capabilities
  - Adding additional weather stations to support additional sectionalization
  - Deploying trained and qualified personnel to monitor field conditions as well as other operationalized initiatives in HFRA
  - Deploying automation to reduce manual tasks and streamline analysis of real-time weather data
  - Dispatching customer care programs in areas impacted by de-energization
- De-energization decisions will continue to be based on wildfire risk factors, which remain unchanged despite the COVID-19 pandemic

# Targeted grid hardening and circuit sectionalization to reduce need for de-energization

- Grid hardening initiated across SCE's HFRA, including:
  - Over 600 circuit miles of covered conductor installed; prioritization of deployment informed by circuit-segment level ignition probability and consequence analysis; risk analysis methodologies continue to be refined
  - Detailed inspections and remediations for all circuits in SCE's HFRA
  - Continued deployment of sectionalization equipment including switches, reclosures, reconductoring sections of circuits
- Tailored grid hardening for circuits with high frequency of past PSPS events
  - Targeted hardening, such as replacing small segments of bare conductor with covered conductor, targeted undergrounding projects
  - Additional circuit sectionalization and modified circuit configurations to improve operational flexibility and ability to transfer load during PSPS events
  - Acceleration of covered conductor work
- Combined with circuit sectionalization, grid hardening will reduce the frequency of de-energizations over time under normally expected weather conditions

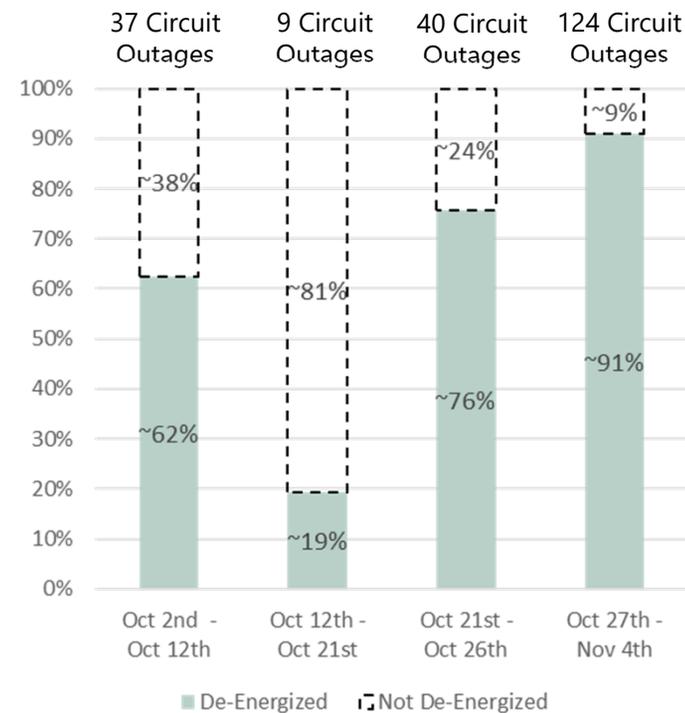
# Circuit-specific switching playbooks expedite operational decision making during PSPS events

- Developed circuit-specific playbook for every SCE HFRA circuit
  - Each playbook identifies equipment (automated or otherwise) that can be used for pre-event and in-event switching, depending on multiple scenarios
  - Examples:
    - Load transfers that can be made before de-energization, so that de-energizations do not affect parts of circuit in less risky areas
    - Pre-planned steps outline specific locations and switches that can be operated to de-energize portions of circuits aligned with nearby weather stations

# Implementing operational improvements to PSPS program that were identified by scale of October events

- Rapid onset of fire weather conditions across large area challenges ability to use isolation devices to minimize customer impacts
  - Further automation of tools and processes will enable more segmentation of circuits
  - Additional weather stations will provide more circuit-level, real-time wind speeds

Partial Circuit De-Energization by Event



*Larger events, with more circuits to monitor and de-energize concurrently, does not allow sufficient time for greater segmentation*

# Re-energization decision approach continues to prioritize public safety

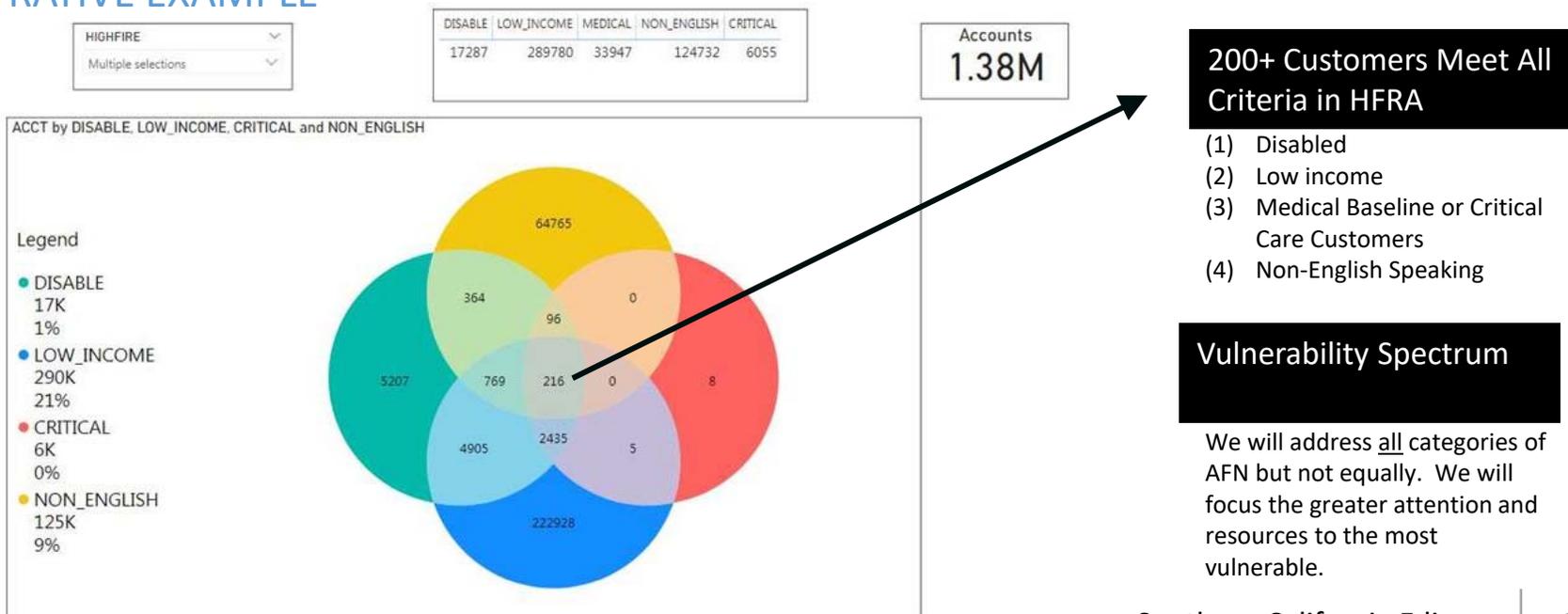
- Though SCE will continue to make every effort to reduce the duration of PSPS events, re-energization is feasible only after
  - Post-event patrols are conducted after adverse weather conditions abate,
  - Verifications are completed by field personnel that electrical equipment can be energized safely, and
  - Identified damages to equipment and structures have been remediated
- Re-energization protocols will continue to prioritize critical infrastructure

# Customer Care during PSPS

# Analysis of vulnerable customers by category helps SCE prioritize customer care (Access and Functional Needs (AFN))

- SCE has developed a circuit-specific prioritization approach that takes customer attributes into consideration to facilitate decision-making to inform Customer Care Plans
- Nearly 80% of SCE's customers are AFN customers, requiring prioritization in customer outreach and customer care
  - Of 1,099 circuits in SCE's HFRA, 981 have AFN customers
  - SCE high-touch Customer Care plans will address the most vulnerable shown below

## ILLUSTRATIVE EXAMPLE



# SCE's Customer Data and Databases

- The Medical Baseline (MBL) program provides additional low-cost electricity to any customer who uses an electrically operated medical device in their home as authorized by their physician or physician designee.
- Critical Care is a subset of the MBL program consisting of customers whose medical devices provide life support dependency and are identified as Critical Care.
- The AFN population can encompass up to approximately 80% of all SCE residential customers.
- The Venn diagram on the previous slide provides a sample of those populations that are included in high-touch care plans when de-energization events unfold

# SCE's Customer Data and Databases (continued)

- SCE identifies Critical Infrastructure customers based on the NAICS and SIC Codes housed in SCE's business system, which are updated via an annual verification process
- MBL and Critical Care customer data is also housed in SCE's business system, with customer information updated and refreshed daily
  - As of May 8, 2020, SCE has approximately 92,000 customers enrolled in the MBL program, of which approximately 17,000 are Critical Care customers
  - Approximately 15,000 critical infrastructure accounts
- SCE consistently seeks to update customer contact information through mail, community meetings, SCE's website, and other venues to assist with PSPS notifications
- Regarding master-metered accounts (such as mobile home parks), SCE has a direct business relationship with the property owner/landlord/ account manager but is still able to add sub-metered residents to MBL, CARE, and FERA programs
  - SCE generally relies on the account holder to be the conduit to connect with those sub-metered tenants who need assistance programs, although tenants can view and apply for the programs via SCE's website
  - Each year, SCE provides a package to assist owners/managers in complying with California Civil Code Section 798.43.1, which requires them to give written notice to residents notifying them of electricity rate discount programs available for low-income residents
  - Additionally, SCE's income qualified program CBOs and capitation agencies will inform customers who self-identify as renters about MBL and CARE/FERA program eligibility
  - SCE currently has about 500+ master metered accounts receiving MBL for their residents

# Customer Care Programs

- SCE’s customer care strategy includes several distinct components, including SCE-deployed generation (both grid-side and customer-side) as well as support for customer-deployed generation
- SCE continues to actively explore, pilot and implement additional programs to mitigate the impact of potential de-energization on customers

| Resource   | Description  | PSPS without active COVID-19 environment                           | PSPS in active COVID-19 environment   |
|--|--|--|---|
| Community Resource Centers (CRC)/ Community Crew Vehicle (CCV) | Designated locations where customers can go to receive updates on the outage, water, snacks, ice, and other supplies | Short dwell, charge electronics, customer questions, meeting place | Personal Protective Equipment (PPE) w/social distancing, drive-through, provide information virtually |
| Goods and Services Programs                                    | Ice, water, firewood, blankets   | Goods handed out at CRC or CCV                                     | Vouchers for local designated retailer redemption   |
| Resiliency Zones (in development)                              | Energize limited essential services in rural communities   | Pharmacy, grocery store, gas station                               | TBD, start with PPE and social distancing   |

# Customer Care Programs

| Resource   | Description   | PSPS without active COVID-19 environment  | PSPS in active COVID-19 environment   |
|--|---|---|---|
| Critical Care Backup Battery Program<br>(beginning in Summer 2020) | Resiliency for low-income critical care customers dependent on medical equipment in HFRA. Fully subsidized, right-sized battery | Battery sized for 24- hour backup needs. SCE contractor handles all activities for seamless in-home customer experience | From in-home to virtual approach w/phone inspection, direct ship battery to customer, remote support on install and education |
| Generator Rebate for Well Water<br>(in development)                | Rebate on backup generator for well water customers   | \$500 rebate for income-qualified customers and \$300 for other customers   | No impact   |
| Battery Rebate   | Rebate available to all customers for battery backup resiliency   | \$50 rebate on pre-qualified products   | No impact   |

# Customer Care Programs

| Resource  | Description  | PSPS without active COVID-19 environment  | PSPS in active COVID-19 environment  |
|---|--|---|--|
| Backup Power at Essential Facilities                              | Coordinating with county emergency management officials to help ensure preparedness and contingency planning measures are in place for critical infrastructure providers who are unable to sustain critical life/safety operations during an extended power outage | Identify critical facilities in collaboration with communities and county emergency management officials. Prioritize life safety emergencies, public health emergencies, and communication failures | Increase and accelerate outreach with county emergency management officials to prioritize identification of COVID-19-sensitive healthcare facilities to help ensure contingency planning measures are in place |
| Underground Community (Grid-Side temporary power, in development) | Deploy temporary backup generation on underground portions of de-energized circuits impacted by multiple PSPS events in 2019, where fire risk is low   | Contingent upon State air resources board and local air quality management district permitting  | No impact  |

# Customer Battery Backup/Generation Programs

- SCE has developed a resiliency program targeting income-qualified customers who have life sustaining medical equipment in the home
  - Qualify for a fully subsidized backup battery intended to power their medical equipment for up to 24 hours during a PSPS event
- SCE launched a resiliency backup battery rebate program on the SCE.com Marketplace portal to encourage adoption of the technology to power critical plug loads during an outage
- SCE is also planning to equip certain community resource centers in remote high fire risk areas
  - This may include retrofitting the buildings electrical panel with a transfer switch designed to connect to a mobile generator provided by SCE prior to or during the de-energization event
- SCE is also informing customers of the new SGIP equity resiliency incentives that aid in supporting customer resiliency with whole-house solutions

| Program                                     | Scope  | Eligible Customer                                 | Criteria   | Type  | Capacity   | IOU or 3 <sup>rd</sup> Party  | Where is Program Authorized? | Additional CPUC Approval Needed? |
|---|--|---|--|---|--|-------------------------------|------------------------------|----------------------------------|
| <b>Critical Care Backup Battery Program</b> | Fully subsidized and right sized battery                     | Income Qualified, medical baseline, critical care | Living in a high fire risk area, dependent on life sustaining medical equipment          | Lithium Ion or other technology capable of providing reliable backup            | Sized to provide backup power for up to 24 hours       | 3 <sup>rd</sup> Party         | WMP, SB 167                  | Yes (GRC)                        |
| <b>\$50 Battery Rebate</b>                  | Rebate available for all customer through SCE's Marketplace  | All   | Must provide receipt (proof of purchase)   | Lithium Ion   | Varies   | SCE and 3 <sup>rd</sup> Party | N/A                          | Yes (GRC)                        |
| <b>Community Resource Centers (CRCs)</b>    | Resiliency for rural CRC's                                   | Under contract with SCE for CRC use               | Open to the Public during PSPS event   | All   | Building   | SCE and 3 <sup>rd</sup> Party | WMP, GRC                     | No                               |
| <b>Resiliency Zones</b>                     | Pilot 7 rural communities with essential services resiliency | Rural communities in HFRAs                        | Collaboration with local communities and agencies on potential essential services sites. | Up to 3 essential services such as a gas station, grocery store, pharmacy, etc. | Building level backup including generator installation | SCE and 3 <sup>rd</sup> party | N/A                          | Yes (GRC)                        |

# SCE is actively pursuing several activities focused on Access and Functional Needs (AFN) customers

| Activity  | Description  | PSPS without active COVID-19 environment   | PSPS in an active COVID-19 Environment   |
|---|--|--|--|
| Partnering with Independent Living Centers (ILC) to become CRCs during events | ILCs have expressed interest in offering services to AFN populations as a CRC during PSPS events where their unique needs can be met   | ILCs in PSPS areas would open to serve AFN customers whose unique needs may be better met at these facilities  | These populations are amongst the most vulnerable and ILCs may not be active or open to the public during COVID-19   |
| Medical Baseline (MBL) enrollment enhancements                                | <ul style="list-style-type: none"> <li>Allowing customers to enroll in MBL without physician signature in 2020/deferring verifications</li> <li>Implemented online MBL enrollment form via SCE.com</li> <li>Increasing MBL enrollments through CBO engagements and philanthropic grant requirements</li> </ul> | <ul style="list-style-type: none"> <li>MBL allows the most vulnerable customers to receive enhanced alerts and notifications, including in-person door knock for Critical Care</li> <li>Supports customer data sharing with counties during events</li> <li>Philanthropic grants to CBOs with goals to increasing enrollments</li> </ul> | <ul style="list-style-type: none"> <li>In-person door knocks would be modified to adhere to social distancing</li> <li>Impact to MBL enrollments with CBOs due to safer-at-home requirements.</li> <li>Enhanced MBL online application allows to continue efforts and bring new eligible customers into the program</li> </ul> |
| Increased partnerships with CBOs and other agencies supporting AFN            | <ul style="list-style-type: none"> <li>Partnering with agencies that serve indigenous populations to enhance outreach</li> <li>211 partnership to promote and support county services</li> </ul>   | Reaches hard-to-serve populations, such as Mixteco and other indigenous populations, through preferred channels and languages  | Enhanced communications to alert customers about offerings and services in unique COVID-19 environment   |
| Statewide AFN Advisory Council  | Participation in statewide AFN council that will aid in amplifying needs of vulnerable populations and program/service support   | Identifying solutions to aid through PSPS events and appropriately assigning activities (CBOs or SCE)  | Meetings delayed due to COVID-19   |

Note: Other AFN enhanced offerings have been covered in other areas of this presentation: in-language enhancements, customer notifications, web enhancements

# 2-1-1 Services

- 2-1-1 services are operated by county-based entities that coordinate with local human services agencies and by providers who connect callers to local community services.
  - To provide 2-1-1 service, providers and entities first apply to the CPUC for authority to provide these services.
- If 2-1-1 is provided in the county in which a community is located, customers in that community should be able to reach the designated 2-1-1 for referral services during a PSPS.
  - SCE is aware that there are a few counties in the service area where 2-1-1 is only available during a disaster, including the counties of Mono and Inyo.
- Upon dialing 2-1-1, a referral specialist provides the caller the requested information and/or refers or connects the caller to the appropriate agencies that will provide the needed services.
  - Services may include medical transportation, temporary housing or shelter information, food assistance, evacuation routes, and other non-emergency information not provided by 9-1-1 or 3-1-1 services.
  - These services vary by county and SCE is not involved in their provision.
- If a county has not activated the 2-1-1 system during a PSPS event, residents of those specific counties may be transferred to a live 2-1-1 agent, a designated 24/7 county number to allow for a report of suspected disaster or emergency, or otherwise directed to the county government for other services.

# Appendix



# SCE.com PSPS webpage examples

Areas that are under consideration for de-energization and that are de-energized are displayed, including estimated dates and times for re-energization

**View Impacted Areas**

Enter an address, county, zip code or place to see if it is impacted. Enter an address, county, zip code or place to see if it is impacted.

Esri, HERE, NPS

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**PSPS Areas** **High Risk Fire Areas**

Power Shutoff Under PSPS consideration Community Crew Vehicles Community Resource Centers

Report an Outage

Monitoring for PSPS from:  
3/4/2020 4:00 PM  
to: 3/5/2020 4:00 PM.

End date is estimated based on  
weather forecast

[Zoom to](#)

Power has been shut off in this  
area

Estimated restoration time:  
3/6/2020 4:00 PM

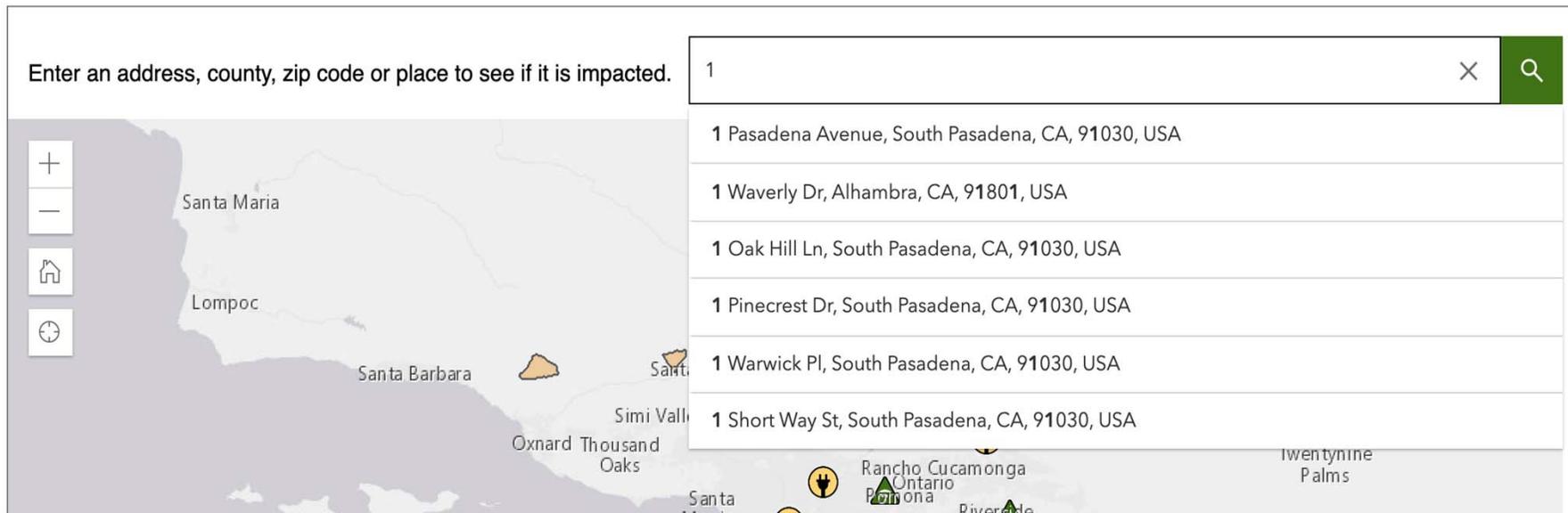
Estimates will be updated as  
weather conditions improve

[Zoom to](#)

# SCE.com PSPS Webpage Examples (cont'd)

Address search functionality identifies if a location is under consideration, de-energized, or not impacted by PSPS

## View Impacted Areas



Enter an address, county, zip code or place to see if it is impacted.

1

- 1 Pasadena Avenue, South Pasadena, CA, 91030, USA
- 1 Waverly Dr, Alhambra, CA, 91801, USA
- 1 Oak Hill Ln, South Pasadena, CA, 91030, USA
- 1 Pinecrest Dr, South Pasadena, CA, 91030, USA
- 1 Warwick Pl, South Pasadena, CA, 91030, USA
- 1 Short Way St, South Pasadena, CA, 91030, USA

The screenshot shows a map of Southern California with several locations highlighted in orange, indicating they are impacted areas. The locations include Santa Maria, Lompoc, Santa Barbara, Santa Ana, Simi Valley, Oxnard, Thousand Oaks, Rancho Cucamonga, Ontario, Palmdale, and Riverside. The search results list several addresses in South Pasadena, CA, Alhambra, CA, and Santa Ana, CA.

## View Impacted Areas



Enter an address, county, zip code or place to see if it is impacted.

1 Pasadena Avenue, South Pasadena, CA, 91030, USA

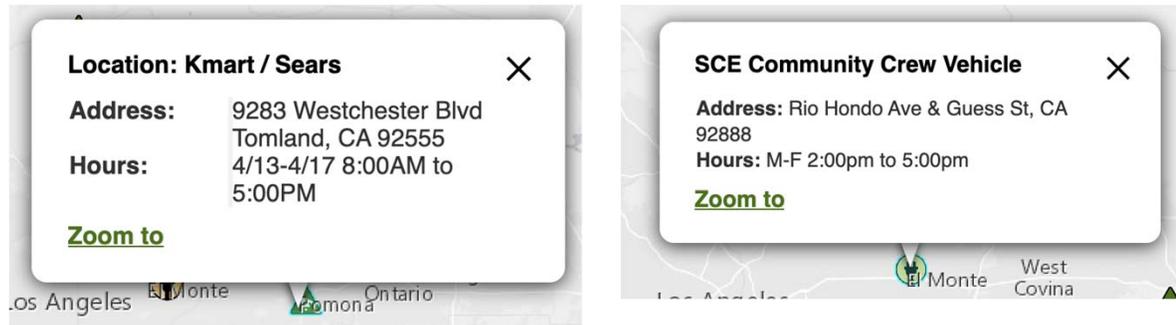
**Your address is not impacted**

The screenshot shows the same search interface as the previous one, but with the search results list empty. A message below the search bar states "Your address is not impacted".

# SCE.com PSPS Webpage Examples (cont'd)

Locations of CCVs and CRCs include dates and hours of operation

## Map Pop-Up



## List View

**Customer Resources During a PSPS**

**Community Crew Vehicles**

When a Public Safety Power Shutoff is called, Community Crew Vehicle(s) will be available for customers in the affected areas. These vehicles are equipped with backup power so customers can charge their personal mobile devices and continue to receive updates about the outage. Agents are also on-site to help customers update their account information and get assistance with questions. Snacks and water are also provided. See below for location(s) and times:

**Los Angeles County**  
3458 West Chester Rd  
Roman, CA 92888  
• 4/15-4/20 9:00AM - 3:00PM

**Los Angeles County**  
Rio Hondo Ave & Guess Blvd Tomland, CA 92888  
• 4/15 - 4/20 9:00AM to 5:00PM

**San Bernardino County**  
9765 Central St Sweetland Highland, CA 92888  
• 4/15-4/20 9:00AM to 5:00PM

**Ventura County**  
897 Ruden St Highview, CA 92888  
• 4/14-4/20 9:00AM to 3:00PM

**Community Resource Centers**

Community Resource Center(s) will be available for customers in affected areas when a Public Safety Power Shutoff is called. These centers will allow customers to power up their personal mobile devices and, where available, to have access to Wi-Fi. Customers will also have access to water and light snacks, a sitting area, restrooms, and updated information on the proactive power shutoff. See below for location(s) and times:

**Los Angeles County**  
Kmart / Sears  
9283 Westchester Blvd Tomland, CA 92888  
• 4/13-4/17 8:00AM to 5:00PM

**Mono County**  
Kmart / Sears  
873 Candy Rd Sweetwater, CA 92888  
• 4/13-4/17 8:00AM to 5:00PM

**San Bernardino County**  
Kmart / Sears  
79 Green Av Blue Ridge, CA 92888  
• 4/13-4/17 8:00AM to 5:00PM

**Santa Barbara County**  
Kmart / Sears  
345 Main St Santa Barbara, CA 92888  
• 4/13-4/17 8:00AM to 5:00PM

# SCE has augmented its fire & weather modeling capability to refine thresholds for de-energization decision-making

| <b>Activity</b>                            | <b>2019</b>   | <b>2020</b>  |
|--|---|--|
| <b>Advanced Weather and Fuels Modeling</b> | <ul style="list-style-type: none"><li>• Procured and installed 2 High Performance Computing Clusters</li><li>• Began running in-house weather and fuels models, twice daily out to 5 days at a 2 km horizontal resolution</li></ul> | <ul style="list-style-type: none"><li>• Calibrated weather model</li><li>• Ensemble forecasting</li><li>• 40-year historical weather and fuels dataset</li></ul>   |
| <b>Fire Potential Index</b>                | <ul style="list-style-type: none"><li>• Developed circuit level FPI</li><li>• Development and implantation of FPI fuel loading modifier</li></ul>   | <ul style="list-style-type: none"><li>• Improved fuel moisture inputs</li><li>• Improved Trans and Sub-Trans FPI</li><li>• Operational FPI Calibrated</li><li>• Development and testing of new FPI</li></ul> |
| <b>Fire Spread Modeling</b>                | <ul style="list-style-type: none"><li>• Developed use cases for fire spread modeling capabilities</li></ul>   |  |