Southern California Edison 2020 PSPS Performance



1/26/2021

Wildfire Prevention Occurs Prior to PSPS

Speaker: Phil Herrington - CPUC Issue No. 1 – Transparency of PSPS Decision-Making Process



Prior to peak fire season:

- Continued grid hardening in the highest-risk areas
- Inspected from the air and ground every distribution and transmission structure in the highest-risk areas
- Focused on areas impacted by 2020 drought

PSPS is Used as Measure of Last Resort

Speaker: Phil Herrington - CPUC Issue No. 1 – Transparency of PSPS Decision-Making Process



Circuit segments (shown) can be de-energized separately.

Protocols ensure PSPS is a measure of last resort and reduce PSPS frequency and impact

- Customers notified based on forecasts de-energized only based on real-time conditions
- Circuit segmentation plans created for all 1,100 circuits in high fire risk areas
- Pre-event patrols conducted for every circuit at least 48 hours in advance to remediate problems that require de-energization
- Perform switching and reconfiguration to remove customers in scope for PSPS where available
- Identify critical COVID-19 sites (hospitals, vaccine storage), conduct outreach, move to other circuits when possible

Additional actions prior to event:

- Weather forecasts performed daily for each circuit for fuel conditions (fire potential index), wind speeds
- Threshold alert levels established based on known risks

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During Event:



- Trained, dedicated team specific to PSPS response
- Live observations by field personnel on the ground
- Validating hazardous conditions each circuit segment monitored for actual conditions
- Weather stations and handheld weather devices used
- Meteorology and Fire Science review and confirm
- Every effort made to de-energize only where actual hazards exist
- Public Safety Partners engaged for feedback (e.g., fire, water, telecom, hospitals, COVID-19 sites)
- Restoration hundreds of field crews

SCE is Committed to Further Reduce PSPS and Enhance Transparency in Decision-Making

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Challenges and Gaps

Better stakeholder understanding of PSPS decision pointsNeed to further refine thresholds

Committed to Improve

- Additional grid hardening to increase wind thresholds
- Accelerating grid hardening work in highly impacted communities
- Continued refinement of thresholds based on additional weather, fuel and circuit data
 - Improving engagement with CPUC, CAL FIRE, Cal OES and local, state and tribal governments to provide better understanding of decision-making
- Reflect changes into corrective action and post-event reports

Customer Notifications – Recent Progress and Current Issues

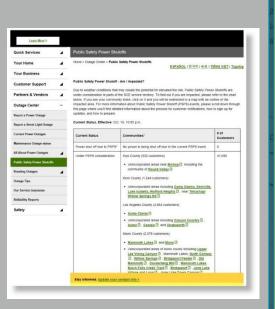
Speaker: Jill Anderson - CPUC Issue No. 2 – Execution of the Notification Process

Current process & recent progress

- Replaced 2019 static website with interactive map in 2020
- Expanded communications channels: ZIP code alerts, targeted social media

Improvement opportunities

- <u>Potentially confusing</u>: often caused by customers receiving information from multiple communication channels or changes to which customers are in scope for an event
- <u>Notification fatigue</u>: not all customers who receive warnings are de-energized because they are notified based on forecasts to ensure they can prepare
- <u>No notice</u>: usually due to rapid weather shift or missing contact information



2019 website

becoming the source of an ign View Impacted Areas



your power has been shut off, we will restore power as soon as the weather conditions permit, and crews have inspected the wer lines to confirm it is safe to restore power. For status on an outage, please sign up to receive alerts, or call 800-655-4555

2020 website

Customer Notifications – Action Plan for Further Improvement

Speaker: Jill Anderson - CPUC Issue No. 2 – Execution of the Notification Process

- Redesign notification process and coordinate with CPUC to improve clarity
 - Rationalize the number of notices customers receive per event
 - Residential customers can get six notifications in a single day (initial notification, imminent de-energization, power shutoff, imminent re-energization, power on, all-clear)
 - Consider use of estimated restoration times based on current field conditions
- Improve accuracy by aligning imminent de-energization notice process with customer locations based on circuit segments, noting that we will continue to issue warnings based on forecasts and de-energize based on actual conditions

• Reach more customers by leveraging contact information from other sources

Customer Notifications – Reaching Our Most Vulnerable Customers

Speaker: Jill Anderson - CPUC Issue No. 4 – Identification and Notification of Medical Baseline and Access and Functional Needs Customers

- Enhance scope of delivery confirmation
 - Currently prioritize most critical with ~96% success
 - Developing plan to scale confirmation of notice delivery to broader Medical Baseline population
- Share information with public entities
 - Currently provided manually during events
 - Evaluating an online portal for easier access
- Increase enrollment in Medical Baseline
 - Will continue to optimize outreach and enrollment approach, achieved 14% enrollment increase in 2020
 - Integrating outreach into other customer program campaigns and expanding partnerships to reach customers





Customer Care and Resiliency

Speaker: Jill Anderson – CPUC Issue No. 4 – Identification and Notification of Medical Baseline and Access and Functional Needs Customers

• Encourage customer resiliency

- Initial slow adoption in 2020 Critical Care Backup Battery (CCBB), reached 33% of eligible customers
- Expanding CCBB from ~2,500 to ~12,000 eligible Medical Baseline customers in 2021
- Additional rebates added for portable power
- Provide local care during events
 - Community Resource Centers expanded from 13 to 56 in 2020
- Build community resiliency
 - Resiliency zones underway in Agua Dulce & Cabazon
 - Microgrid operational in San Jacinto and others planned



Coordination with Government Agencies & Public Safety Partners is Crucial

Speaker: Steve Powell - CPUC Issue No. 3 – Coordination with State and Local Governments





- Coordination occurs throughout year with Local Governments, State and County Emergency Management and Public Safety Partners
 - Identify critical facilities and PSPS circuits serving local/tribal governments
 - Share detailed information with critical infrastructure providers on potential facility impacts during PSPS events
- PSPS managed as emergency using Incident Command System to align with agencies and partners to protect public safety
 - Dedicated team with more than 40 trained professionals
 - Duty Manager as emergency contact for fast issue escalation
- Separate daily coordination calls through the duration of the event
- Statewide Executive Briefing, County Operational Briefing, Critical Infrastructure Briefing

Improving Coordination with State, Local and Tribal Governments

Speaker: Steve Powell - CPUC Issue No. 3 – Coordination with State and Local Governments

Progress and improvement areas:

- Identified proper participants to improve Operational and State Executive Briefings
- Currently working with Cal OES and California State Warning Center to better align communication and reporting formats for timely and accurate information sharing
- Engaging impacted communities (e.g., Acton, Agua Dulce, Simi Valley, etc.) and will determine appropriate means to collect additional input and disseminate community-specific information
- Refining opportunities for feedback (e.g., after-action reviews, comments to post-event reports, working group/advisory boards, coordination calls, etc.) on PSPS performance to achieve more effective public safety partner engagement

Quality of PSPS Post-Event Reporting Speaker: Steve Powell - CPUC Issue No. 5 - Quality of PSPS Post-Event Reports

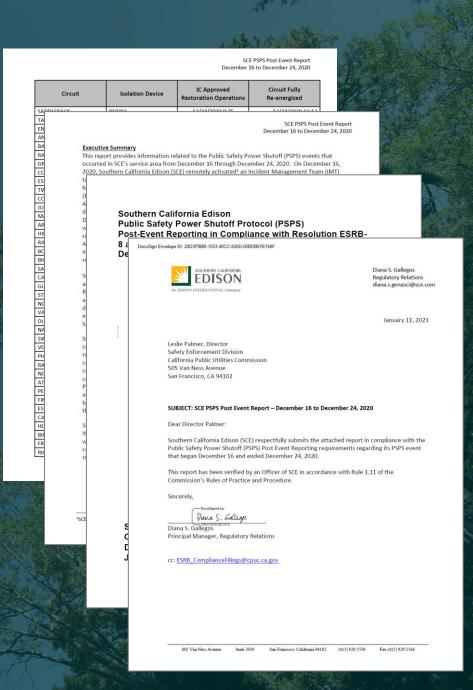
- Reports include timeline of events, notifications, coordination with public safety partners, circuit deenergization/re-energization and more
- Significant detail and data about each event dependent on manual data collection and validation
 - Submitted reports can exceed 300 pages
 - Multiple periods of concern bundled into single event •
 - Back-to-back events complicate simultaneous data validation and event management



Quality of PSPS Post-Event Reporting

Speaker: Steve Powell - CPUC Issue No. 5 – Quality of PSPS Post-Event Reports

- SCE is committed to delivering accurate, clear and timely post-event reports
- Internal efforts will improve manual data processes and targeted automation
- Work with CPUC for additional alignment on expectations
 - Report content: wildfire risk assessment, deenergization benefits vs. public safety risk, impacts to customers, deviations from protocols
 - Event duration and bundling
 - Appropriate timelines for submission per event



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