

Day 2:
April 11, 2024



HAWAIIAN ELECTRIC
**WILDFIRE SAFETY
SYMPOSIUM**

Day 2: Opening Remarks

Colton Ching

*Senior VP of Planning & Technology
at Hawaiian Electric*

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**WILDFIRE SAFETY
SYMPOSIUM**

Day 1 Recap

Main Themes:

- Wildfire safety is **everyone's responsibility**
- **Let's not be complacent** and keep our momentum to continue collaboration, work together and focus on mitigating wildfire risk across Hawai'i
- **Funding and resources are limited**, but we need to face these challenges together. **Investing in proactive mitigation** (including land management) **is as essential as response.**
- **Situational awareness and comprehensive, practical and up-to-date models** are crucial to understand and address fire risk
- **Diverse, lasting partnerships** are essential to this work. **Transparent exchange of information** with global partners is also key.

TOPICS:

- *Our 'āina & our grid*
- *Climate risks and resilience*
- *Wildfire risk areas*
- *Collective actions*
- *Industry practices & lessons learned*

CONVERSATIONS:

- “ We call upon everyone to take action for a more resilient future and **anchor these conversations in equity, as safety is a fundamental right for all.** Our goal is to create a resilient Hawai'i that thrives, not just survives...” – *Ka'iu Kimura*
- “ Our hope is that we leave tomorrow with stronger relationships, new tools and knowledge, **a sense of unity**, and a path forward to **strengthen collective actions for safety.**” – *Shelee Kimura*
- “ **Wildfire is an everyone issue.** It takes everyone doing our part to deal with incidents and recover after. **Collaboration is key.**” – *Elizabeth Pickett*



Day 2 Lookahead

Main Themes:

- **Understanding our Wildfire Safety Strategy**
Hawaiian Electric's transmission and distribution program, actions taken to date, customer and community outreach and near- and long-term plans
- **Planning for Public Safety Power Shutoffs**
Essential considerations for developing a PSPS program
- **Charting collective actions for wildfire safety**
Building partnerships and engaging communities around a collective WSS

TOPICS:

Wildfire Safety Strategy

Public Safety Power Shutoffs

Collective actions



Day 2: Opening Remarks

Erik Takayesu

*Former SVP, Asset Strategy and Planning,
Southern California Edison*



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Hawaiian Electric's Wildfire Safety Strategy

April 2024

Marc Asano, *Director, Integrated Grid Planning*



**Hawaiian
Electric**



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Hawaiian Electric continues to take **immediate action** and **adapt Wildfire Safety Strategy** to address elevated risks

Interim Wildfire Safety Measures

2023 & 2024

Actions

- Wildfire Risk Analysis
- Operation Procedures and Grid Design Changes (i.e., fast trip, pre-emptive power shutoffs)
- Inspection Plans
- System Hardening
- Vegetation Management
- Future Considerations

LEARN MORE AT:
hawaiianelectric.com/wildfiresafety

Wildfire Safety Strategy (WSS) Development Process

2024

Assess & Analyze

- Identify Risk/Threat
- Risk Assessment
- Build Situational Awareness

2024

Define & Develop

- Identify Updated Grid Design, Hardening and Operational Procedures
- Improved Situational Awareness Through New Technology
- Assess Benefits Against Risks
- PUC Review and Guidance

2025-2027

Implementation

- Launch Wildfire Safety Strategy

On-Going

Review & Refine

- Monitor, Measure, Report and Adjust

Sharing & Gathering Community/Stakeholder Input

Wildfire Safety Symposium

+

Wildfire Safety Working Group

+

Community Engagement

Wildfire safety strategies may be based on four foundational pillars

- Build situational awareness
 - Deploy sensors, capture and analyze, integrate into operations
- Improve operational strategies and practices
 - Enhanced vegetation management and inspection tools/data
 - Fast tripping
 - Build PSPS program
- Harden the grid
 - Covered conductor and undergrounding strategies
 - Protection and automation (i.e., grid modernization)
- Protect Customers and communities
 - Provide information and education
 - Ensure customers are better prepared for emergencies



Wildfire Safety Strategies Capabilities to advance as wildfire risk is reduced across Hawaii

Immediate Actions (year 1)

- Increased visual inspections and vegetation management
- Increased situational awareness
- Replace higher risk equipment
- Develop initial PSPS processes

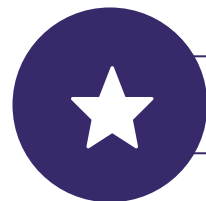
Planned Mitigations (years 1 – 3)

- Develop risk models
- Expand situational awareness
- Grid hardening in higher risk areas
- Enhanced inspections
- Expanded vegetation management
- Improved fire and weather forecast data
- Targeted PSPS



Longer term (3+ years)

- Improve risk models
- Risk prioritized hardening, inspections, and vegetation management
- Integration of new technologies and automation
- Further refined targeted PSPS



We are here

Risk Reduction

Time



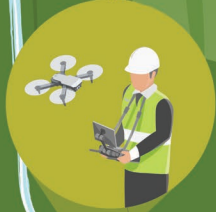
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Wildfire Safety Measures

Equipment inspection in high-risk areas for mitigation efforts.

Blocking reclosing of circuits in wildfire risk areas.



Vegetation and hazard tree management.



Converting horizontal construction to vertical construction to reduce risk of conductors clashing with each other.

Weather stations and video cameras provide near real time situational awareness of fire hazards.

Future community resource centers: intended to support the communities with information and other support during PSPS events.



Undergrounding power lines in strategic at-risk areas.

System hardening: more resilient poles, advanced sensors, larger conductor, and fire-safe fuses.

Stronger, wider fire resistant wooden poles that are built to withstand higher wind speeds.

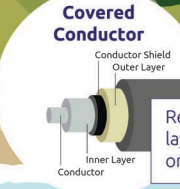


Hawaiian Electric's partners in planning: first responders, emergency management agencies, government, military, communities.



Power Plant

Substation



Replace bare wire with conductors with protective layers to prevent ignition from trees falling on line or clashes during windy conditions.

Public Safety Power Shutoff (PSPS): When high fire risk conditions pose an imminent threat to public safety, the utility may preemptively shut off power to avoid the potential of wildfires associated with electrical infrastructure. PSPS could last for longer periods of time until the dangerous weather has passed, and would be used as a last resort. Communities would be given an advanced notice prior to a PSPS event so they have time to prepare.

Spotters are deployed in high-risk areas during red-flag conditions to alert system operators and emergency responders of hazardous observations.



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Time



Our interim pre-emptive power shutoff process

Activating incident management teams

We will activate the Incident Management Team (IMT) upon issuance of red or yellow flag conditions by the National Weather Service. Notification will be issued to alert customers of these conditions.

We will deploy our spotters to visually observe elevated risk locations (e.g., power lines and facilities) for any unsafe conditions.

Monitoring the weather

During yellow or red flag watches and warnings issued by the National Weather Service, we will monitor severe weather conditions by leveraging publicly available weather data.

Turning the power off

Power will only be shut off as a last line of defense, and only if weather conditions (i.e., at certain wind speeds and in red flag warning) pose an imminent threat to public safety.

The IMT will coordinate with public safety partner agencies to ensure community safety throughout the event, and notifications issued to customers of imminent power shutoffs.

Turning power back on

Once fire weather threat is at safe levels, visual inspections of infrastructure will occur in preparation for restoration once it is safe to do so.

How long outages last will be based on the actual weather conditions and time needed to safely restore power. Notifications issued upon restoration of power.



General notification issued to customers of elevated risk period (i.e., Summer months)

WILDFIRE SAFETY SYMPOSIUM



Panelists

- **Moderator:** Marc Asano, *Director of Integrated Grid Planning at Hawaiian Electric*
- Rudy Tamayo
VP of Energy Delivery, Hawaiian Electric
- Jonathan Woldemariam
Director, Wildfire Mitigation & Vegetation Mgmt., SDG&E
- Scott Strenfel
Senior Director, Meteorology Operations & Fire Science, PG&E
- Jack Shearman
CEO, UMS Group
- Shawn Holder
Director, Public Safety Power Shutoff, PG&E



Planning for Public Safety Power Shutoffs (PSPS)

Panel



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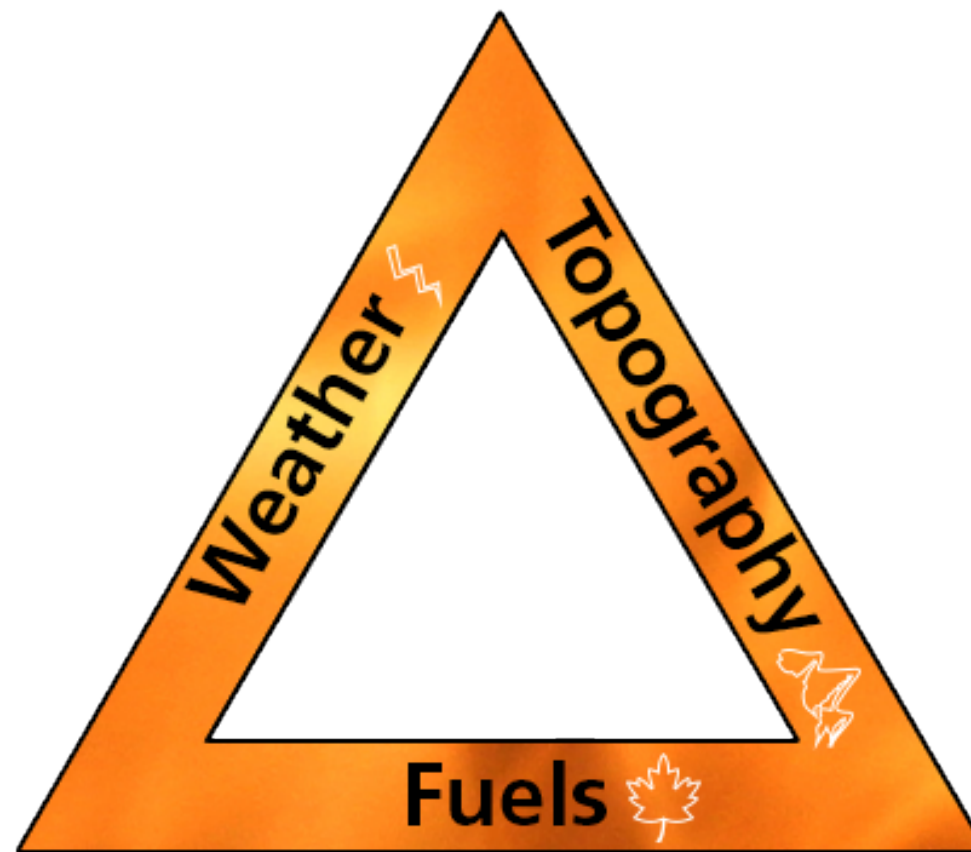
What is PSPS?

- **PSPS** is when a utility proactively cuts power to electrical lines as a measure of last resort in the interest of public safety
 - If the utility reasonably believes that there is an imminent and significant risk that strong winds may topple poles, blow debris into power lines, or cause major vegetation-related issues leading to increased risk of wildfires
 - While PSPS events may reduce the risk of utility-associated wildfires, PSPS events can leave communities and essential facilities without power, which brings its own risks and hardships
 - Some areas that are more prone to dry windy conditions may experience higher frequency of PSPS events



Hazardous conditions





- PSPS conditions may arise during high winds, low humidity, and dry fuel conditions susceptible to large wildfires
- Topography and adjacency to communities are considered when determining PSPS risk
- Conditions can last one or more days



* U.S. National Park Service



PSPS Processes

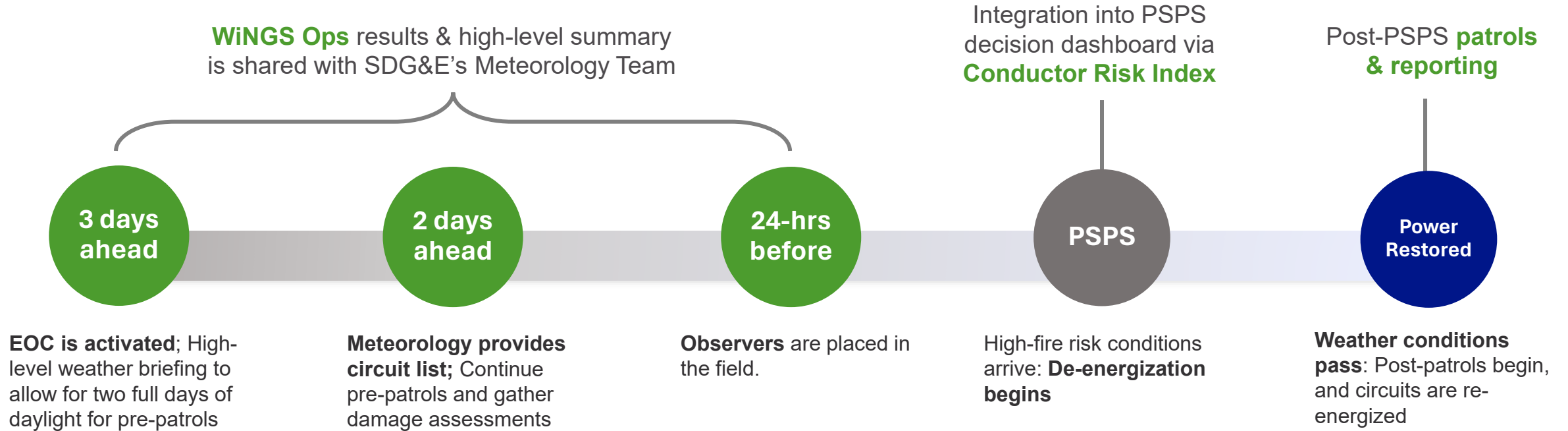
-  PSPS events may be triggered by a red (or yellow) flag warning that indicate high fire risk conditions
-  Notifications are made to public safety partners and customers when a PSPS event is imminent and underway
-  Utilities and strategic partners and stakeholders can work together to minimize the impacts of PSPS
-  Power is restored once lines are patrolled after fire threat subsides

Panelists

- **Moderator:** Erik Takayesu, *Former Senior VP of Asset Strategy and Independent Advisor*
- Shawn Holder
Director, Public Safety Power Shutoff, PG&E
- Jonathan Woldemariam
Director, Wildfire Mitigation & Vegetation Management, SDG&E
- Koko Tomassian
Program Manager Safety Management Systems Branch at CPUC
- Keith Okamoto
Chief Engineer, Department of Water Supply, County of Hawaii



WiNGS Ops & Decision-Making



PSPS Mitigation Initiatives

Strategic Undergrounding

180 miles completed
since 2020

3,000 potential customers
mitigated from PSPS impacts

PSPS Sectionalizing

58 devices installed
since 2020

26,000 potential customers
mitigated from PSPS impacts

Customer Resiliency

1,235 permanent generators
5,545 backup generators
2,442 generator rebates

Over 9,000 customers
mitigated from PSPS impacts

Microgrids

7 microgrid sites

490 customers mitigated
from PSPS impacts



2023 Wildfire Safety Fairs

Wildfire Safety Fairs support preparedness ahead of peak wildfire season



SDG&E has been hosting Wildfire Safety Fairs since 2019 with increasing community and partner agency engagement

- Fairs focus on **expanding reach to rural customers** in partnership with Community Emergency Response Team (CERT), Fire Safe Councils, Tribes, local Fire Departments, and key Community Based Organizations (CBOs)
- 2023 fairs were hosted at **5 locations** within the High Fire Thread District (HFTD)
- **30-40+ booths to educate communities** on fire prevention, emergency preparedness, and evacuation strategies
- Fairs include interactive **workshops**, expert led **presentations**, and hands-on **demonstrations**
- **Help to build community spirit** where residents can ask questions, share experiences and concerns, and adopt new safety measures unique to their households

SDG&E's Wildfire Safety Fairs reached over 3,300 community members in 2023



PSPS Support Services & Partnerships

Community Resource Centers

11 facilities in the HFTD where impacted customers can go to get support, information & resiliency items. ASL & language interpreters are available for improved accessibility.



Centralized Support

Partnership with 211 San Diego & 211 Orange County to connect customers to resources offered by 1,000+ organizations. Support is available 24/7 and in 200+ languages.



Food Distribution

Partnership with the SD Food Bank & Feeding SD who bring mobile food pantries to rural, tribal & PSPS sites. Terra Bistro is brought to CRCs as needed to distribute hot meals.



Transportation Services

FACT paratransit offers accessible transportation to customers' location of choice, including Community Resource Centers, during a PSPS.



Tribal Community Partnerships

Partnering with the Indian Health Council (IHC) & Southern Indian Health Council to give resiliency items, & other resources to tribal communities.



Hotel Stays

Partnership with Salvation Army to offer no-cost hotel stays if customers cannot stay in place. We also can provide an emergency battery on a case-by-case basis.



Wellness Checks

Partnerships with local Community Emergency Response Teams & the You are not alone (YANA) programs to checks on individuals with AFN who may need additional support.



Community-Based Organizations

Approx. 50 CBOs within our Energy Solutions Partner Network amplify PSPS notifications (with ASL video) to AFN customers in HFTD.



Notifications



Timely Notifications in 22 Languages

- Templated PSPS notifications are translated into 22 prevalent languages and interpreted into American Sign Language (ASL) with video in advance for timely delivery



Using OneVoice Communications for Consistency

- Develop customized talking points for each audience to ensure consistent OneVoice communications



Coordination with Stakeholders

- Coordination with public safety partners & proactively offering a continuous stream of updated & relevant information using various channels
- Helps synchronize and amplify messages



Lessons learned

- After-Action Reviews (AAR) are used to identify, document and incorporate PSPS-related decisions and actions into the continuous process, quality improvement and learning cycle

Enhancing Communications

Diverse Communications & Outreach Channels

- **Leverage 20+ diverse communication platforms** and communicate in 22 prevalent languages and American Sign Language to keep communities informed and prepared before, during and after PSPS
- **Updated regional public education campaign in 2023** covering wildfire safety and PSPS preparedness and safety, including tailored messages for AFN communities.
- **Partnered with Center for Accessible Technology** to improve best-in-class accessible website & mobile app. Website is built on Amazon Web Service's cloud infrastructure for increased traffic and bandwidth.

Tailored Messaging to Serve Diverse Customer Needs

- **AFN Self-Identification campaign** for more personalized service
- Increasing the use and distribution of our bilingual social media toolkits with **trusted partners** to amplify tips and various tailored resources

Growing Trusted Media Partnerships

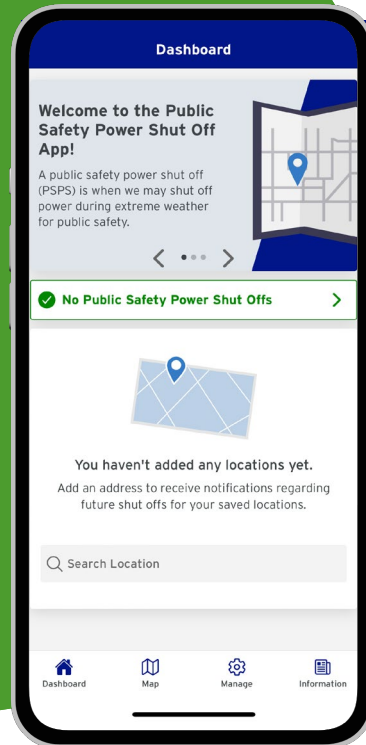
- **Growing relationships** with regional and binational Spanish media partners and niche publications (local and multicultural)

Detailed Feedback & Improved Report Metrics

- Planning for additional survey's (beyond PSPS) to solicit **customer feedback**



The work is never finished. **Increasing customer awareness through continuous improvements and tailored communications.**



Mobile Applications

Alerts by SDG&E: Available in English and in Spanish, customers and non-customers can track PSPS' for five separate addresses of their choice and find helpful resources.

Public Safety Partner Portal: Public safety partners can find information on circuits and communities impacted by PSPS, detailed advanced maps with filters and layers, all-hazards resources, weather details, communications tools and more.



Offering customers and critical regional partners **the tools they need to stay informed and make important decisions.**

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Planning for Public Safety Power Shutoffs (PSPS)

Breakout Session



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BREAKOUT SESSION:

PSPS Program Considerations *(30 mins)*

Small Group Discussion Instructions

- **Purpose:** Capture additional considerations for Hawaiian Electric to think about while developing a PSPS program.
- **Step 1:** Meet your facilitator! *(2 mins)*
 - Your facilitator will take notes to capture the conversation at your table and will be responsible for moving the discussion along.
- **Step 2:** Group discussion on considerations for Hawaiian Electric to consider while developing a PSPS program. *(20 mins)*
 - The facilitator will record the conversation.



Planning for Public Safety Power Shutoffs (PSPS)

Breakout Session Debrief



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Collective Action for Wildfire Safety

Breakout Session



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BREAKOUT SESSION:

Collective Action for Wildfire Safety Strategy (60 mins)

Small Group Discussion Instructions

- **Purpose:** Gather symposium reflections and chart actions for building partnerships and engaging communities around a collective Wildfire Safety Strategy.
- **Step 1:** Meet your facilitator! (2 mins)
 - Your facilitator will take notes to capture the conversation at your table and will be responsible for moving the discussion along.
- **Step 2:** Step 2: Gather the supplies you'll need – post-it notes and sharpie (2 mins)
- **Step 3:** Now it's time for the 6x8 input exercise. Use the following process to provide input on each of the six questions. (8 mins per question, 48 mins total)
 - **2 minutes:** Identify the first box and read the question aloud to the group.
 - Individuals write one thought/idea/comment per post-it.
 - **6 minutes:** Go around the table and each person share their post-its and place within the corresponding box.
 - Combine similar items together within the box to capture common comments or themes.
 - **REPEAT PROCESS** for each question.
- **Step 4:** Group discussion on main takeaway from the 6x8 input exercises – key concepts and themes. Each group will have the opportunity to share out to the large group.



Collective Action for Wildfire Safety

Breakout Session Debrief



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Appreciation and Next Steps



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Day 2 Recap

Main Themes:

- Reducing wildfire risk requires **both immediate actions and long-term strategies**. We must move with urgency and deploy solutions now, while also understanding that it will take time and experience to build extensive partnerships, gather comprehensive data, harden the grid and hone operational practices.
- **Communication is paramount**. We must strive to provide customers and partners with information that is timely, clear, coordinated and easy to access—for example, developing a single source/portal for information sharing.
- **Understanding the concerns and needs of all our partners** (including water, wastewater and telecoms) **is critical** to take collective action that will care for our communities and customers.
- **We don't need to reinvent the wheel**. Learning from **industry best practices can shortcut** the time to develop and implement solutions. However, all efforts must be **tailored to our local context** and needs.
- **PSPS is a measure of last resort**. It is **one of many solutions** that we must employ to reduce risk of wildfire and keep our communities safe.

TOPICS:

Wildfire Safety Strategy

Public Safety Power Shutoffs

Collective actions

CONVERSATIONS:

“ Let's pull our **collective wisdom and resources** to think in ways **to better safeguard our communities**. This work is **both a sprint and a marathon**. Quick actions are needed, as are long-term sustainable strategies” *–Erik Takayesu*

“ **Successful communication** before, during and after a PSPS **starts long before the decision to shut off the power**. That takes fostering relationships with critical infrastructure providers, customers and community-based organizations. **Holistic partnerships are critical.**” *–Koko Tomassian*

“ PSPS goes against our DNA as utilities to provide reliable power. That's why it's a last resort, and why having all mitigations in place before we call a PSPS is crucial... Being good at something you don't do very often **takes a lot of practice.**” *–Shawn Holder*



Thank You

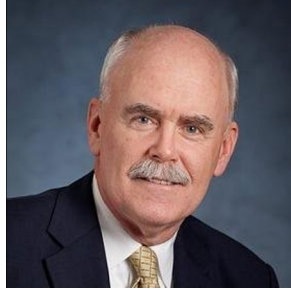
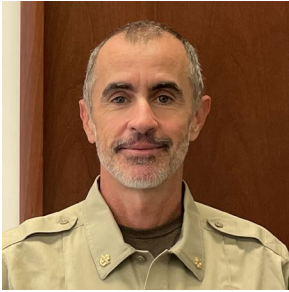


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HILO

- American Red Cross of Hawaii
- AT&T
- California Public Utilities Commission
- Chamber of Commerce Hawaii
- City & County of Honolulu
- C&C Honolulu Dept. of Energy Mgmt.
- College of Tropical Agriculture and Human Resources
- County of Hawaii
- County of Maui
- Dept. of Agriculture
- Dept. of Business, Economic Dev. and Tourism
- Dept. of Commerce & Consumer Affairs
- Dept. of Defense
- Dept. of Education
- Dept. of Land & Natural Resources
- Dept. of Transportation
- Division of Forestry & Wildlife
- Essential Energy
- Haleakala National Park
- Haleakala Ranch
- Hawaii Cattlemen's Council
- Hawaii Community College
- Hawaii Community Foundation
- Hawaii County CC
- Hawaii Governor's office
- Hawaii Green Growth
- Hawaii Island Economic Dev. Board
- Hawaii Public Utilities Commission
- Hawaii State Dept. of Health
- Hawaii Tourism Authority
- Hawaii Water Service
- Hawaii Wildfire Mgmt. Organization
- Hawaiian Islands Land Trust
- Hawaiian Telcom
- Honolulu Board of Water Supply
- IBEW 1260
- Imiloa Astronomy Center
- Kaala Farms
- Kahoolawe Island Reserve Commission
- Kamehameha Schools
- Kauai Island Utility Cooperative
- Keauhou Community Services
- Kihei Community Assoc.
- Kohala Coast Resorts Assoc.
- Kohala Ranch Firewise
- Kohala Ranch Water Company
- Kula Community Assoc.
- Lahaina Advisory Committee
- Life of the Land
- LUMA Energy
- Mahi Pono
- Maui County CC
- Maui Land & Pineapple
- Mauna Kea Watershed Mgmt.
- Mayor Bissen
- Mayor Blangiardi
- Mayor Roth
- Molokai Fire Task Force
- National Oceanic and Atmospheric Admin.
- National Parks Service, Volcanoes National Park
- Pacific Gas and Electric Company
- Parker Ranch
- Pohakuloa Training Area
- Puukapu Firewise
- Pulama Lanai
- Queen Emma Land Company
- San Diego Gas & Electric
- Southern California Edison
- State Dept. of Land & Natural Resources
- State Energy Office
- State Transportation Dept.
- Sustainable Energy Hawaii
- T-Mobile
- United States Forest Service Institute for Pacific Islands Forestry
- Ulupono Initiative
- UMS Group
- United States Army
- United States Coast Guard
- United States Dept. of Commerce
- United States Dept. of Energy, Office of Electricity
- United States Dept. of Homeland Security, Federal Emergency Mgmt. Agency
- United States Marine Corps
- United States Navy
- University of Hawaii at Hilo
- Verizon Wireless
- Vibrant Hawaii
- Waianae Mountains Watershed Partnership
- Waikoloa Village Firewise
- West Maui Taxpayers Assoc.



Thank You



Looking Ahead

- Post-event Survey
- Symposium Summary
- Contact: info@hawaiianelectric.com

