

Pre-Season Briefings for 2023 PSPS Events

California Public Utilities Commission

August 2, 2023



California Public
Utilities Commission

Pre-Season Briefings for 2023 PSPS Events - Agenda

1:00 – 1:15 PM	Opening Remarks
1:15 – 2:15 PM	Southern California Edison Presentation & Questions from Dias
2:15 – 3:00 PM	San Diego Gas & Electric Presentation & Questions from Dias
3:00 – 3:15 PM	Break
3:15 – 4:00 PM	Bear Valley Electric Service Presentation & Questions from Dias
4:00 – 4:30 PM	Public Comment

Opening Remarks

President Reynolds

Commissioner Reynolds

Daniel Berlant, CAL FIRE

Caroline Thomas Jacobs, OEIS



California Public
Utilities Commission

Southern California Edison

CPUC PUBLIC BRIEFING **PUBLIC SAFETY POWER SHUTOFF**



Aug. 2, 2023



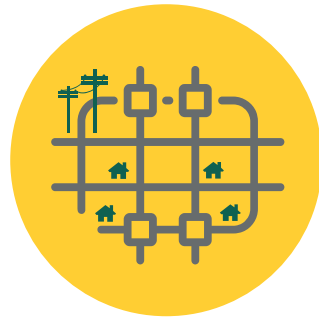
AGENDA

FOCUS AREAS	TOPICS	PRESENTER
Introduction	Agenda Preparedness By The Numbers	Shinjini Menon
Readiness Overview	Pre-Season Report Lessons Learned Training and Exercises	Tom Brady
Seasonal Outlook and Forecasting	Weather/Fire Science Forecasting and Modeling	Tom Rolinski
Grid Hardening	Grid Hardening Metrics	Sunny Chu
Operational Update	Operational Improvements	Cameron McPherson
Communication	Coordination with Local and Tribal Governments Informing Partners and Agencies Digital Support Coordination with Critical Infrastructure Customer Outreach and Notifications	Michael B. Williams
Customer Resources	Customer Care Access and Functional Needs	Ryan Bullard
Fast-Curve Settings	Fast-Curve Settings	Sunny Chu
2023 In Summary	July Activations Summary	Melanie Jocelyn

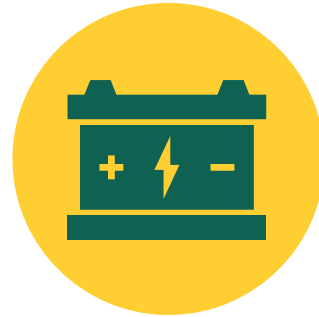
2023 BY THE NUMBERS



245+ miles of covered conductor installed to date on circuits within the 2023 PSPS scope



≥68% targeted CMI reduction in PSPS scope on 30+ circuits



2,875 customers received a free battery through Critical Care Backup Battery Program



Dropped more than 268,000 gallons of water on 30 total fires, including the Rabbit Fire



500+ IMT members have been trained and participated in readiness exercises



950+ Public safety partners registered on Portal

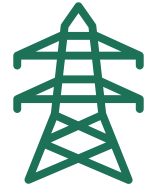


97% of local and tribal govt officials familiar with grid hardening / 98% with PSPS



1.5M impressions in CBO PSPS outreach

2023 PSPS PRE-SEASON REPORT OVERVIEW



CRITICAL FACILITY & INFRASTRUCTURE (CI) PLAN

99.3% positive response to our annual CFCI notification test and 10 CI Workshops were completed



COMMUNITY RESOURCE CENTER (CRC) PLAN

Successfully tested Starlink devices at CRC/CCV sites; Added (in-/out-door) CRC designation on SCE's Outage map on [sce.com](https://www.sce.com)



EDUCATION AND OUTREACH

Conducted wildfire mitigation/PSPS outreach to all High Fire Risk Areas (HFRA) local and tribal government and Critical Infrastructure customers; held four regional Wildfire Community Meetings; sent PSPS newsletter to all customers



PSPS EXERCISE REPORTS

Conducted a PSPS exercise series that included a workshop, tabletop and full-scale exercise with an increase of 70 external public safety partners from 2022



NOTIFICATION PLAN

Customers can now receive all PSPS notifications in one of 23 languages of their choice

2022 LESSONS LEARNED

ISSUE	RESPONSE FOR 2023 SEASON
<p>Data Challenges: Identified gaps and discrepancies in customer data (not unique to PSPS) impacting notifications and reporting</p>	<ul style="list-style-type: none"> • Auto-enrolled HFRA customers in PSPS alerts and notifications • Ongoing notification tests will help identify mitigation opportunities • Ongoing validation of customer-to-circuit mapping
<p>Data System Limitations: Required manual interventions impacting notification completion and reporting accuracy</p>	<ul style="list-style-type: none"> • Enhanced automation and additional integrations between iPEMS and CDP
<p>Weather Forecasting Limitations: Emergent weather conditions prevented some timely notifications during Nov. 19 activation</p>	<ul style="list-style-type: none"> • Enhancing weather forecasting through expanded machine learning
<p>Best Practices from Thanksgiving Activation to Reduce Customer Impacts: Early and proactive planning increased flexibility and response effectiveness</p>	<ul style="list-style-type: none"> • Accelerated restoration through pre-placement strategies for field teams and air resources, allowing safe same day restoration for all customers • Implemented gift card program for customers at CRCs • Accelerating grid hardening based on PSPS impacts
<p>Awareness of PSPS Resources: Survey research suggests relatively low level of awareness of SCE program resources among HFRA customers.</p>	<ul style="list-style-type: none"> • AFN Self-ID survey identifying customers with AFN, in order to provide targeted outreach • Tying customer data to outage information to send actionable information during events

2023 PSPS TRAINING AND EXERCISES

2023 PSPS FULL-SCALE EXERCISES

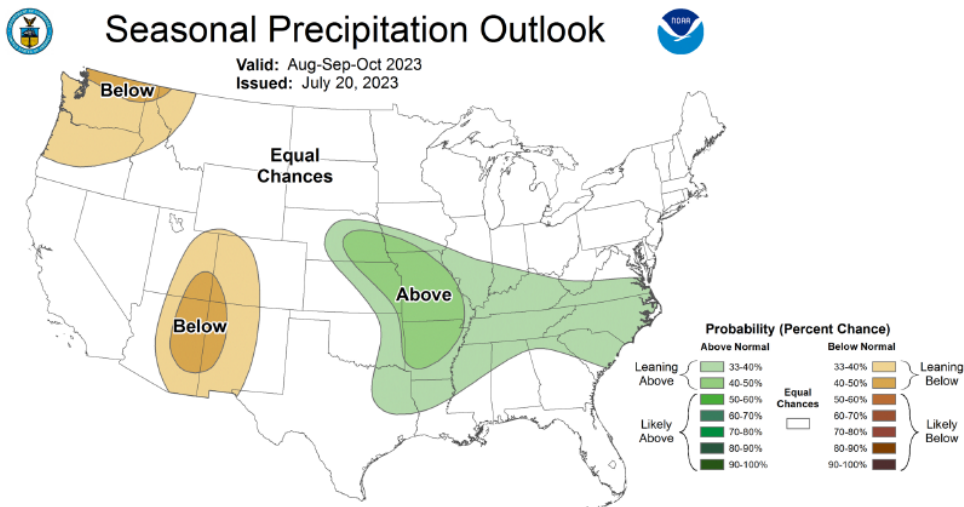
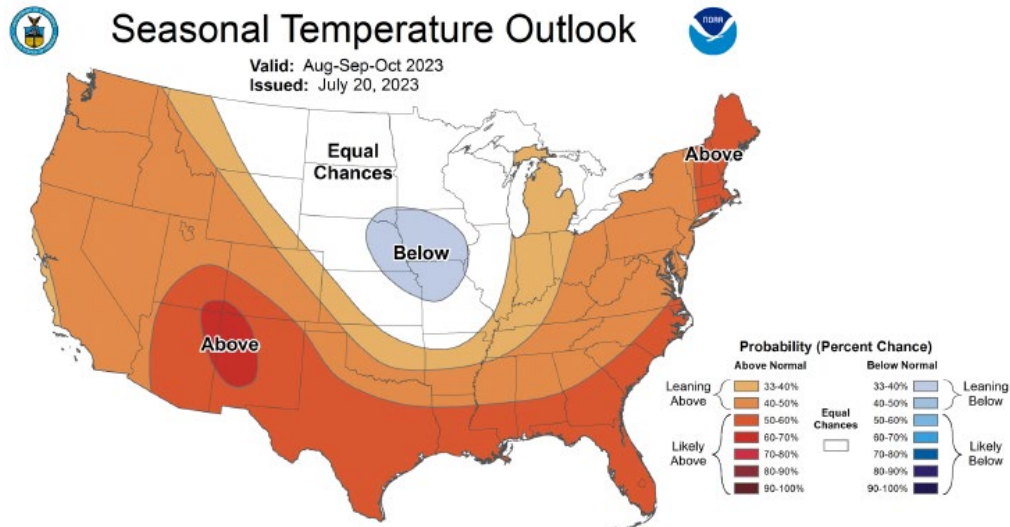
5
Operations-based
exercises

500+
IMT members
participated

80+
external public safety partners
participated
(critical infrastructure, CBOs, local
government and state agencies)



WEATHER/FIRE SCIENCE



2022-2023 RAIN IMPACTS

- Above-average snowpack has reduced the potential for PSPS in the Sierra
- The exceptional seasonal precipitation created additional live fuels, which could increase fire risk
 - PSPS conditions still require **both high winds and dry fuel**, so PSPS impact is unknown

2023 WEATHER PATTERNS

- We have entered an El Niño climate pattern, but the effects on actual weather and PSPS remain uncertain
 - El Niño **does not always** bring above-average winter rainfall to Central and Southern California

PSPS FORECASTING AND MODELING

MACHINE LEARNING ENHANCES DECISION-MAKING

619

new machine learning forecast locations

1,183

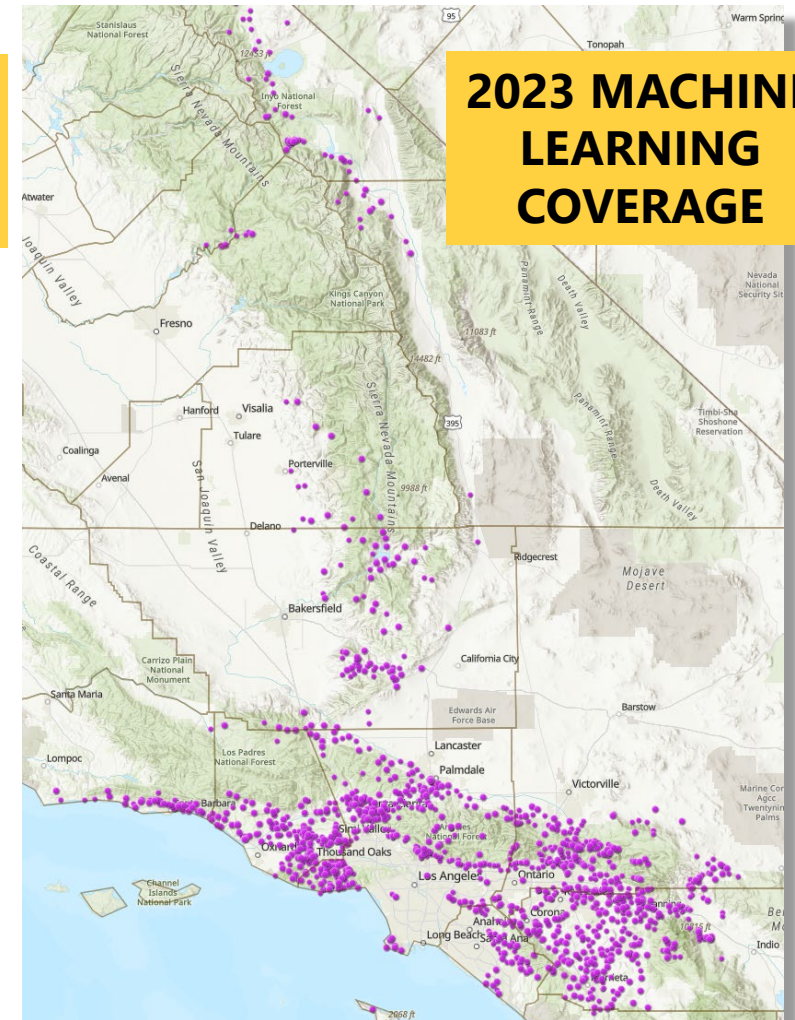
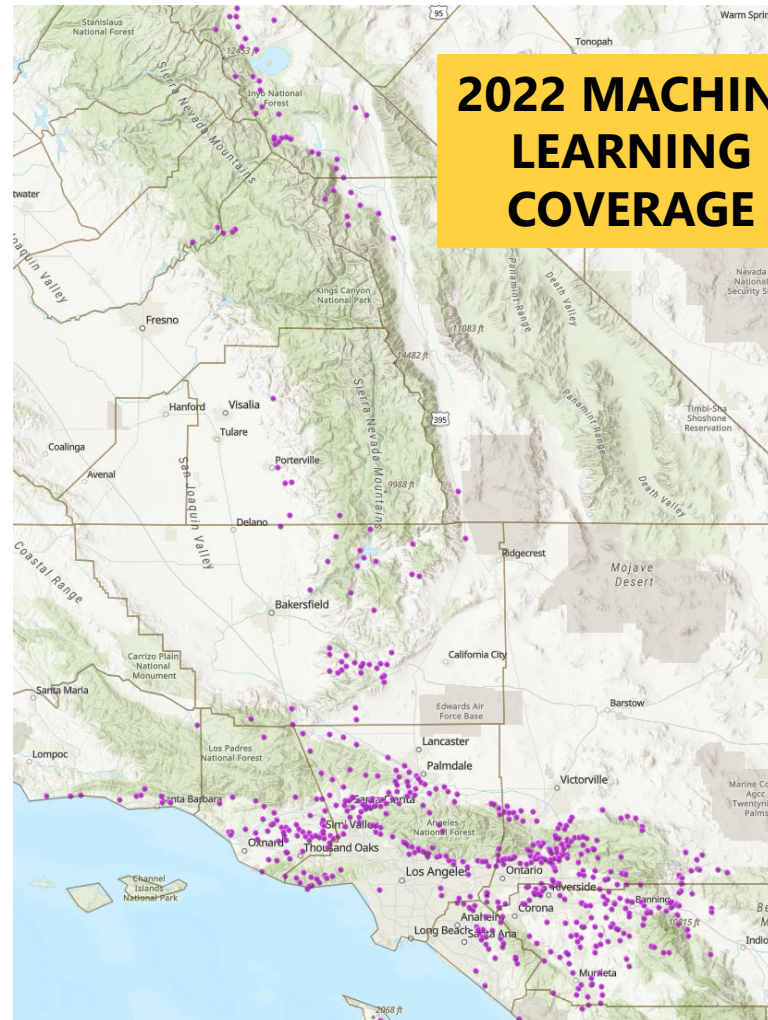
locations now operational

~70% coverage

of our weather station network locations (+37% coverage from 2022)

~40% more accurate

at predicting high wind speeds than traditional weather models



2023 EXPEDITED GRID HARDENING METRICS

INCLUDING PLANNED VERSUS ACTUAL DATA

GRID HARDENING: TOTAL SERVICE AREA

≥14%

Incremental reduction
in CMI

≥8%

Incremental reduction
in frequency

≥22%

Incremental reduction
in customers impacted

≥90%
**INCREMENTAL
REDUCTION IN
CMI ON 20 OF
THE 30+
CIRCUITS**

GRID HARDENING: MOST IMPACTED CIRCUITS

**30+
CIRCUITS
TARGETED**

≥68% Incremental reduction in CMI*
≥47% Incremental reduction in frequency*
≥76% Incremental reduction in customers impacted*

**320+
MILES
PLANNED**

160+ miles in Desert, Metro East, North
Coast, Orange, Rural region

160+ miles on 8 circuits in San Jacinto area

**247
MILES
COMPLETED**
(as of 6/30/23)

**10
SWITCHES
PLANNED**

**0
SWITCHES
COMPLETED**
(as of 6/30/23)

*Assuming same weather conditions as 2021 and 2022

OPERATIONAL IMPROVEMENTS

CENTRAL DATA PLATFORM/AUTOMATION

Operational Capabilities

Enhance ability to support and manage activations and regulatory requirements

- Drill-down analytics
- Situational awareness
- Regulatory reporting
- Data quality management

System Integration

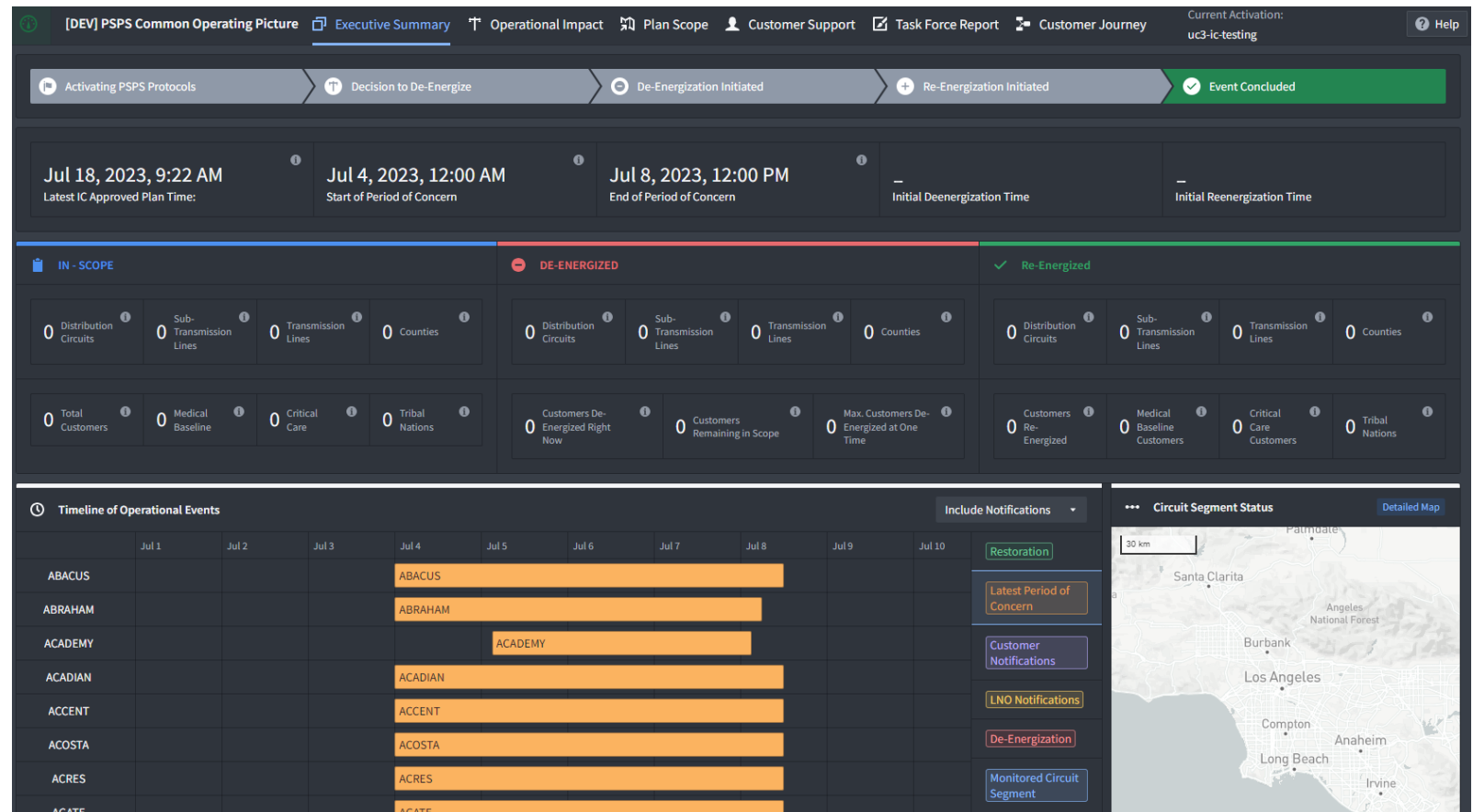
Connection to core data systems and operational decisions

- 7+ core systems
- 25+ data pipelines

Organizational Layer

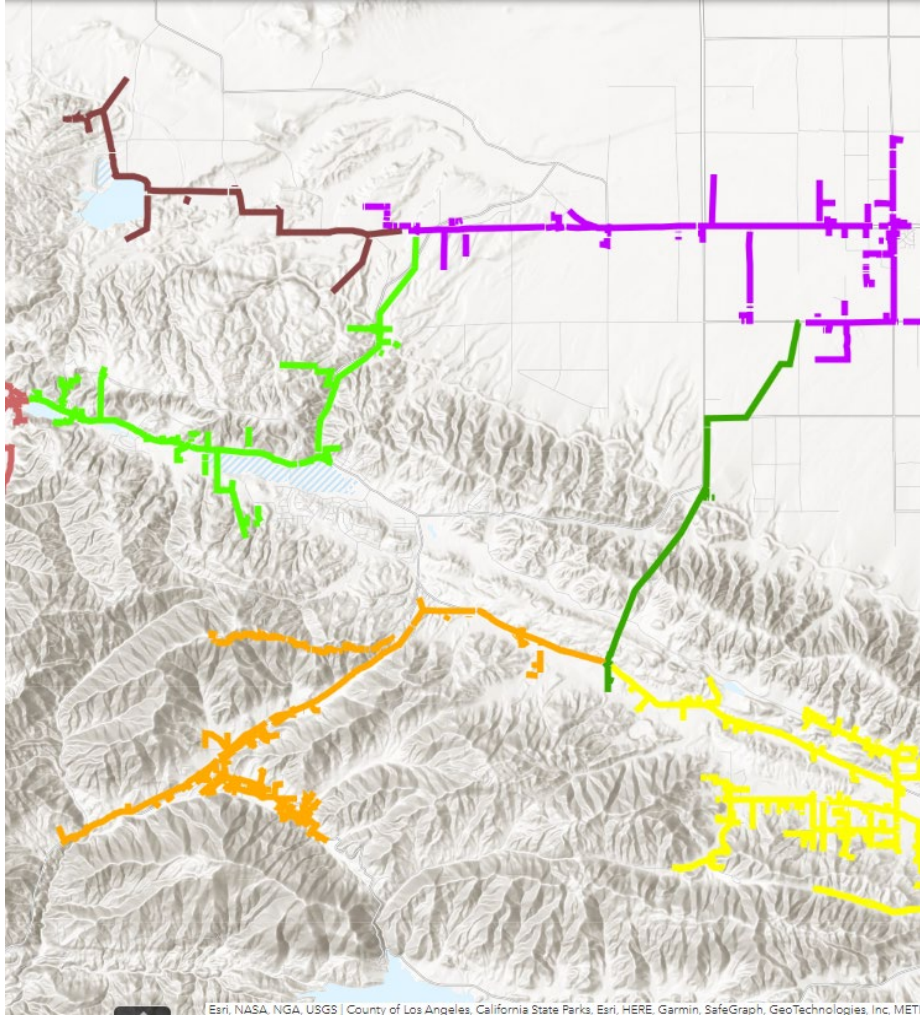
Reduce levels of effort and improve user experience

- E2E process automation
- 10+ process interfaces



Training simulation dashboard

OPERATIONAL IMPROVEMENTS



WINDSPEED THRESHOLD UPDATES

- Partnering with a technical firm to determine if there are opportunities to refine our windspeed threshold methodology
- Probability of failure and historical damage likely to influence more predictive, risk-driven thresholds

ENHANCED RESTORATION PLANNING

- Pre-placement of aircraft **and** resources in impacted areas
- Continued progress using drones for restoration patrol: using Visual Line of Sight (VLOS) and working on opportunities for Beyond Visual Line of Sight (BVLOS)

OFF-SEASON FIELD WORKER COLLABORATION

- Provide education
- Listen and address field worker concerns
- Obtain field worker input on segments and switch plans
- Obtain feedback on optimizing circuit patrols and restoration

COORDINATION WITH LOCAL AND TRIBAL GOVERNMENTS

Local and tribal government outreach over the past four years has resulted in a high level of awareness of grid hardening and PSPS programs.

97% of local and tribal government officials are familiar with grid hardening

98% of local and tribal government officials are familiar with grid hardening and PSPS

- Engaged with all HFRA local and tribal governments
- Tribal government workshop held to discuss Customer Care programs
- Biennial workshops for 300 local and tribal government emergency officials and other public safety partners to review and solicit feedback on All-Hazards and PSPS response plans

RESOURCES

- Resource Guide to all local and tribal governments in HFRA
 - Requested feedback and input on issues such as AFN outreach, CRC/CCV locations and notifications
 - Provided information on tools and resources available to help plan for and respond to PSPS events
 - Provided information on customer programs and resources for them to share with residents
- Social Media kit available for partners to help with messaging

INFORMING PARTNERS AND AGENCIES

PUBLIC SAFETY PARTNER PORTAL

Additional 2023 Functionality

- Planning to provide meter data by Q4 2023 or Q1 2024
- Adding circuit status in tabular format (in addition to existing graphical format) by end of Q3 2023

Focus on Partner Relationship Outreach

- 950+ partners (as of 6/30/23)
- Monthly office hours with focused deep dive session
- Presentations to Critical Infrastructure partners in Q2
- Annual recertification process completed in June

IN-EVENT BRIEFINGS

Streamline daily briefing calls to increase efficiency and coordination

- **Statewide Executive Briefing**
- **County Coordination** includes local and tribal governments and critical infrastructure
- **AFN/CBO Working Session**

POST-EVENT REPORTING

New Automation for Improved Reporting

- **Refined data definitions** – Enabling standardization of data elements collected during activations, removing complexity
- **Developed data pipelines** – Business logic and workflows that capture operational decisions and source data snapshots, removing high-touch manual efforts
- **Data governance application** – Management of data rules, pipelines, and source systems, enabling single source for change requests and revision management

DIGITAL SUPPORT: SCE.COM

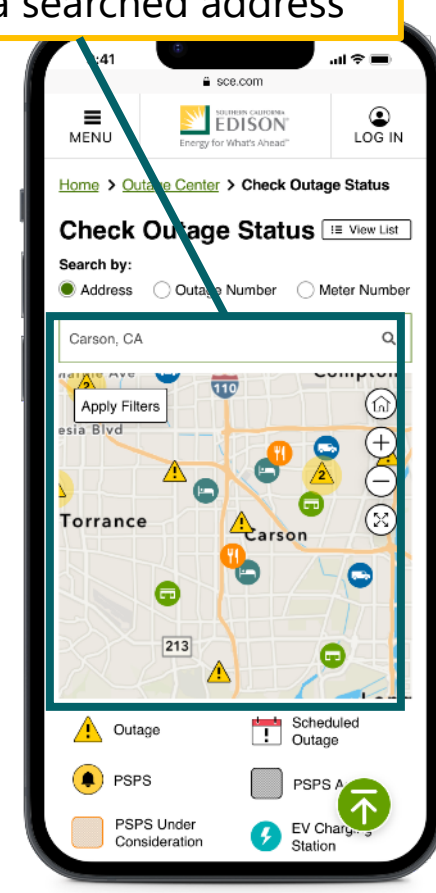
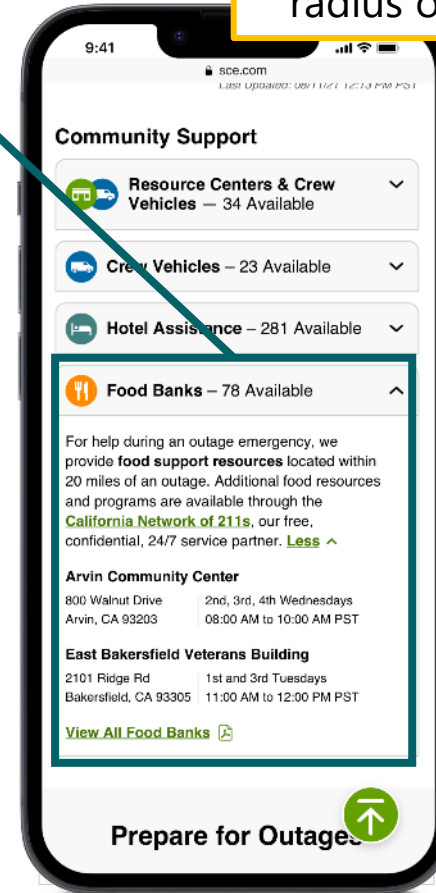
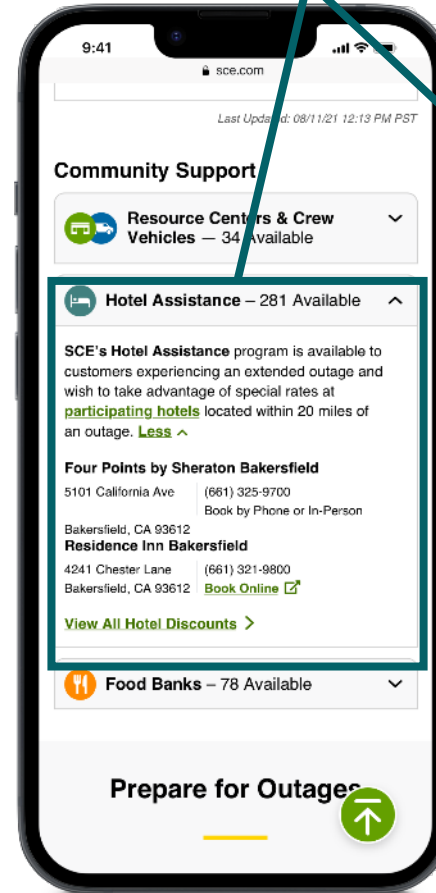
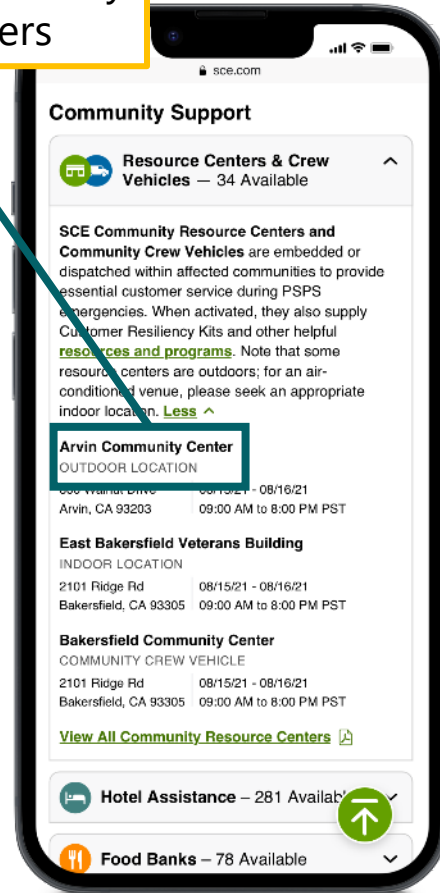
NEW FEATURES IN 2023

Indoor or outdoor indicator for Community Resource Centers

Hotel discount program and food bank locations

Hotel and food bank locations are filtered within a 10-mile radius of a searched address

85% of visits to the outage map are on a mobile device



COORDINATION WITH CRITICAL INFRASTRUCTURE

MEETINGS AND FEEDBACK

- **10** sector-specific critical infrastructure workshops to share tools, resources and discuss best practices
- Critical Infrastructure customers took part as planners and observers in the May PSPS readiness exercises

CCA PARTNERSHIP

- Partnership with CCAs to provide additional PSPS-related data
- CCAs included in PSPS Working Groups and PSPS Critical Infrastructure Workshop

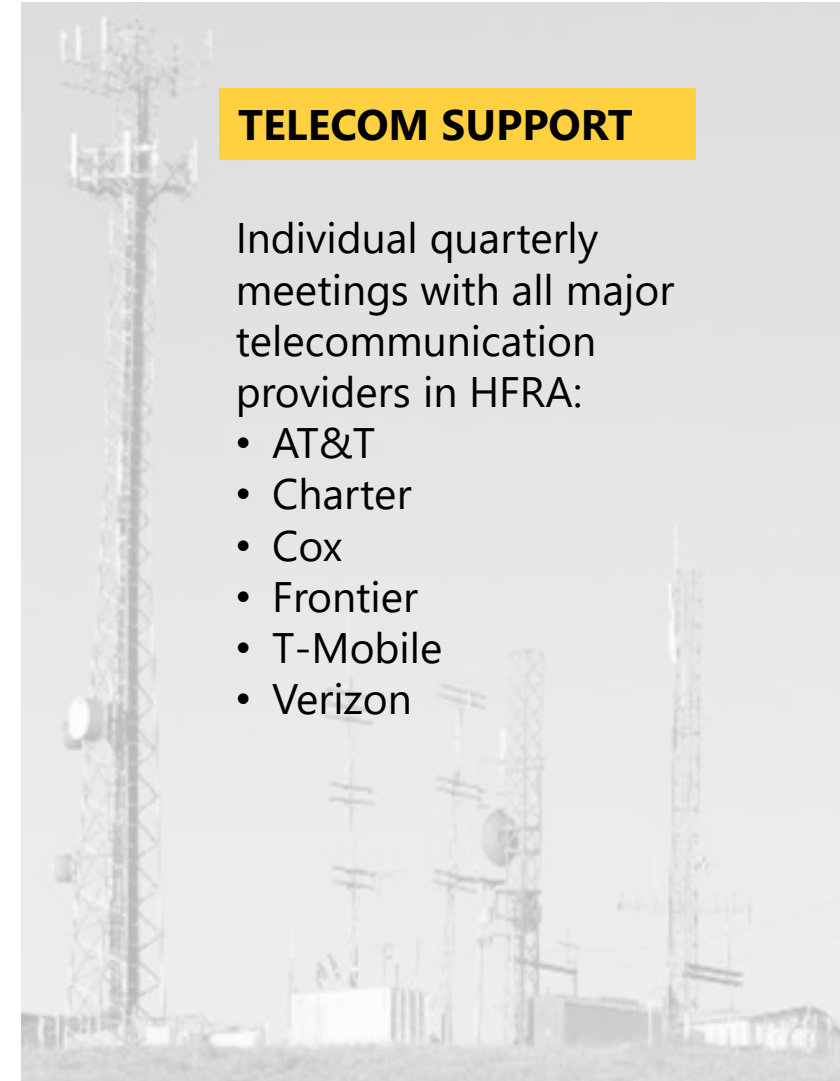
RESILIENCY SUPPORT

- Annual communication to all CI customers requesting updated contact information and information on their backup generation
- New update process to confirm 24-hour contacts for CFCI customers
- **99.3%** positive response to annual CFCI notification test (water/wastewater and communication sector) to verify customer contact information

TELECOM SUPPORT

Individual quarterly meetings with all major telecommunication providers in HFRA:

- AT&T
- Charter
- Cox
- Frontier
- T-Mobile
- Verizon



CUSTOMER OUTREACH AND NOTIFICATIONS

TARGETING OUTREACH TO ENGAGE OUR DIVERSE COMMUNITY

ALL-CUSTOMER OUTREACH

2023 Programs

- Pre-wildfire season media outreach to include 120 journalists, 130 outlets
- PSPS newsletter mailed to HFRA customers, mailed or emailed to non-HFRA customers
- Advertising channels include digital (social media, banner, video and Google search), radio and print

PSPS Surveys

- Survey response rates are typical of customer research
- Encouragement for survey participation include sweepstakes prizes, email reminders and outbound phone calls

PERSONALIZED CUSTOMER MESSAGING

Developing capability to use marketing automation and CDP to provide PSPS customers with tailored, immediately actionable information including program referrals. Slated for development in 2024

MEDICAL BASELINE CUSTOMER OUTREACH

Advertising in English, Spanish, Chinese, Korean, Tagalog and Vietnamese

- Digital and social: March-October
- Print ads: May-June

Email outreach ongoing to 400K customers/month

Mailing in Spanish and English sent to nearly 97K enrolled MBL customers to provide resources and emergency preparedness tips and request updated customer contact information

2023 Digital Ad Targeting MBL Customers



CUSTOMER NOTIFICATIONS

Accessible Notifications

- PSPS notifications now available in 23 languages
- ASL notifications starting in Q4

CUSTOMER CARE / ACCESS AND FUNCTIONAL NEEDS (AFN)

New ways we are supporting customers with AFN in 2023

AFN Self-Identification Survey:

14,000 responses to date; rollout to all HFRA customers by year end

CBO partnerships:

20 new CBOs; 1.5 million impressions

Enhancing cellular networks at CRC/CCVs:

Starlink devices for sites with limited connectivity

In-Event Battery Loan Pilot:

Battery loans to power assistive technology or medical devices



Partnering with California Foundation of Independent Living Centers' **Disability Disaster Access & Resources (DDAR)** program to provide emergency preparedness assistance and in-event response

Customer Care Support Services

Backup Power Programs	43% of MBL in HFRA
Critical Care Backup Battery Program	13,082 delivered
Portable Power Station/Generator Rebate Program	8,197 rebates processed
211	12,172 Care Coordination contacts
CRC/CCV	65 sites, 9 resilient
Resiliency Zones	8 sites in rural communities
Hotel Discounts	135 participating hotels

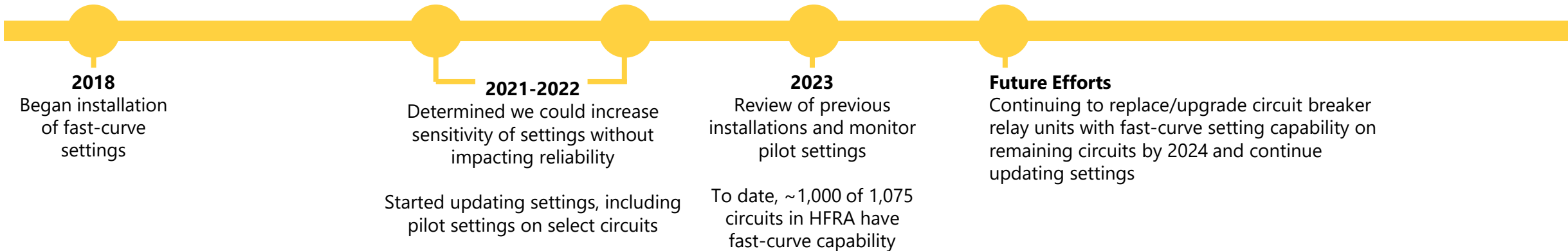
FAST-CURVE SETTINGS ALLOW FOR QUICKER SAFETY RESPONSE

OUTAGE IS CAUSED BY FAULT CONDITION, NOT PROTECTION SETTINGS

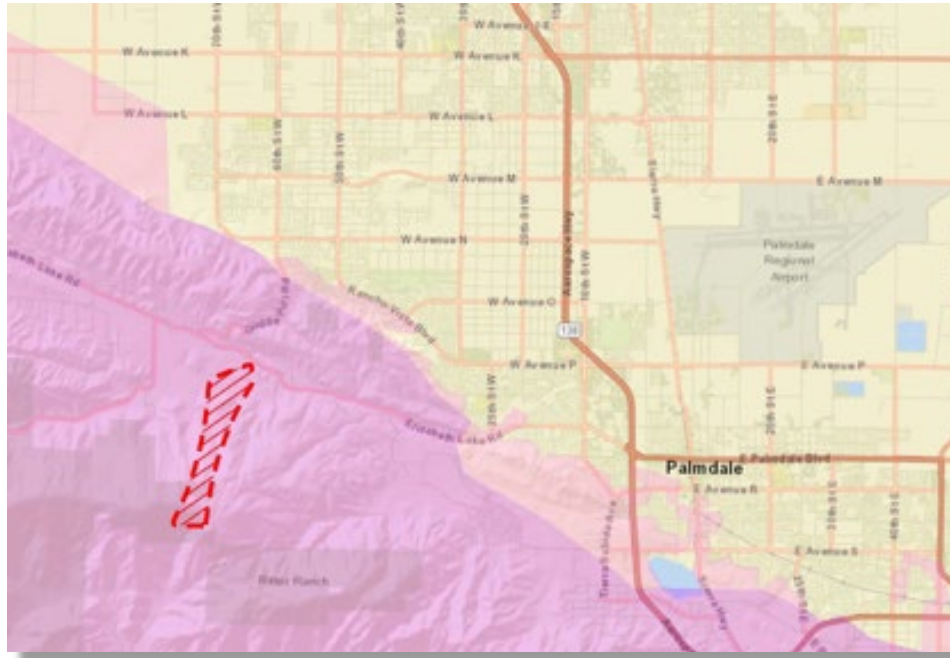
Fast-curve settings operate only after a fault condition is detected.	Fast-curve settings react to a fault faster to reduce fire risk.	Fast-curve settings are reactive and do not replace PSPS.
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Activation Criteria	Red Flag Warning, Fire Weather Threat, Fire Climate Zone Threat (typically peak wildfire season in certain zones), Thunderstorm Threat (dry lightning)
Unplanned Outage Duration	Dependent on patrols and required repairs
Customer Notifications	Standard unplanned outage notifications; updates on sce.com/outagemap
Outreach	Annual PSPS newsletter for HFRA customers, wildfire community meetings, online fact sheet and story available on energized.edison.com

TIMELINE



JULY PSPS ACTIVATIONS



PSPS 2023
7/12/2023 12:01 PM

Legend

-  De-Energized
-  HFRA Tier 3
-  HFRA Tier 2
-  SCE Territory



	July 11-12	July 18
Period of Concern	7/11 09:00 – 7/12 21:00	12:00 – 19:00
County	Los Angeles	Los Angeles
Circuits	Huckleberry (Segment 3)	Huckleberry (Segment 3,5)
# Customers in Scope	5 (all commercial)	5 (all commercial)
# Customers De-Energized	5	0
Outage Duration	37h 49 m*	n/a

*Circuit required air patrol following morning (7/13)

2023 PSPS READINESS

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

OUR COMMITMENT

**REDUCE THE
USE OF PSPS**

**EXECUTE PSPS
EFFECTIVELY**

**MITIGATE PSPS
IMPACTS**

**KEEP PARTNERS AND
CUSTOMERS INFORMED**

**ENHANCE POST-
EVENT REPORTING**



THANK YOU



San Diego Gas & Electric



2023 Public Safety Power Shutoff (PSPS) Preparedness

August 2, 2023





Introduction

Brian D'Agostino, Meteorologist
VP of Wildfire & Climate Science



Commitment to Risk Reduction

Reducing wildfire risk & PSPS impacts through:

Advanced risk modeling & situational awareness by leveraging artificial intelligence

Continued grid hardening by increasing strategic undergrounding & covered conductor to achieve further reductions on distribution fault rate

Increased customer support by expanding AFN support services & leveraging renewable resources

Ongoing preparation through EOC exercises, community outreach, public education & public safety partnerships

WMP Progress

45% Reduced fault rate on the distribution system	84% Reduced fault rate on the transmission system
100% of HFTD drone inspections completed in 2022	100% Ignition reduction when sensitive relay settings enabled
100% Ignition reduction from fuse operation in HFTD	11,000 Trees per year with enhanced vegetation clearance



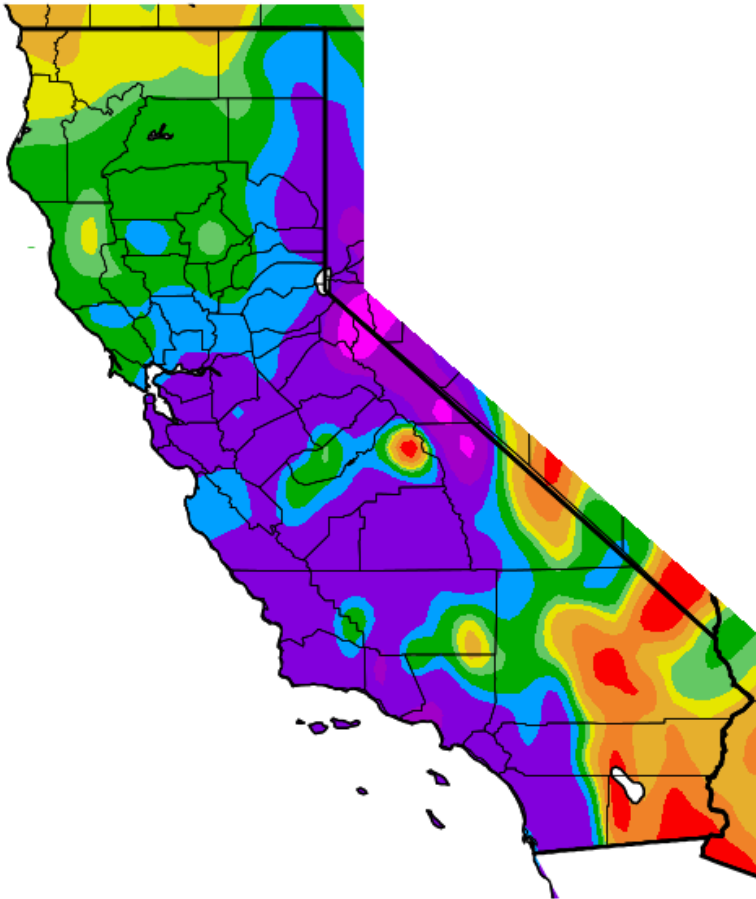
Meteorology / Weather

Chris Arends
Meteorology Program Manager

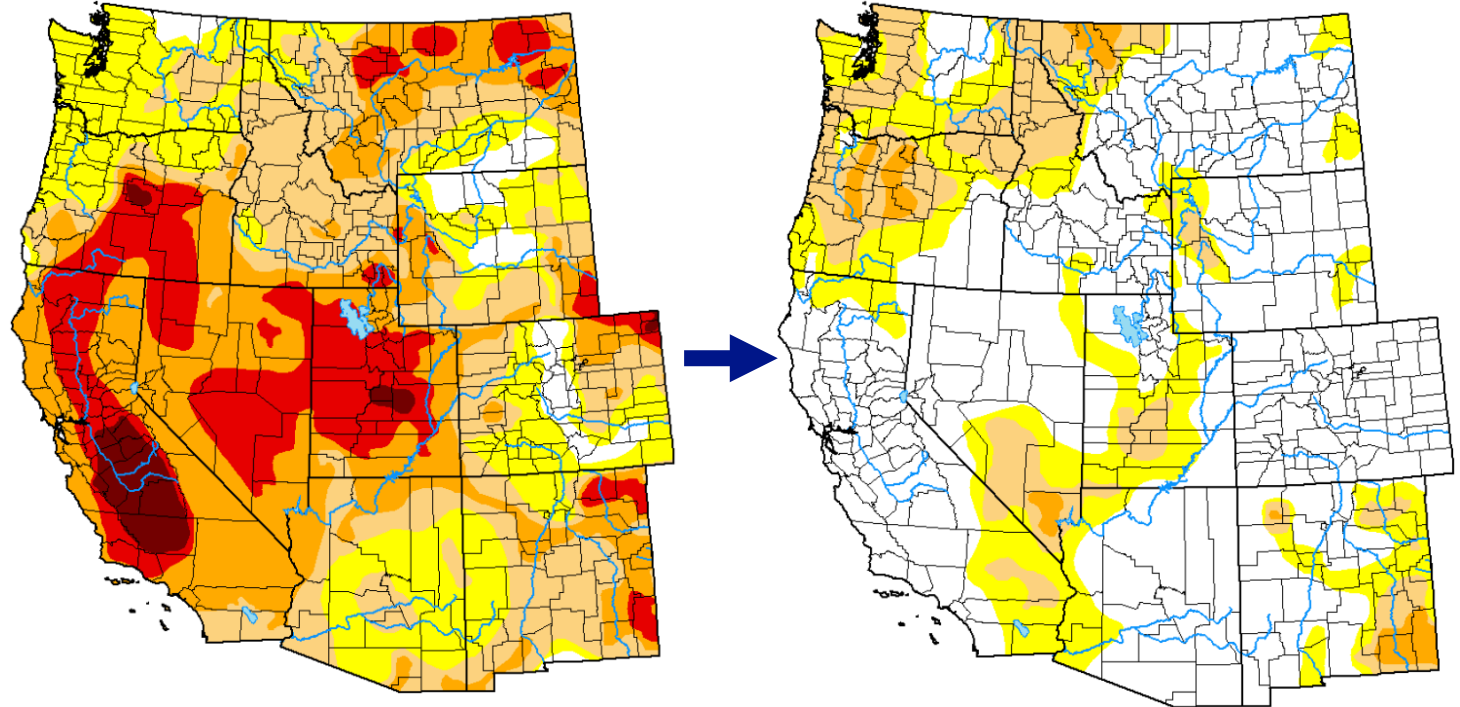


2022-2023 Winter Rains

Percent of Average Precipitation (%)
10/1/2022 – 7/9/2023



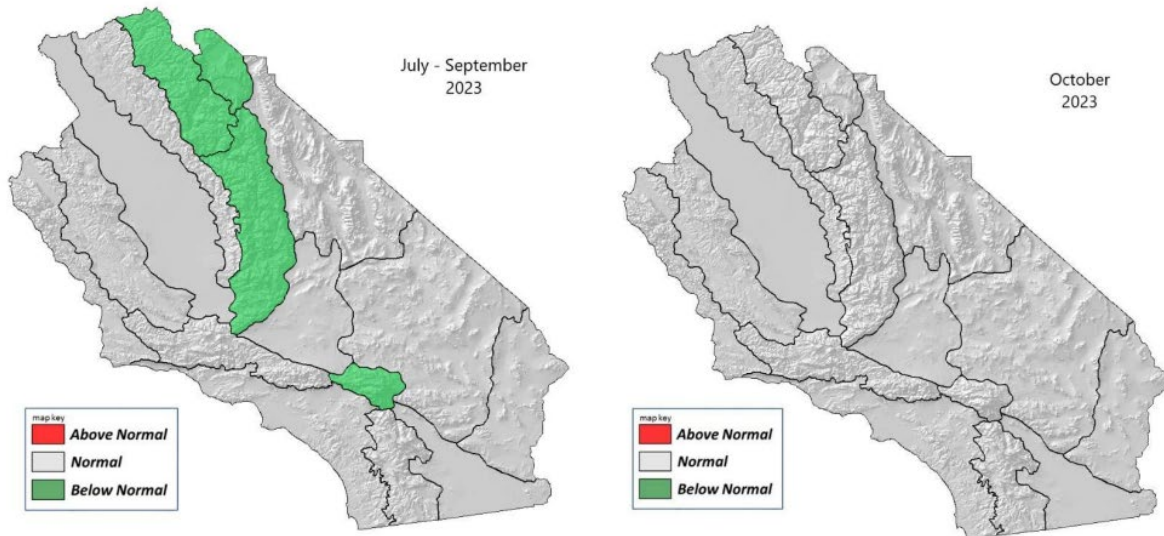
Generated 7/10/2023 at WRCC using provisional data.
NOAA Regional Climate Centers



- San Diego County is **150-300%** above normal for rainfall
- Expansive reduction and elimination of drought



US Forest Service Fire Weather Outlook



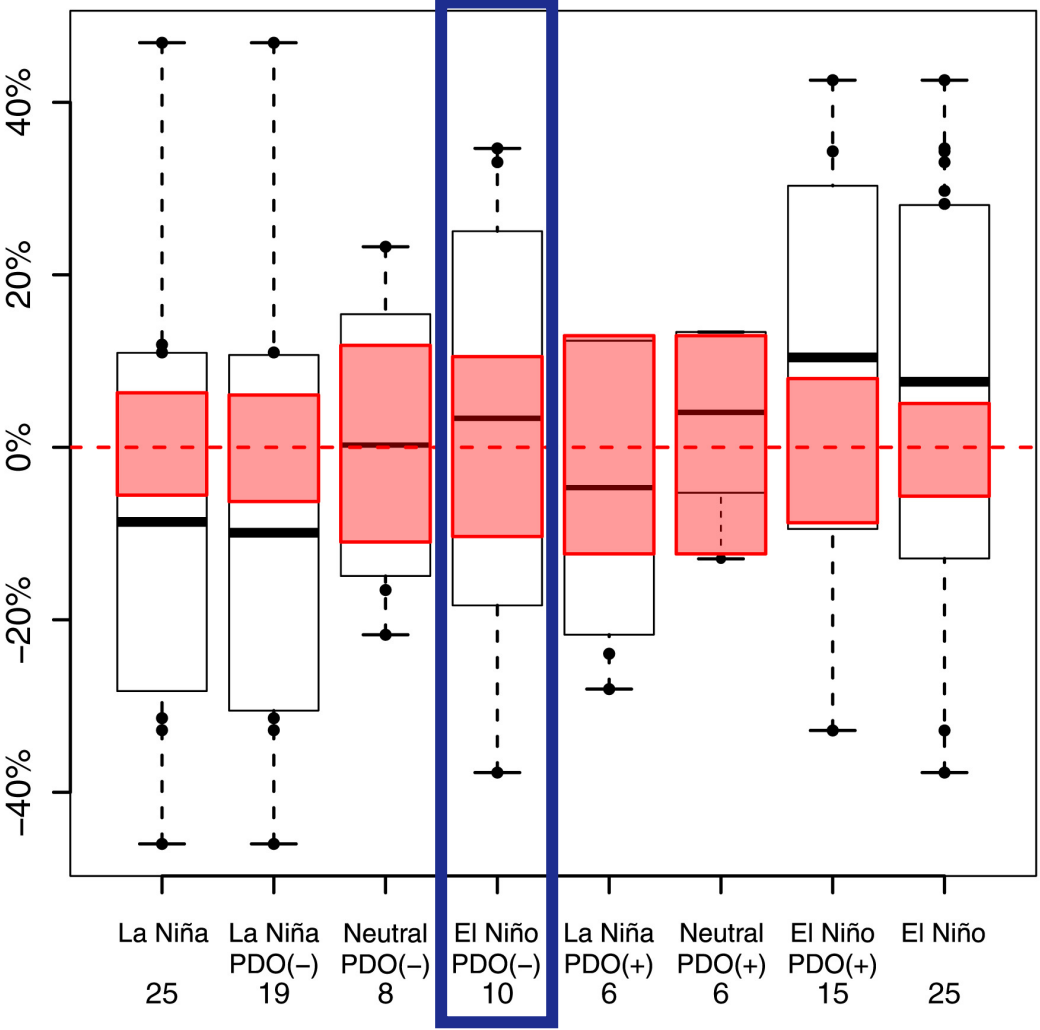
Large Fire Potential: Normal through the forecast period

Fuel Moisture: Grasses & finer fuels are near-fully cured amid declining Live Fuel Moisture values. Critical values expected next month

Red Flag Warnings (RFW): Since 2014, the San Diego region has averaged 6 RFWs per year (as many as 11 and as few as 2)

FPI Outlook: Elevated FPI conditions across inland districts likely to continue through the end of dry season. Extreme FPIs should hold off until after September 1 (0 Extreme days in 2021)

El Niño Influence on Santa Ana Winds*



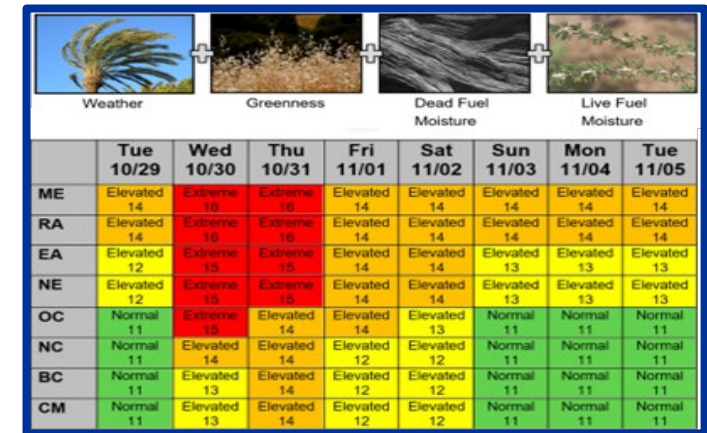
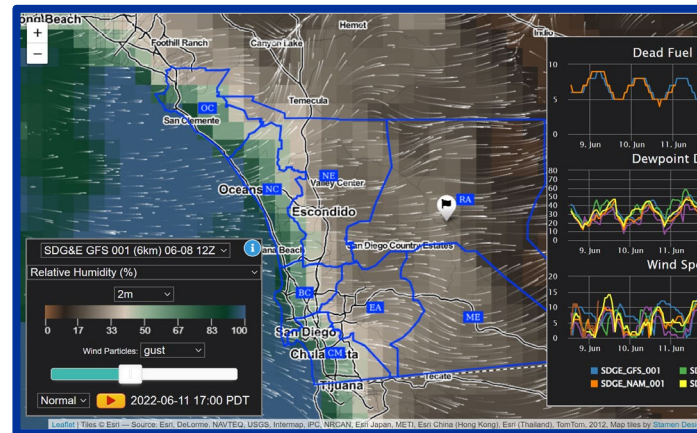
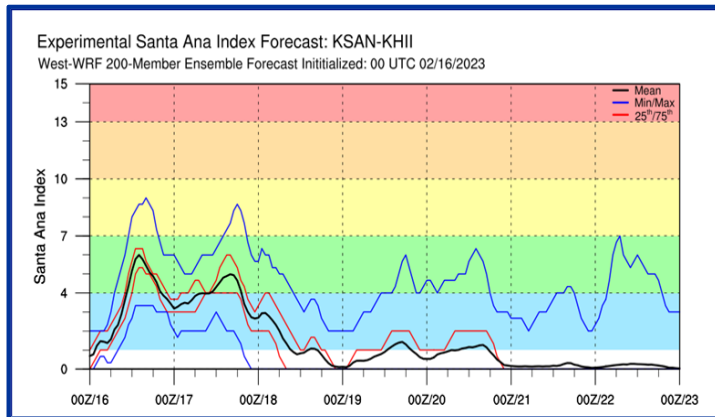
Numbers below each category are the number of Santa Ana Wind seasons that fell into the given composite

Boxes show one standard deviation from the mean, dots are outliers, and whisker marks the maximum and minimum outliers

Red boxes outline the 95% confidence region for means of random sampling distributions

Sample mean (horizontal black line) lying outside the red zone signifies a statistically significant signal revealed with 95% confidence

Innovating through Academic Partnerships



Center for Western Weather & Water Extremes, Scripps Institution of Oceanography, UC San Diego

- 200-member weather model to predict extreme events by sampling a greater distribution of possible forecast outcomes
- 7-day forecast tailored for SDG&E, predicting strength and probability of Santa Ana winds.

San Diego Supercomputer Center UC San Diego

- Enhanced SDG&E Weather and Fuel Data Intelligence Visualization Portal with defined user experience requirements
- Additional dataset visualizations added routinely to include **new 1.5km WRF output** and aircraft observations.

Wildfire Interdisciplinary Research Center, San Jose State University

- Will assess the accuracy of dead and live fuel moisture inputs into the Fire Potential Index
- **Potential error reduction** by assimilating in-situ and high-resolution satellite-based fuel moisture observations



Grid Hardening & Sensitive Relay Profiles (Fast Trip)





Shaun Gahagan
Wildfire Mitigation Program Manager



PSPS Mitigations – Projections & Results

Reduced Number of Customers Impacted

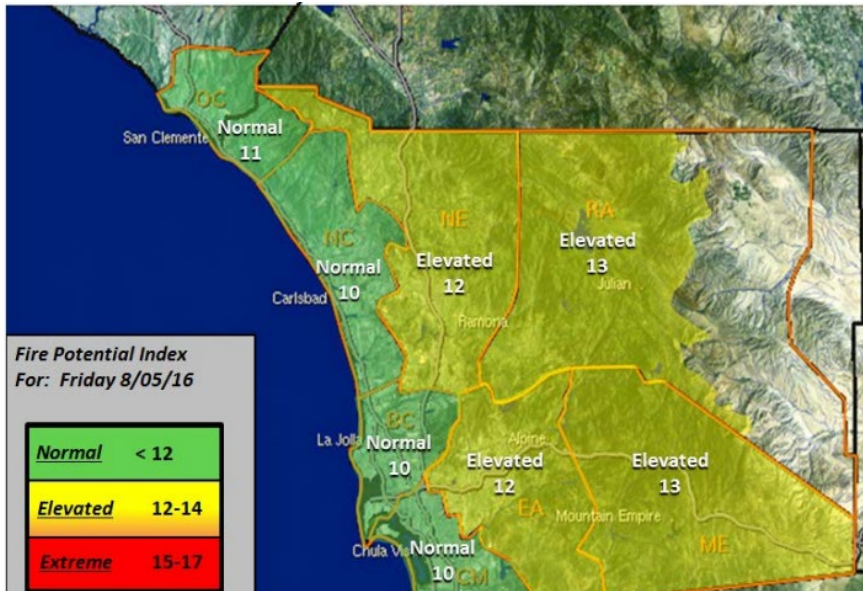
3-Year Proposed Total	2023 Projected Total	2022 Total	2021 Total
29,339	8,181	11,197	9,961

	2023 Projections	YTD* 2023 Results	Since 2020		2023 Projections	YTD* 2023 Results	Since 2020
	10 Locations 7,157 Customers	1 Locations 1,082 Customers	52 Locations 16,388 Customers		8 Camera Installations 50 Weather Station Upgrades 6 Air Quality Sensors	6 Camera Installations 24 Weather Station Upgrades 6 Air Quality Sensors	29 Camera Installations 107 Weather Station Upgrades 12 (since 2022) Air Quality Sensors
	84 Miles 1,024 Customers	5.1 Miles 303 Customers	125.9 Miles 2,169 Customers		60 Miles	17.4 Miles	101.1 Miles

Wildfire Mitigations – Projections & Results

	2023 Projections	2022 Results	Since 2020
Asset Replacement	2,163 <i>Assets</i>	4,914 <i>Assets</i>	20,600 <i>Assets</i>
Inspections	33,566	71,005	267,046
Vegetation Inspections	248,595	260,126	926,989
Enhanced Clearances	11,000 <i>Trees Removed/Trimmed</i>	10,776 <i>Trees Removed/Trimmed</i>	46,939 <i>Trees Removed/Trimmed</i>

Sensitive Relay Profile (SRP) Background



- In place at SDG&E for **more than 10 years**
- Enabled when **extreme fire weather conditions** or **PSPS risks** are present
- Implemented **during event duration only** – not applied seasonally
- Only enabled in **regions impacted by extreme weather**

Outage Response & Restoration

Dedicated Response Crews & Resources

- Dedicated crews staffed for restoration & readiness response
- Line SCADA crews are staffed 24/7 ready to collect relay event records
- SDG&E staffs 24/7 System Protection support to review all SRP outages in real time to provide situational awareness to our operations teams in support of faster restorations and determining fault location

Automatic Testing / Reclosing / Step Restoration

- Protocols for testing / reclosing / restoration are no different between SRP & non-SRP conditions when under Extreme FPI / PSPS conditions
- Automatic testing is not performed & reclosing is disabled
- Patrol is required & step restore is performed for all outages

Outage Customer Support & Communications

- Communications to customers not altered when SRP is enabled
- Outage response is no different for SRP outages versus non-SRP outages during an event
- Outages are mapped with estimated restoration time and information on outage cause

Seven Day FPI Outlook:

	Today 8/04	Fri 8/05	Sat 8/06	Sun 8/07	Mon 8/08	Tue 8/09	Wed 8/10	Thu 8/11
ME	Elevated 12	Elevated 13	Elevated 13	Elevated 13	Elevated 13	Elevated 13	Elevated 13	Elevated 13
RA	Elevated 12	Elevated 13	Elevated 13	Elevated 13	Elevated 13	Elevated 13	Elevated 13	Elevated 13
EA	Elevated 12	Elevated 12	Elevated 12	Elevated 12	Elevated 12	Elevated 13	Elevated 13	Elevated 13
NE	Elevated 12	Elevated 12	Elevated 12	Elevated 12	Elevated 12	Elevated 13	Elevated 13	Elevated 13
OC	Normal 11	Normal 11	Normal 11	Normal 11	Normal 11	Normal 11	Normal 11	Normal 11
NC	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10
BC	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10
CM	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10	Normal 10

Normal	Elevated	Extreme
< 12	12-14	15-17

SRP Impact

Year	SRP Enabled Outages	Total Unplanned Outages	SRP Enabled Outages	Unplanned Undetermined	SRP Undetermined	Unplanned Restoration Time (mins)	SRP Restoration Time (mins)
2020	34	1,982	1.7%	16.5%	11.8%	150.8	169.7
2021	13	2,038	0.6%	15.0%	38.5%	269.6	413.9
2022	13	1,799	0.7%	13.7%	15.4%	125.7	110.7
Avg.	20	1,940	1.0%	15.1%	21.9%	182	231



Zero ignitions downstream of SRP-enabled devices



SRP enabled <2% of days



SRP is 1% of unplanned outages



SRP outages have similar undetermined rate



SRP does not affect restoration time

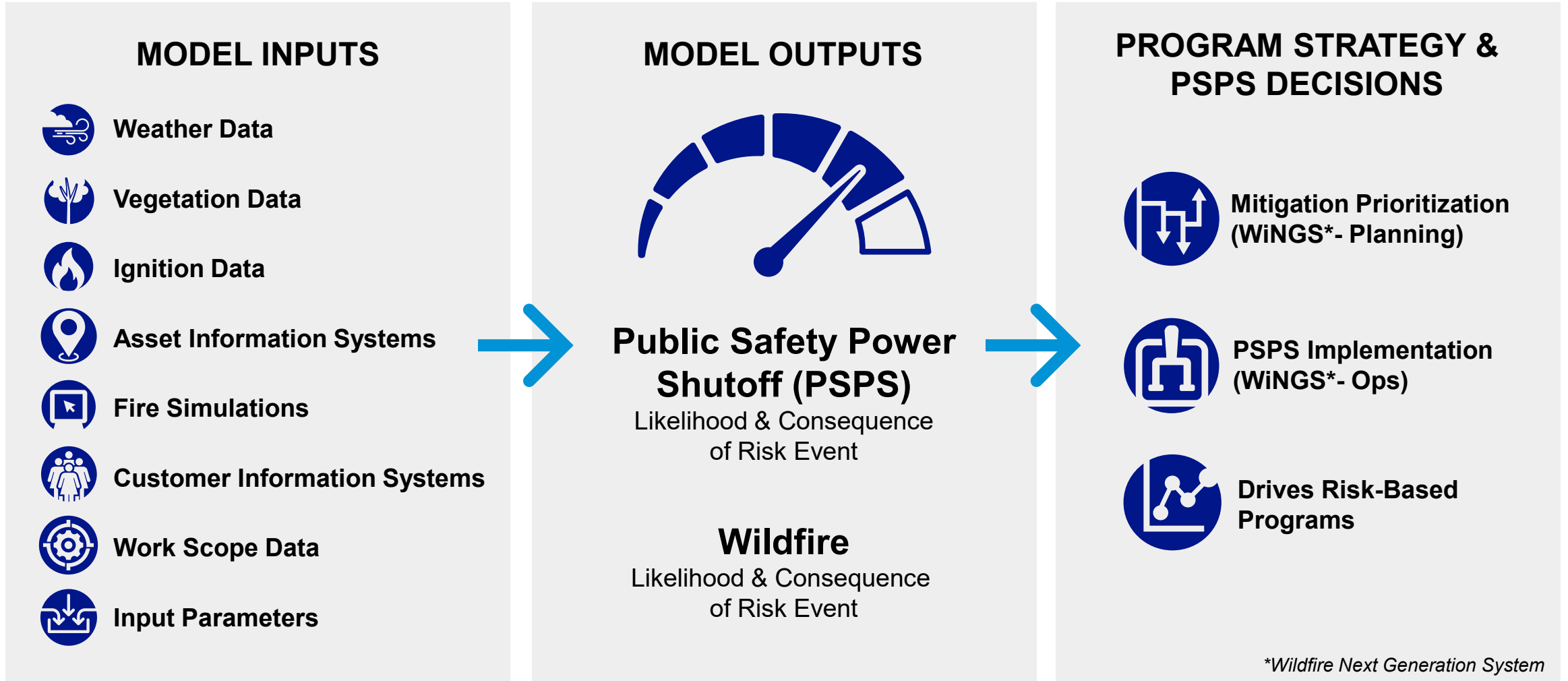


Risk Assessment & PSPS Decision-Making

Nisha Menon
Wildfire Mitigation Program Strategy Manager



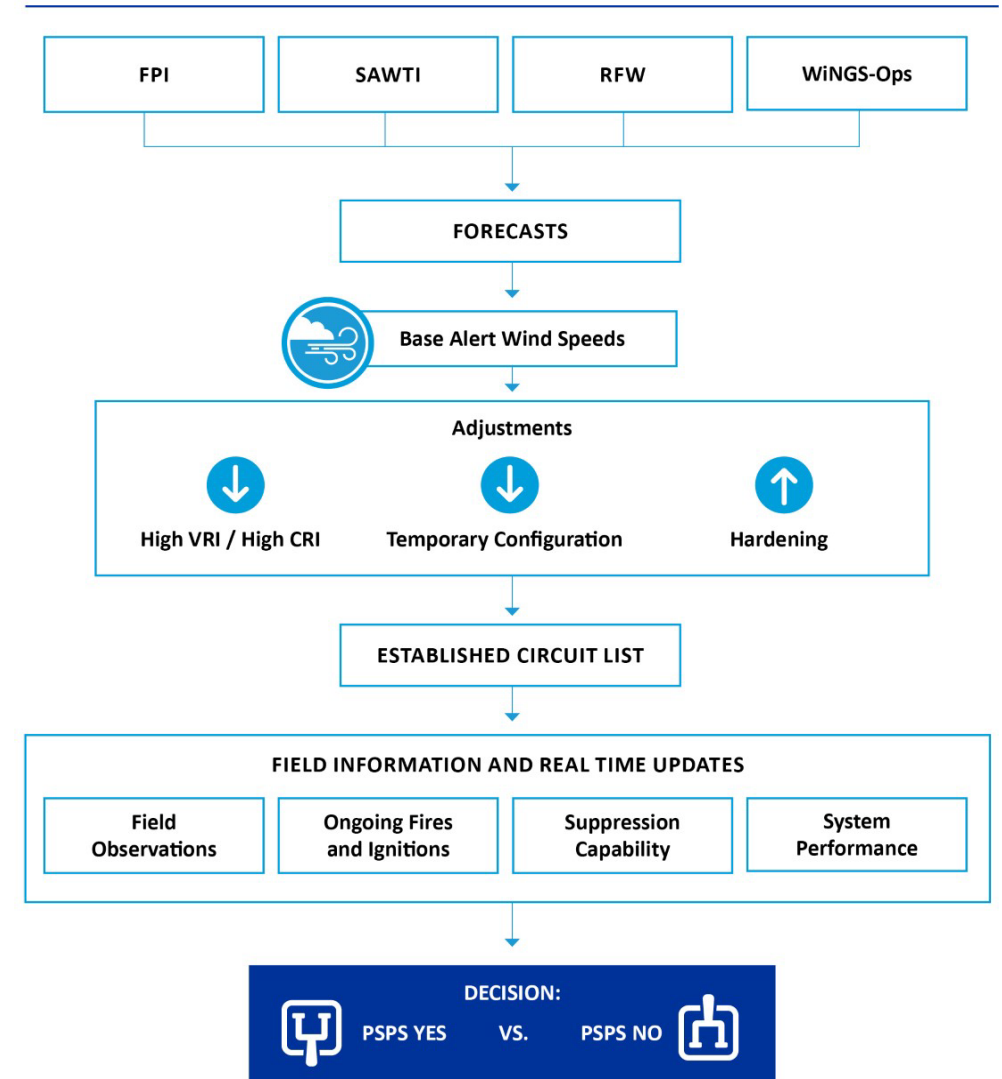
Risk Based, Data Driven



PSPS Decision-Making Framework

Improvements:

- **FPI and SAWTI updates.** New operational WRF model with 1.5 km resolution
 - Improve weather and dead fuels moisture components for FPI
 - Refine the SAWTI index based on new inputs
- **Improve existing FPI and SAWTI models** noting and evaluating discrepancies between predictions and observed reality
- Supplant VRI with a predictive component of the WiNGS-Ops model to **assess the likelihood of vegetation-related failures**
- **Continuous evaluation and improvement** of WiNGS-Ops



- 1) If fire potential is not extreme, it can also inform adjustments to alert wind speeds
- 2) Field observations do not change alert speeds
- 3) Ongoing fires do not adjust alert speeds, but rather adjusts our PSPS decision making when reaching alert speed



Notification Plan & PSPS Exercise Reports

— — —
Mona Freels
Emergency Operations Services Manager



Objectives

- Develop strategies to ensure timely notifications are made as prescribed
- Promptly acknowledge the incident with a commitment to provide stakeholders more information
- Speak with “OneVoice” to provide a consistent message to all stakeholders
- Be transparent by proactively offering a continuous stream of updated & relevant information
- Reach all stakeholders by communicating across every possible channel
- Tell our story leveraging visual communications & third-party support to help tell that story

Notification Plan



In-language translations

- PSPS notifications translated into 22 prevalent languages and interpreted into American Sign Language (ASL) with video



Consistency across platforms

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



Coordination with stakeholders

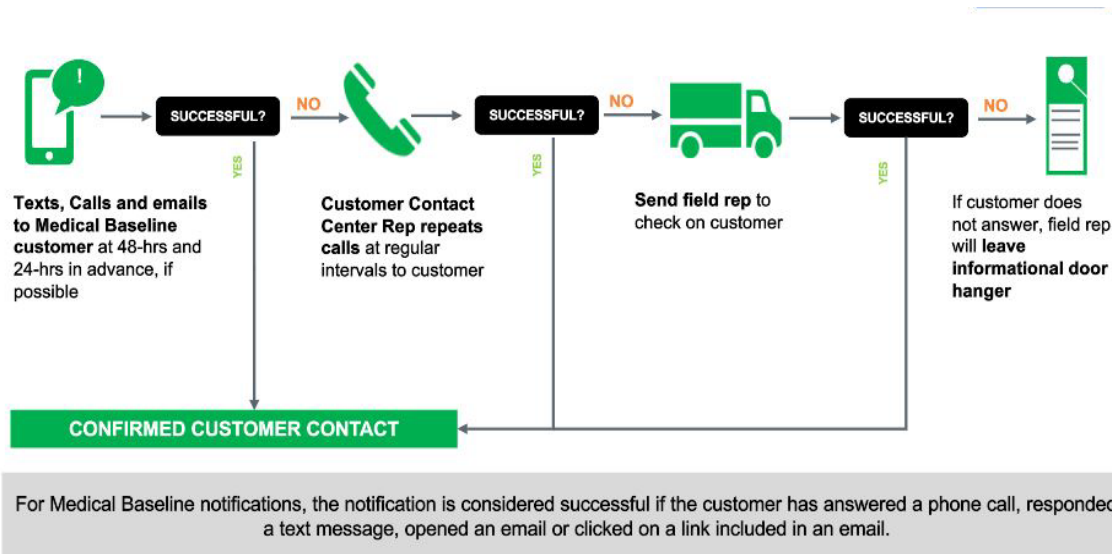
- Coordination with public safety partners key to operational coordination and synchronized and magnified messaging



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

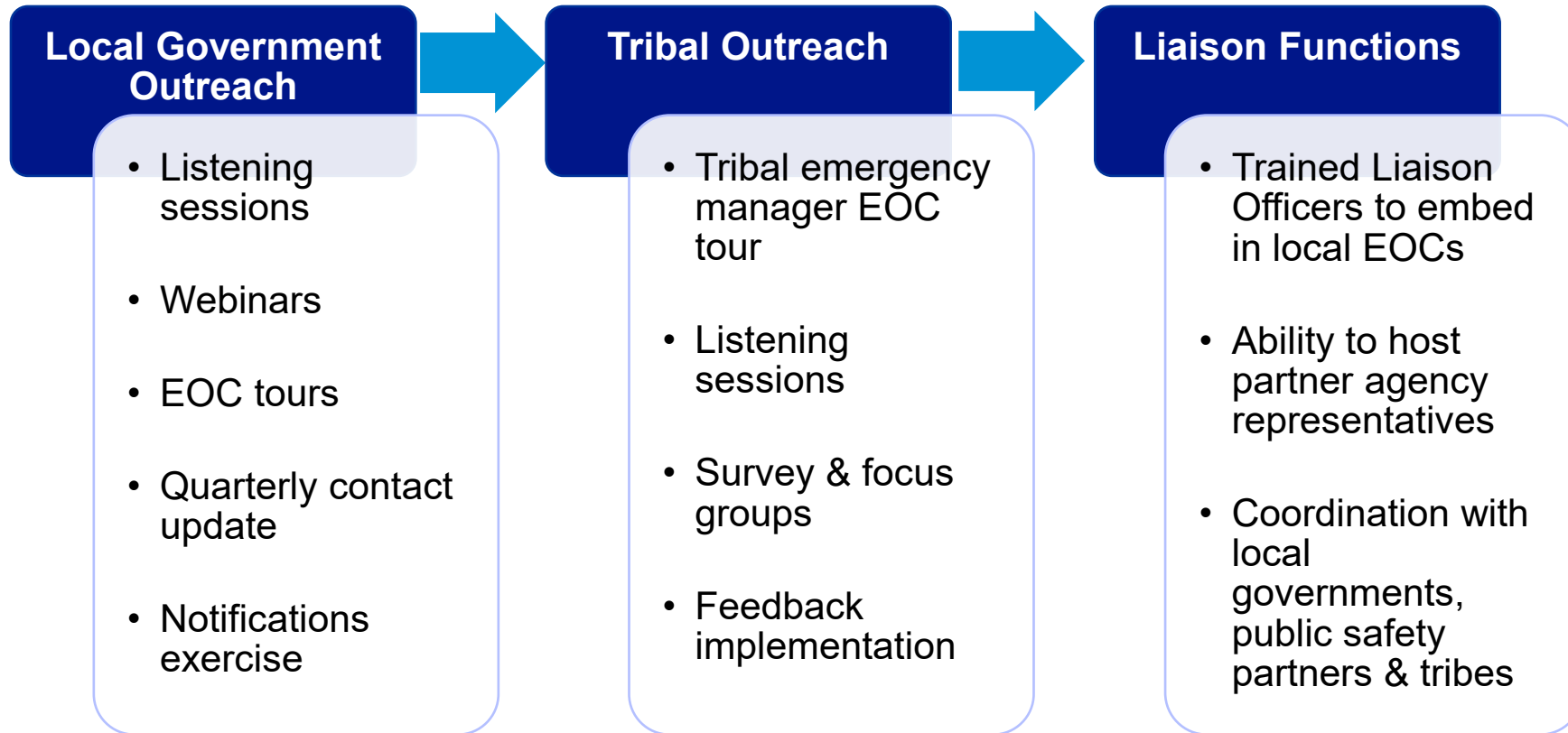
Enterprise Notification System (ENS) Improvements



Field reps will notify customer of Public Safety Power Shutoff and encourage them to spend time with a friend or family member, if needed. If customer is experiencing a medical emergency, rep will offer to dial 911 and wait with the customer until emergency services arrive.

- As of 2023, now able to notify Medical Baseline customers at the unit level
- **2021 notice of violation:**
 - Improvements to reach customers who we did not have contact information for
 - “System error” where notifications were blocked at the carrier level resolved and audited to confirm the bandwidth issue was still active
- **Notification System Test (NST)** – Conducted a production test of public and partner notification systems and communications on June 1, 2023

Partner Outreach & Engagement



Exercises



Tabletop: April 11, 2023

Discussion-based exercise with Public Safety Partners to review EOC PSPS process and wildfire response



Full Scale: May 1-2, 2023

First in person full EOC activation since 2019
Test EOC processes, notifications, aviation patrols, on-scene Fire coordination, and PSPP

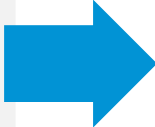
Training & Exercise Enhancement → Training mode for PSPS Dashboard to allow for more realistic exercise simulation



PSPS Opportunities

Improvement Opportunity

- Participants experienced significant challenges with the completion of the State Executive PowerPoint presentation (Manual process)
- County OES representatives requested clarification of terms like Medical Baseline and Critical Facilities
- Increased number of new Emergency Operations Center (EOC) responders



2023 Programmatic Responses

- Section leads are developing a quick guide with detailed instructions on where information is located and how to access it
- CPUC definitions were provided to County OES
- Definitions were added to the All-hazards partner portal
- Incorporated basic EOC procedures into Summer Readiness Training
- Developed targeted training for new responders

Public Safety Partner Portal (PSPP) & Mobile App - Notification



Always Available Resources

- Portal status headline
- Weather widgets
- All-hazards resources
- Backlog of documented incidents
- Parity with PSPP native mobile app
- Advanced map filters and layers

SDGE PARTNER PORTAL

Page updated: 1:00 PM, Fri 10/26/23

No Activation - Level 5 10/27/2023 at 4:00pm

There are no current incidents. Once an incident arises, you will be notified via Lorem ipsum dolor sit amet, consectetur adipiscing elit.

No EOC Activation

Today's Forecast

58°F Precipitation: 70% Humidity: 30% Wind: 10 mph

Variable clouds with light showers. High 50F. Winds E at 10 to 20 mph. Chance of rain 50%. Rain accumulations less than one foot.

Friday 1:00 PM PST Cloudy

All Hazards Predictive Index (AHPI)

Location	AHPI	Increase in last 7 days	
Chula Vista	Elevated	Yes	View >
Oceanside	Elevated	Yes	View >

All other neighborhoods currently reading Normal with no predicted change in the next 7 days.

Be Prepared

- Storm Tools and Tips
- Earthquake Tools and Tips
- Flood Tools and Tips
- Fire Tools and Tips

Previous Incidents

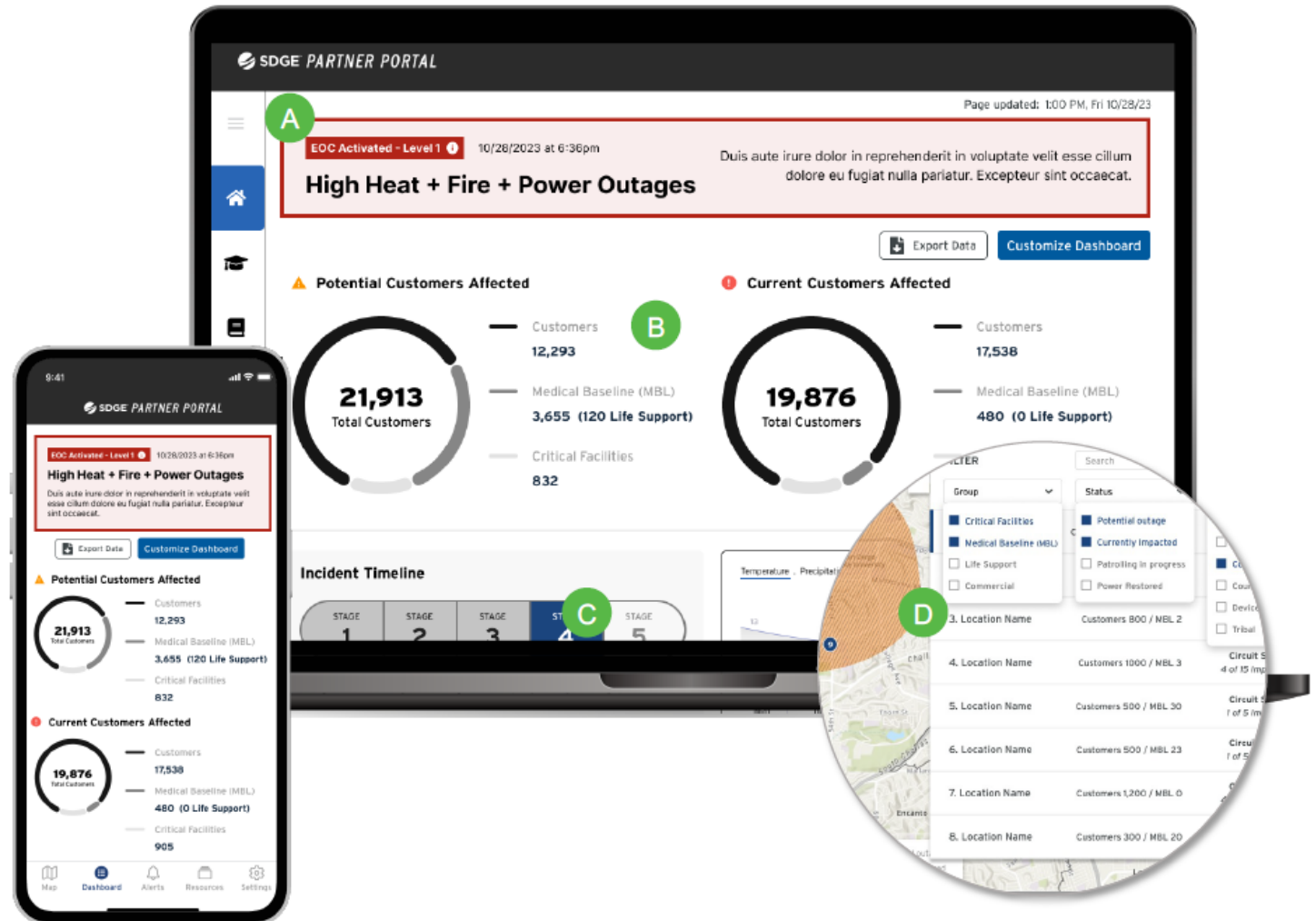
Event	Community
Coastal Storm	Imperial Beach
	Escondido

Public Safety Partner Portal (PSPP) & Mobile App



Event Specific Resources

- Portal status headline
- Visual data points
- Incident timeline widget
- Advanced map filters and layers
- X feed and Teams channel





PSPS Education & Outreach

— — —
Allison Torres, Operations & Wildfire Mitigation
Senior Communications Manager



Public Awareness Outreach & Communications

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



Serving all of our customers & increasing awareness

- Refreshed AFN campaign based on research to reiterate PSPS preparedness and available resources
- AFN Self-Identification campaign for more personalized service

Detailed feedback

- Planned customer surveys (beyond PSPS surveys) to solicit customer feedback
- Increasing the use and distribution of our bilingual social media toolkits with trusted partners to amplify tips and various tailored resources

Amplifying trusted media partnerships

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

Tactics for improved report metrics

- Continued financial incentives to encourage HFTD customer participation (180,000 accounts)
- Implementing another layer of surveying for improved engagement

Public Safety Power Shutoff
 Forecasted weather conditions could affect the power lines that serve local communities. We are actively monitoring the potential for adverse weather conditions. These conditions may require us to turn off the power for public safety. If we do turn off power, it will stay off until we can safely restore it. Find more information at the [Public Safety Power Shutoff page](#).

SDGE Residential Businesses More Info Languages Outages NewsCenter Wildfire Safety Contact Us

My Account Customer Service Pricing Plans Electric Vehicles Pay Bill Savings Center Solar

For real-time outage information, check out our [Outage Map](#).

Public Safety Power Shutoffs
 We are actively monitoring the potential for adverse weather conditions. These conditions may require us to turn off the power for public safety.

Are you impacted? Enter your address to find out:

● At risk ● De-energized

Current Customers Affected		Potential Customers Affected	
Communities Shut Off	Number of Customers Shut Off	Potential Communities	Potential Number of Customers
<ul style="list-style-type: none"> Descanso Dulzura Jamul (portions of) Potrero Valley Center 	2,726	<ul style="list-style-type: none"> Boulder Crestwood Jacumba Pine Valley San Marcos (portions of) 	5,293

Community	Facility	Address
Descanso	Descanso Branch Library	9545 River Dr, Descanso, CA 91916
Potrero	Potrero Community Center	24550 Highway 94, Potrero, CA 91963
Jacumba	Jacumba Highland Community Center	44645 Old Highway 80, Jacumba, CA 91934

Resources for Individuals with Access and Functional Needs
 We have partnered with 2-1-1 San Diego and 2-1-1 Orange County to assist individuals with access and functional needs (AFN), for more information dial 2-1-1 or visit their website: 211sandiego.org or 211oc.org.

Sign up for Alerts
 Stay informed by signing up for outage notifications.

Rates & Regulations FERC Standards of Conduct - Order 717 CPUC Postings Total Electric Rates
 Energy Data Request Energy Innovation Center Major Projects Careers

PSPS Website

Key Features & Content

- **Address lookup tool** - Customers can input their address and see if they are at risk, de-energized, in the patrolling process or re-energized
- **Map** with affected areas (e.g., heat map technology; AFN)
- **Updated in real-time** to show which customers & communities are affected and at risk (updated as customers are de- & re-energized)
- **Community Resource Centers (CRCs)** - Customers can input their address to find closest CRC locations, available amenities, operating hours & more
- **AFN** resources, landing page and personalized experience

2023 Enhancements & Outlook

- Partnered again with Center for Accessible Technology (C4AT) to build and improve best-in-class **accessible website & mobile app**
- Re-built page to upgrade legacy coding for better mobile user experience
- Website is built on Amazon Web Service's (AWS) cloud infrastructure. Web servers auto-scale based on traffic and bandwidth needs increase.
- Utilizes a Content Delivery Network and Web Application Firewall to ensure stability & performance ("Black Friday" performance)
- Coded "lite" to help low-bandwidth customers



Resources & Support for Individuals with Access & Functional Needs

————— ————— —————
Danielle De Clercq
AFN Customer Strategy Manager





2023 AFN Enhancements

New and continued enhancements to support individuals with Access & Functional Needs



Data + Automation

- Implemented AFN Self-ID Webform with dedicated banner on SDG&E homepage
- 2 new identifiers to expand awareness of AFN population
- 34% total AFN with ~8,000 through self-ID



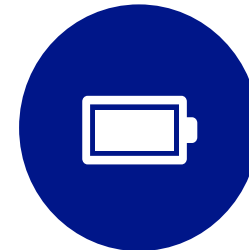
Accessibility

- Video Remote Interpreting (VRI) available for Branch Offices, CRCs and Customer Service Field Staff
- Accessible Hazard Alert System
- Dedicated accessibility web page on sdge.com & email ADAsupport@sdge.com



Medical Baseline

- Grossmont Hospital partnership
- SDG&E Alerts App and contact info. updates
- Targeting Veterans who use qualifying medical devices



Generators

- No cost Portable Power Station for qualifying individuals of MBL & select AFN
- Rebates from \$150 - \$450 available

PSPS Support Services

Support for individuals with access and functional needs or households dependent on uninterrupted power during a PSPS

- 11 facilities in the HFTD
- Provide a local center for impacted customers to receive support & resiliency items. Video Remote Interpreting in-language & ASL

Community Resource Centers



- Partnering with Southern Indian Health Council (SIHC) & Indian Health Council (IHC)
- Provide resiliency items, & other needs to tribal communities

Tribal Communities



- Partnerships with 211 San Diego & 211 Orange County
- Connect customers to resources & direct support from 1,000+ orgs, 24/7/365, in 200+ languages

Centralized Resource Hub



- Partner with SD Food Bank & Feeding SD to provide mobile food pantries at rural, tribal & PSPS sites
- Adding Terra Bistro for warm food support at CRCs as needed

Pantry & Warm Food



- Partnership with FACT paratransit
- Provides accessible transportation to customers' location of choice including CRCs

Transportation



- Partnership with Salvation Army
- Provides no-cost hotel stays if staying in place is not an option. (SDG&E may provide an emergency battery)

Hotel Stays



- Partnerships with local CERTS & YANA
- Provide wellness checks to individuals with AFN who may need additional support

Wellness Checks



- ~50 CBOs within SDG&E's Energy Solutions Partner Network
- Amplified PSPS notifications (including ASL) to reach AFN customers in HFTD

CBO Engagement



CBO Coordination & Engagement



Wildfire Safety Fairs

- Five fairs in the HFTD during the summer (e.g., Mountain Empire, Ramona, Alpine, Julian, Valley Center)
- “Go bag” demos for children to ensure all ages are prepared



Mini-Wildfire Safety Fairs

- 2nd year with goal of 55 total events
- Focus on expanding reach to rural customers in partnership with CERT, Fire Safe Councils, Tribes, local Fire Departments and key CBOs



Expanded CBO Partnerships

- Increased focus on engaging CBOs who support tribal, veteran and disabled communities
- Goal of adding 10 new AFN CBOs in 2023 (currently at 8)






Backup Generation Programs

Jon Kochik
Customer Integrated Solutions Manager



Backup Generator & Battery Programs

Program	Generator Grant Program	Generator Assistance Program	Standby Power Programs
<p>Overview</p>	<p>Portable backup battery provided to qualifying MBL & AFN customers in the HFTD at no charge (active Aug-Dec)</p> 	<p>Portable fuel generator & backup battery (portable power station) rebates for qualifying HFTD customers, additional rebate for CARE customers (active Aug-Dec)</p> 	<p>Provides a permanent generator to customers that have a high risk of experiencing a PSPS</p> 
<p>2023</p>	<ul style="list-style-type: none"> • Target: 1,000 batteries • Including AFN with disabilities, temp-sensitive & self-identified • Emergency, on-demand deliveries available 	<ul style="list-style-type: none"> • Target: 700 rebates • Streamline rebate process to provide choice of instant rebate or any retailer • Including more models with safety features to qualified product list 	<ul style="list-style-type: none"> • Target: 300 projects (169 completed) • Integrate & test non-fossil fuel solutions • Continue to expand mobile home parks, schools, critical facilities & Community Resource Centers candidates
<p>Program Results to Date</p>	<ul style="list-style-type: none"> • 4,700 delivered since 2019 • Implemented online request form • 94% respondents who experienced PSPS used the unit during the outage 	<ul style="list-style-type: none"> • 2,200 rebates provided since 2020 • Co-marketing across various PSPS support efforts 	<ul style="list-style-type: none"> • 987 residential generators installed, with 239 currently in process • 10 commercial installed, 12 in process • 2 mobile home park installed, 2 in process



Community Resource Center (CRC) Plan

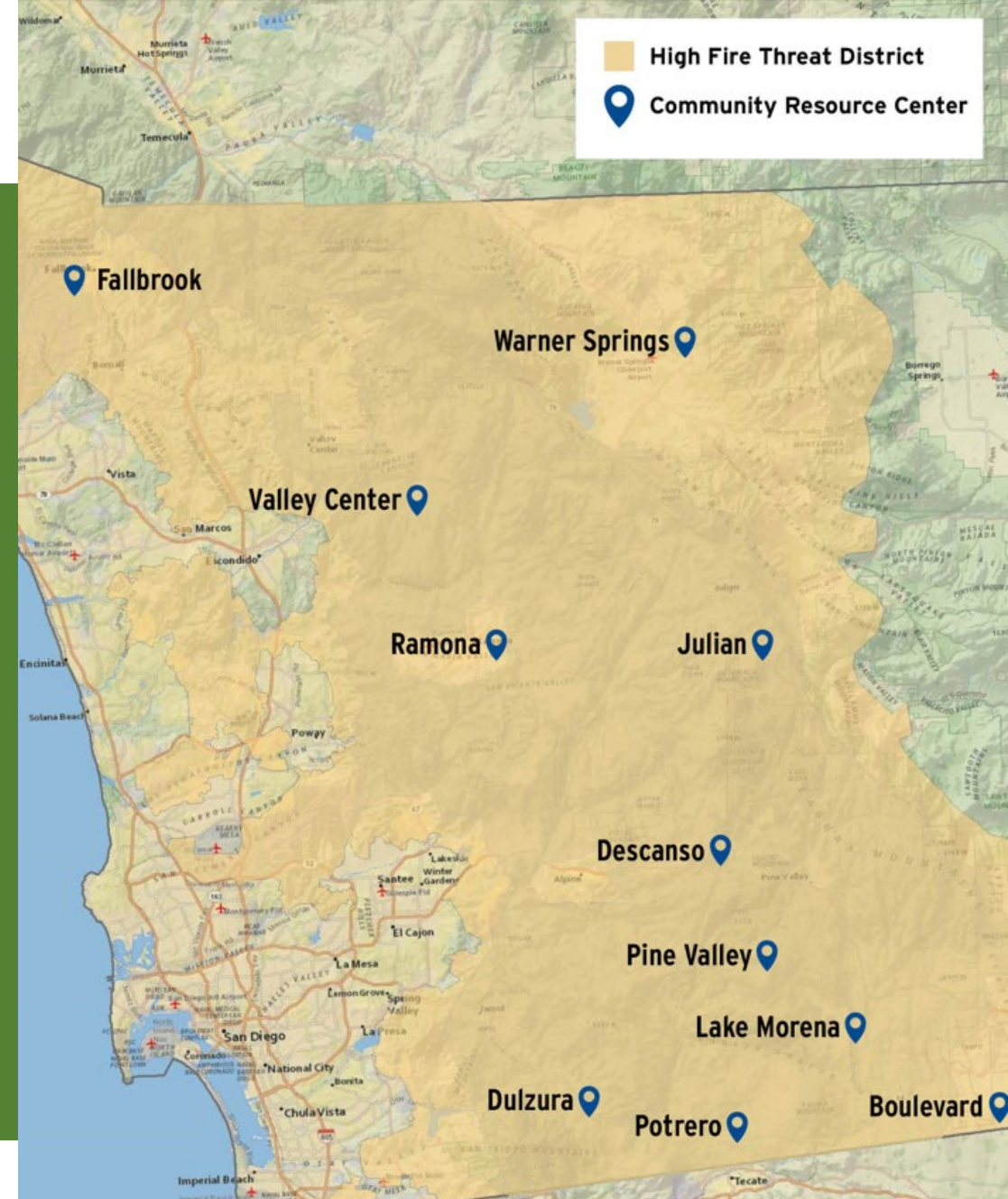
Mark Mezta
Fire Science & Climate Adaptation Manager



CRC Operational Strategy

Locations & Support Offerings:

- 11 indoor CRCs are available*
- 3 mobile CRCs available for deployment
- **Standard Services** are provided at each location
- **Dedicated Staffing** ensure 24/7 support within 24-hour notice through third party agency. Finetuned operational protocols with third party in 2023 to optimize effectiveness of program.
- **Enhanced Offerings** are available, if needed
 - Warm meals
 - Cell phone charging
 - Power inverters
 - Blankets





Critical Facilities & Infrastructure Plan

Bryce Tiernan
Business Services Manager



Critical Facilities & Infrastructure (CFI)



Outreach

- Annual assessment of **1,500** unique CFI customers' emergency preparedness
 - Revised PSPS preparedness survey
 - Updates to **25k+** CFI accounts (contacts, BUG capabilities, emergency preparedness)
 - Inform customers of resiliency & emergency preparedness



Webinars

Two webinars planned with Critical Facilities & Infrastructure in late July and mid-Aug



Dedicated CFI websites

- [sdge.com/*psps-critical-facilities*](https://sdge.com/psps-critical-facilities)
- [sdge.com/*cfi-survey*](https://sdge.com/cfi-survey)



Backup Power

- SDG&E does not provide backup power before or during a de-energization
- Emergency backup generation is considered during incidents where health, life, or safety of the community is at risk



Doubling Down – Input Sessions

Jonathan Woldemariam
Director of Wildfire Mitigation





Wildfire Mitigation Feedback Sessions



- Culture*
- Community*
- Partnerships*
- Operations*
- Strategy*
- Technology*
- Training*



Thank you

Break

Bear Valley Electric Service



Bear Valley
Electric Service, Inc.
A Subsidiary of American States Water Company

Bear Valley Electric Service, Inc. 2023 PSPS Pre-Season Workshop

Paul Marconi, President & Safety Committee Chairman, BVES, Inc.

Outline

- Service Area Overview
- 2023 Goals/Lessons Learned
- Pre-Season Report (PRESR)
- PSPS Decision-making
- Improvements to data accuracy in post event reporting
- EPSS/Fast Trip/Fast Curve settings
- Grid hardening
- Medical Baseline / Access and Functional Needs
- Customer Resources
- Meteorology/Weather



Be
Vigilant about
Emphasizing
Safety in all that we do!



As of July 28, 2023, BVES's safety record:

- **Accident/injury free for 318 days.**
- **No employee fatalities in over 20 years.**
- **No employee contact with High Voltage in over 10 years.**
- **No ignitions in over 20 years.**

Service Area Overview

Location: 32 square miles of rural and mountainous terrain at approximately 7,000 ft. in San Bernardino Mountains (80 miles East of Los Angeles).

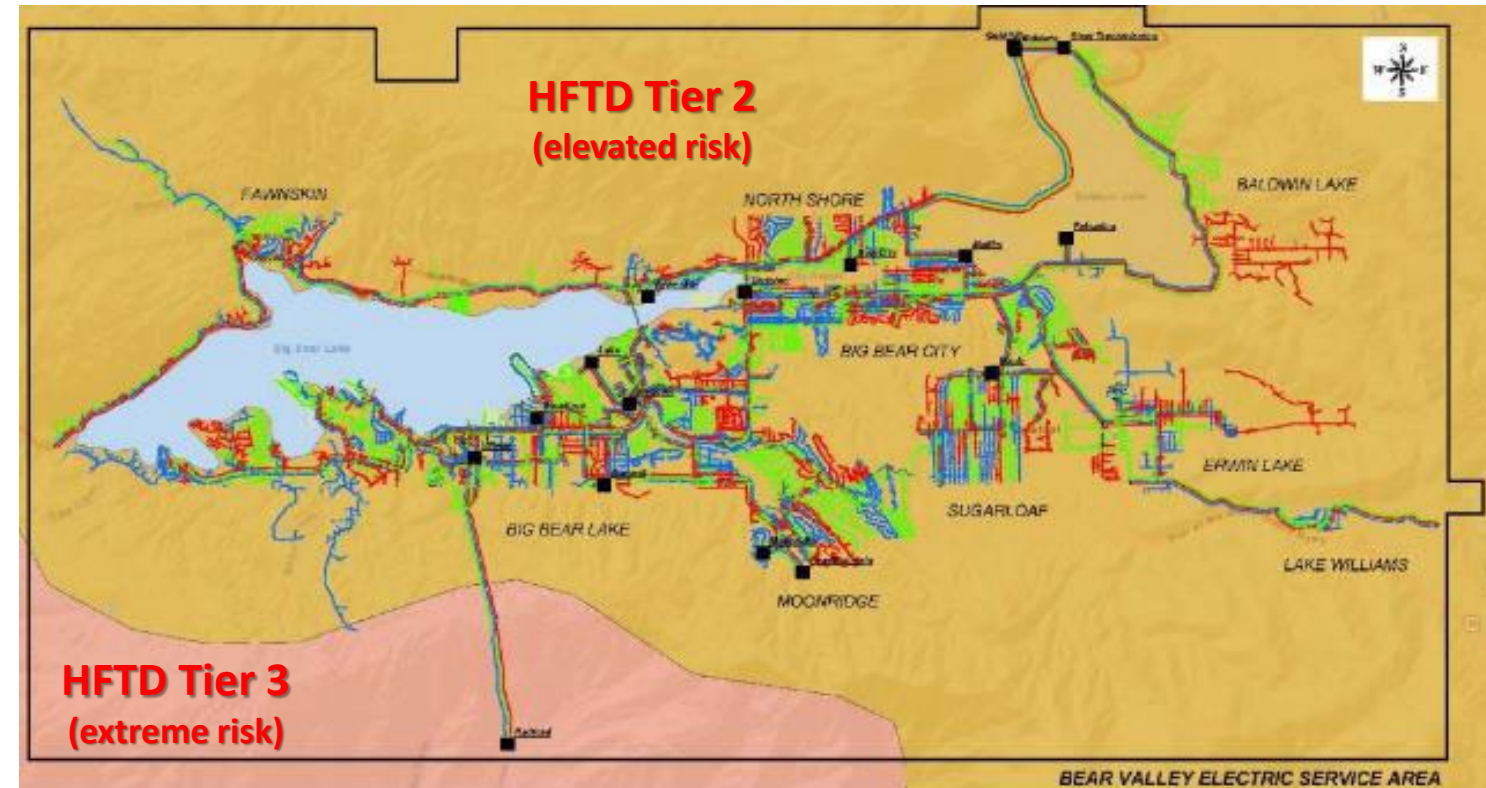
- Entire Service Area is > 3,000 ft. elevation requiring more resilient construction standards.

Key jurisdictions: County of San Bernardino, City of Big Bear Lake, U.S. Forest Service, CALTRANS

Customers: 24,739 total [23,238 residential and 1,501 commercial].

Electrical System:

- Transmission – BVES does not own or operate any transmission systems (66 kV or greater).
- Sub-transmission (34.5 kV)
 - 14.1 circuit miles bare overhead conductor
 - 14.8 circuit miles covered overhead conductor
 - 0.9 circuit miles underground
- Distribution (4 kV)
 - 154.5 circuit miles bare overhead conductor
 - 27.5 circuit miles covered overhead conductor
 - 53.2 circuit miles underground
- Substations: 13
- Supply Lines: 39 MW total
- Bear Valley Power Plant: 8.4 MW
- 551 NEM + DGS customers
- Load is winter & evening peaking
 - Historical peak: 46 MW (2021)
 - Load delivered: 142,421 MWh (2022)
 - 39% qualified to Renewable Portfolio Standards



2023 Goals

BVES has never invoked a PSPS event. Goals are centered on reducing the risk of PSPS by focusing on keeping the likelihood of PSPS as low as possible and being ready to execute a PSPS in manner that the consequences of the PSPS event are mitigated as much as feasible.

- Push forward with wildfire mitigation initiatives to continue to reduce the likelihood of PSPS.
- Improve the way BVES promotes awareness of wildfire safety and PSPS. (survey recommendation)
- Improve messaging on BVES's efforts to reduce the risk of wildfire. (survey recommendation)
- Increase messaging around personal emergency preparations, such as awareness of preparing an emergency kit and readiness plan lags well behind property preparations such as vegetation management and defensible space. (survey recommendation)
- Continue to increase channels of messaging (e.g., direct mail, email, BVES website, social media, bill inserts, etc.). (survey recommendation)
- Partner with other agencies to speak at events or hand out materials related to fire safety and PSPS. (survey recommendation)
- Continue to evaluate strategy used to reach those with medical conditions requiring electricity. (survey recommendation)
- Conduct PSPS tabletop training drill and PSPS functional exercise.

Pre-Season Report (PRESR)

- Included more detail on Community Resource Center.
- Included more detail on Critical Facilities and Infrastructure Plan.
- Increased PSPS training with Full Scale Exercise and Table Top Exercises.
- Most recent survey (June 22, 2023) shows improvement in communications awareness – key results:
 - **65% are aware of wildfire safety communications**, significantly higher than December 2022 results
 - **BVES** remains the primary source for wildfire preparedness information, and **vegetation management, BVES Wildfire Mitigation Plan, and Public Safety Power Shutoff** are the most common messages recalled.
 - **Email** is the most cited channel for wildfire preparedness communication, followed closely by direct mail, bill inserts, and the BVES Website.
 - **53%** recall seeing, hearing or reading the phrase **“Public Safety Power Shutoff or PSPS,”** significantly higher than December 2022.
 - **48%** say they would first turn to the **BVES website** for information about a PSPS event; **71%** understand the following statement about PSPS: **“for areas at a higher risk of fast-spreading catastrophic wildfires, the utility will proactively shut off power during extreme and dangerous weather.”**
 - **86%** have taken action to prevent wildfires or to prepare their home or business for the event of a wildfire, significantly higher than in December 2022. **Trimming vegetation around properties** remains the most common action taken.
 - **51%** are aware of **BVES's efforts to prune vegetation** around power lines in higher-risk areas. **Non-Recallers** are significantly more likely than Recallers to indicate that they are not aware of any efforts (48% vs 14%).
 - **46%** are aware they can **update their contact information with BVES**, and 57% of those have done so, in line with December 2022 findings.
 - In a significant increase since December 2022, 24% say they know **whether their address is in a PSPS area**, and **15% are aware of a PSPS map on BVES's website.**

PSPS Decision-making

- BVES has replaced using the National Fire Danger Rating System (NFDRS) with the Technosylva WFA-E in its decision making for PSPS.
- BVES specifically looks at the risk associated with the following consequences in the WFA-E forecast:
 - Fire Behavior Index
 - Fire Size Potential
 - Buildings Impacted
 - Population Impacted
- High risk combined with high winds and gusts will trigger a PSPS.
- Wildfire Response Teams (WRTs) deployed during high risk periods and wind gusts. If WRTs report hazard conditions (such as blow-ins) exist, PSPS may be invoked at less than BVES's PSPS wind and gust threshold.

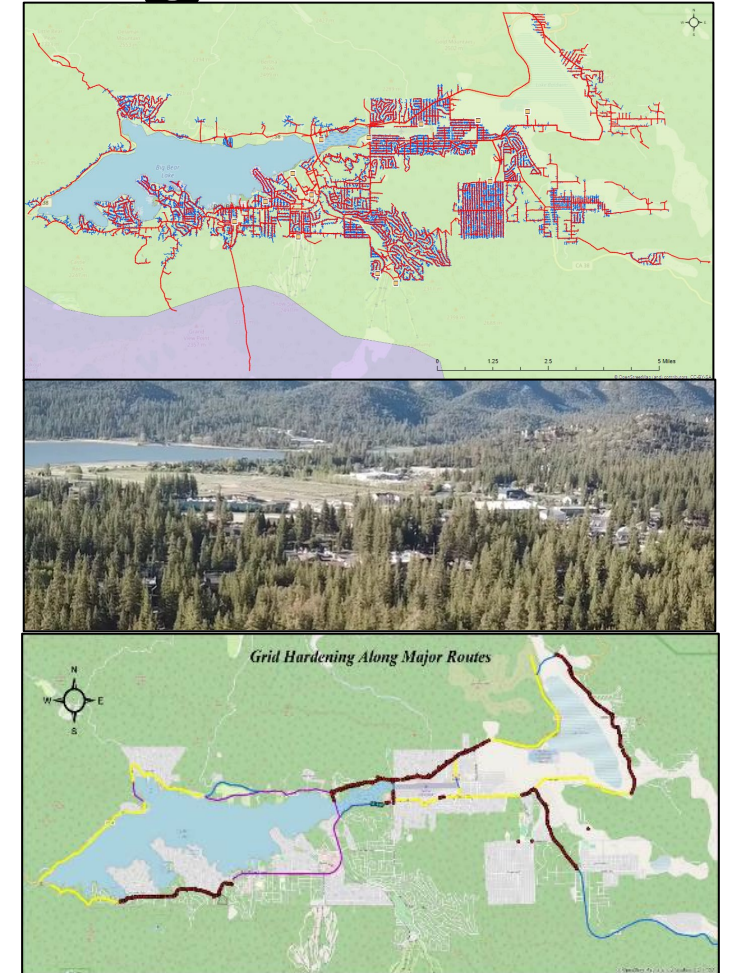
Improvements to data accuracy in post event reporting

- As previously noted, BVES has never invoked a PSPS event.
- BVES did exercise PSPS post event reporting requirements in its functional exercise and table top exercise to ensure:
 - Staff understand the data to be collected, and
 - That processes are in place to capture the data accurately.



EPSS/Fast Trip/ Fast Curve Settings

- BVES does not have a program that involves switching device trip settings based on environmental conditions or other factors.
 - BVES does not develop its own fast-trip settings.
 - For over 20 years, it has been BVES's policy to use the fast trip curve setting provided by the equipment manufacturer on all of its devices due to being located in a high fire risk area.
 - Comparison of BVES's outage data to other California and U.S. utilities for the last 10 years does not indicate this policy resulted in increased outages.
 - For over 20 years, BVES has not experienced any reportable ignitions.
 - Most BVES customers are residential or small commercial. Therefore, it would be rare for customer equipment to cause an over current driven trip.
- Difference in mitigation efforts between Fast Trip and PSPS
 - PSPS is a measure of last resort in a cascading sequence of several operational measures taken based on forecasted conditions and actual degrading conditions in field.
 - Fast trip provides an automatic de-energization response to any fault that activates the trip setting. Many faults are also potential ignition sources.



Grid Hardening

Mitigation Measures

- Eliminating bare conductors – most significant initiative
 - Sub-transmission system is now 52.7% covered conductors or underground
 - Distribution system is now 38.1% covered conductors or underground
- Vegetation Clearance around bare conductors
 - Enhanced clearances making a difference.
- Front loaded inspections (LiDAR, Patrols, Detailed, UAV photography & thermography).

Resilience Measures

- Microgrids
 - Development of small-scale Solar-Battery Facility (5 MW AC Single-Axis tracker solar generation & 4 MW/16 MWh Li-ion NMC battery energy storage system).
- Temporary generation
 - BVES has an 8.4 MW Gas Unit.
 - BVES has sourced temporary generators and tie in points.

Percent of System Covered Conductor or Underground

	2022	2023
Sub-transmission	42.0%	52.7%
Distribution	30.6%	38.1%

Vegetation density in right of ways has been significantly reduced (as measured by LiDAR):

2020: 25.44%

2022: 20.17%

Medical Baseline / Access and Functional Needs

- AFN Plan in accordance with Phase III requirements in development
- Proactive action to identify AFN:
 - All new customers queried about medical baseline and AFN.
 - All customer calls include medical baseline and AFN inquiry.
 - Mailer sent to all customers regarding AFN.
 - Comprehensive advertising campaign.
- BVES has 666 AFN customers, of those customers, 170 are medical baseline customers.
 - Maintains a list and contact information of any customers that are on our Medical Baseline Program or AFN (including beyond the meter customers).
 - BVES has the ability contact customers by IVR (Interactive Voice Response) call, text messages, door hangers, social media outlets, and website.

Customer Resources

- Community Based Organization (CBO) coordination – BVES has established working relationships with:
 - Chamber of Commerce
 - DOVES
 - Faith based organizations
 - Local radio and news channels
 - Lodging and transportation
 - BVES Community Resource Center

CBO Interviews for June 2023 survey yielded the following key take-aways:

- CBOs recall communications of specific BVES efforts around tree trimming to reduce the risk of fire in the area.
- BVES website was cited as a useful resource for information, suggesting outreach efforts have served to drive people to the site.
- CBOs are willing to help share the message about fire safety and PSPS.
- CBOs are aware of PSPS, with different levels of detailed understanding; some recall detailed communications from BVES while others have a general idea of the concept of proactive power outages.
- CBOs understand the changing nature of PSPS and the challenges that brings when planning/preparing for an event.

Meteorology/Weather

- Last winter's precipitation has caused more vegetation growth and faster growth rates. It also resulted in fuels being less dry.
 - Lake is at high level.
- The winter storms also negatively impacted the number of circuit miles trimmed.
 - BVES was off-track in Q1.
 - BVES made up for some of the missed target in Q2 and will be back on track by the end of August 2023.
- Recent history (last 15 years), the El Nino patterns have not really resulted in increased snowfall/rainfall in Big Bear Lake.
- BVES expects a challenging September through December fire season.



Questions?

Our Values

In pursuing our mission, the board of directors, management and the company's employees are guided by the shared Values presented below:

- Integrity** - Building trust through honest communications and doing what is right
- Teamwork** - Maximizing efficiency through collaboration and individual strengths
- Respect** - Valuing diversity and treating all stakeholders with fairness
- Excellence in Service** - Striving for excellence and quality in everything we do
- Accountability** - Taking ownership of one's actions

Public Comment

- Any member of the public may make public comments. Comments shall not exceed two minutes.
- If you wish to speak during the public comment period, please unmute your phone, press *1, and record your first and last name slowly and clearly when prompted. You will be placed into a queue in the order that you have identified yourself. When it comes time for you to speak, I will announce your name and open the line. You will have two minutes to speak. To withdraw your request, please press *2



California Public Utilities Commission