PACIFICORP®

POWERING YOUR GREATNESS

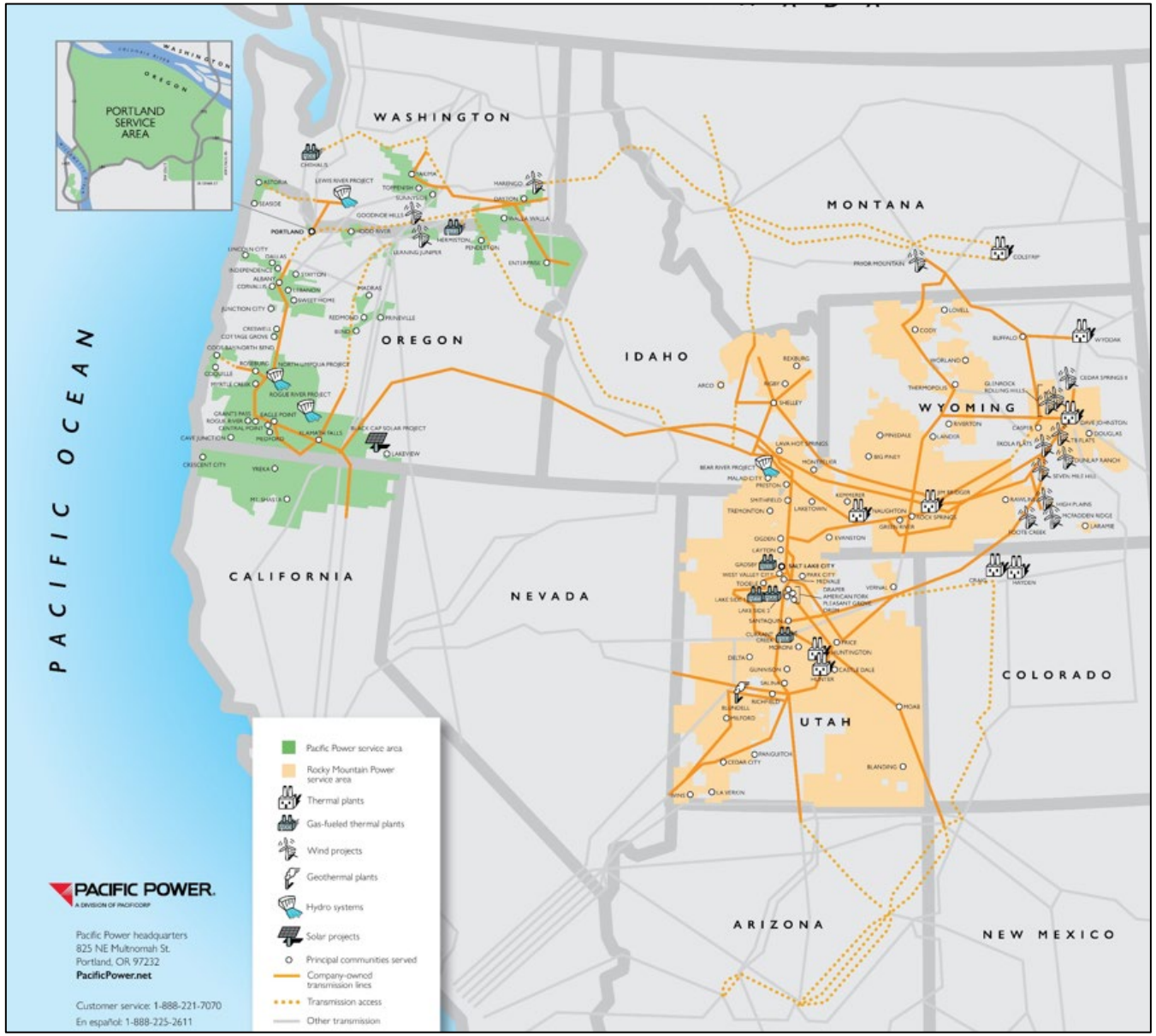
Safety Culture & Public Safety Power Shutoffs

August 19, 2025

Agenda

- PacifiCorp Service Area Overview
- Safety Governance
- Situational Awareness
- Climate Adaptation
- Operational Risk Mitigation
- System Hardening
- Risk Informed Decision Making
- Public Safety Shutoff (PSPS) and Protective Equipment and Device Settings (PEDS) Forecasting
- PSPS and Pre-Season Communications
- Lessons Learned & Inter-Jurisdictional Management

PacifiCorp Service Area

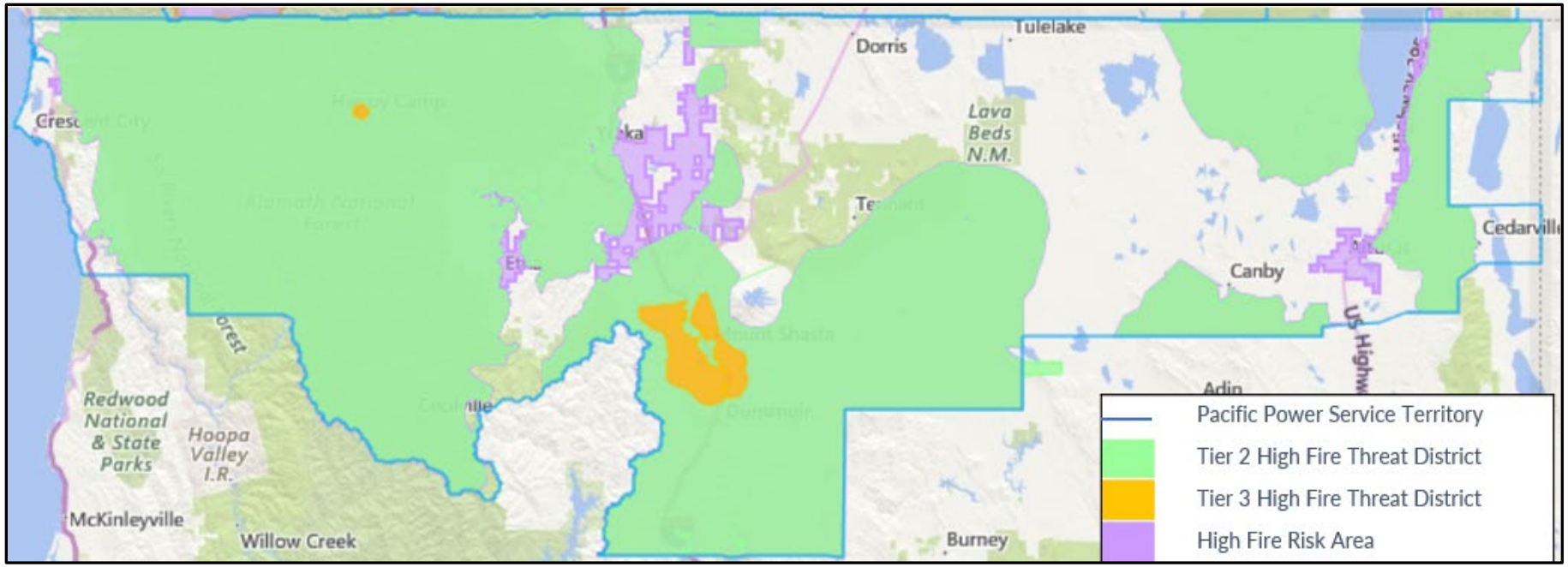


- Two divisions – Rocky Mountain Power and Pacific Power
- Approximately 5,200 employees
- 2.1 million electricity customers
- 141,500 square miles of service territory in six states
- 17,500 miles of transmission

PacifiCorp's California Service Territory

General Stats

PacifiCorp provides electricity to approximately **45,000 California customers** via **62 substations**, **2,500 miles** of distribution lines, and about **720 miles** of transmission lines across roughly **11,250 square miles.**



High Fire Threat District (HFTD) Stats

Over **60%** of the service territory (sq. mi.) is located within the HFTD
Over **40%** of our customers are located in the HFTD
~40% of all **overhead lines** are located within the HFTD

Safety Governance & Integration

PacifiCorp's safety governance and integration of safety principles in our business are guided by our core principles.

- ✓ Engaged and vocal frontline and management-level safety committees
- ✓ Leadership solicitation of near misses, suggestions and other safety lessons learned
- ✓ Management-worker partnership on rules, tools, and other input-critical safety elements
- ✓ Trust-building management follow-through on suggested corrective actions

Core Principles

- Customer Service
- Regulatory Integrity
- Employee Commitment
- Operational Excellence
- Environmental Respect
- Financial Strength

Safety Governance & Integration

California Public Utilities Commission – Reportable Metrics				
Metric	2025 YTD	2024	2023	Trend
Employee Serious Injuries and Fatalities (SIF) Rate	0	0	0	Meeting target 0 for significant injuries or fatalities
Employee Days Away, Restricted and Transfer (DART) Injuries	0	0	2	Meeting target 0 2024 and YTD
Contractor SIF Rate	0	0	0	Continue with contractor safety reviews and significant event follow up
Contractor DART Injuries	0	2	0	Continue with contractor safety reviews and significant event follow up
Public SIF	0	0	0	Continue public education on safety
Reportable Ignitions – HFTD	1	0	2	On trend with prior years. Outside HFTD trends also in line with recent years.
Line Rebuild Circuit Miles	21.5	72	101	On-track to deliver 120 miles in 2025
Vegetation Line and Pole Clearing (# of poles T&D combined)	2,143	2,630	2,449	On-track to deliver targets in 2025
Safety Culture Survey	Q1 2026	78	40	Increased participation rate by 95% year on year
Employee Engagement Survey	Internal Safety Survey to All Employees in 2024			To be repeated in 2027
Employee Engagement Training	3	6	6	Annual wildfire, technology and employee engagement trainings
CEO / President Weekly Safety Metric Review	31	52	52	Leading indicator and trends drive training / engagement

PacifiCorp Meteorology History & Roadmap

Meteorologists provide 24/7/365 support

- ✓ Issue daily weather and fire potential risk forecasts via email (M-F)

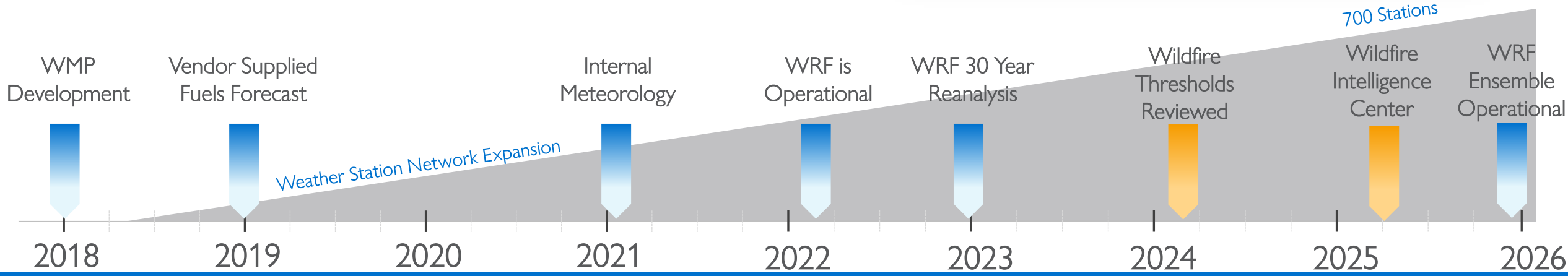
PacifiCorp Weather Research & Forecasting (WRF) model

- ✓ 2km, hourly, 5-day forecast
- ✓ 1.3 million square miles
- ✓ 30-year WRF reanalysis helps meteorology understand the service territory

PacifiCorp Long-Term Strategy

- ✓ 7-day, multiple member ensemble WRF
- ✓ Fire Potential Index
- ✓ Climate Adaptation in Meteorology Roadmap

PacifiCorp Weather Research & Forecast (WRF)



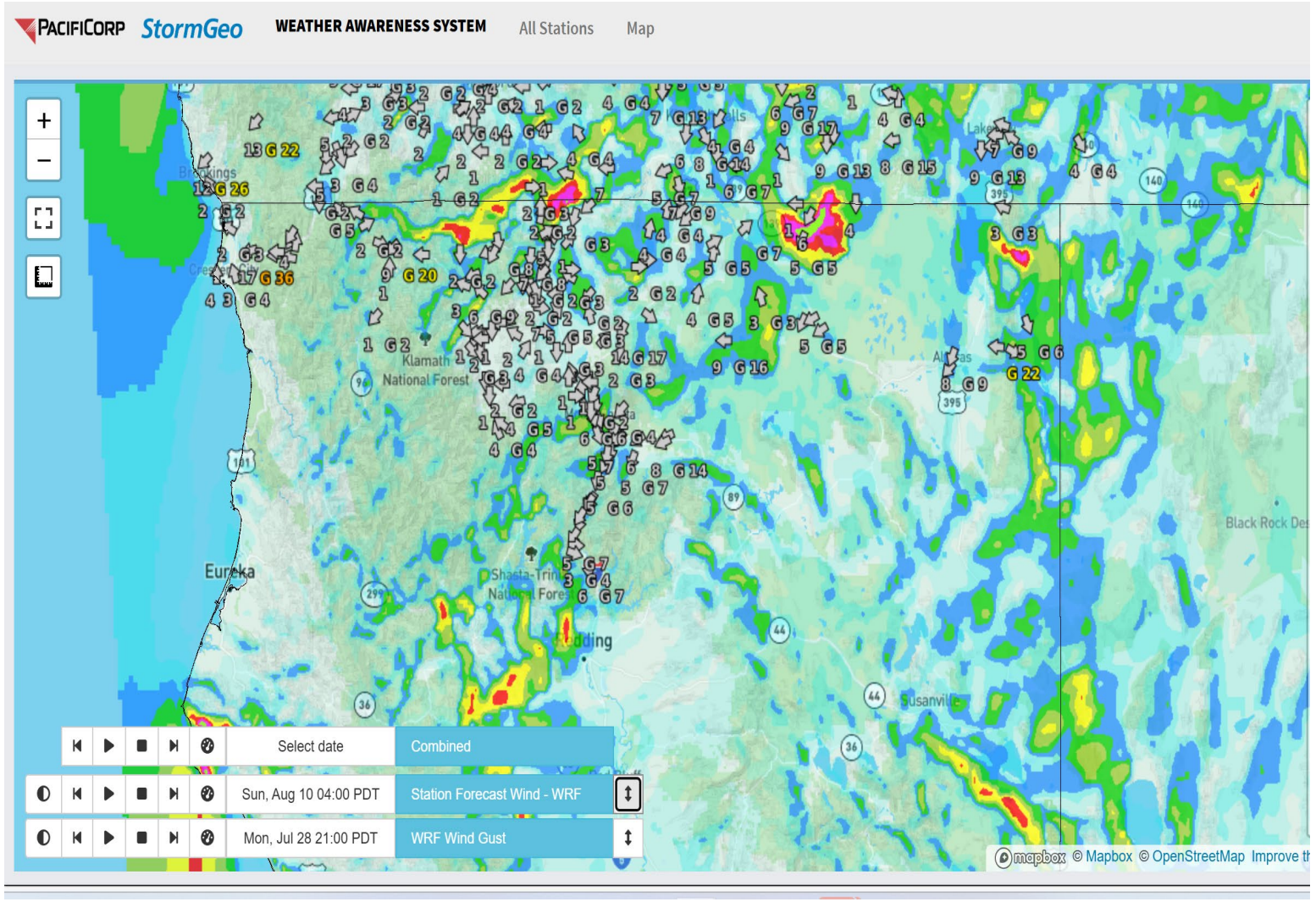
Situational Awareness

We are committed to situational awareness that monitors conditions every day of the year and applies mitigation responses with a conservative safety buffer, in advance of conditions that are associated with catastrophic wildfires.

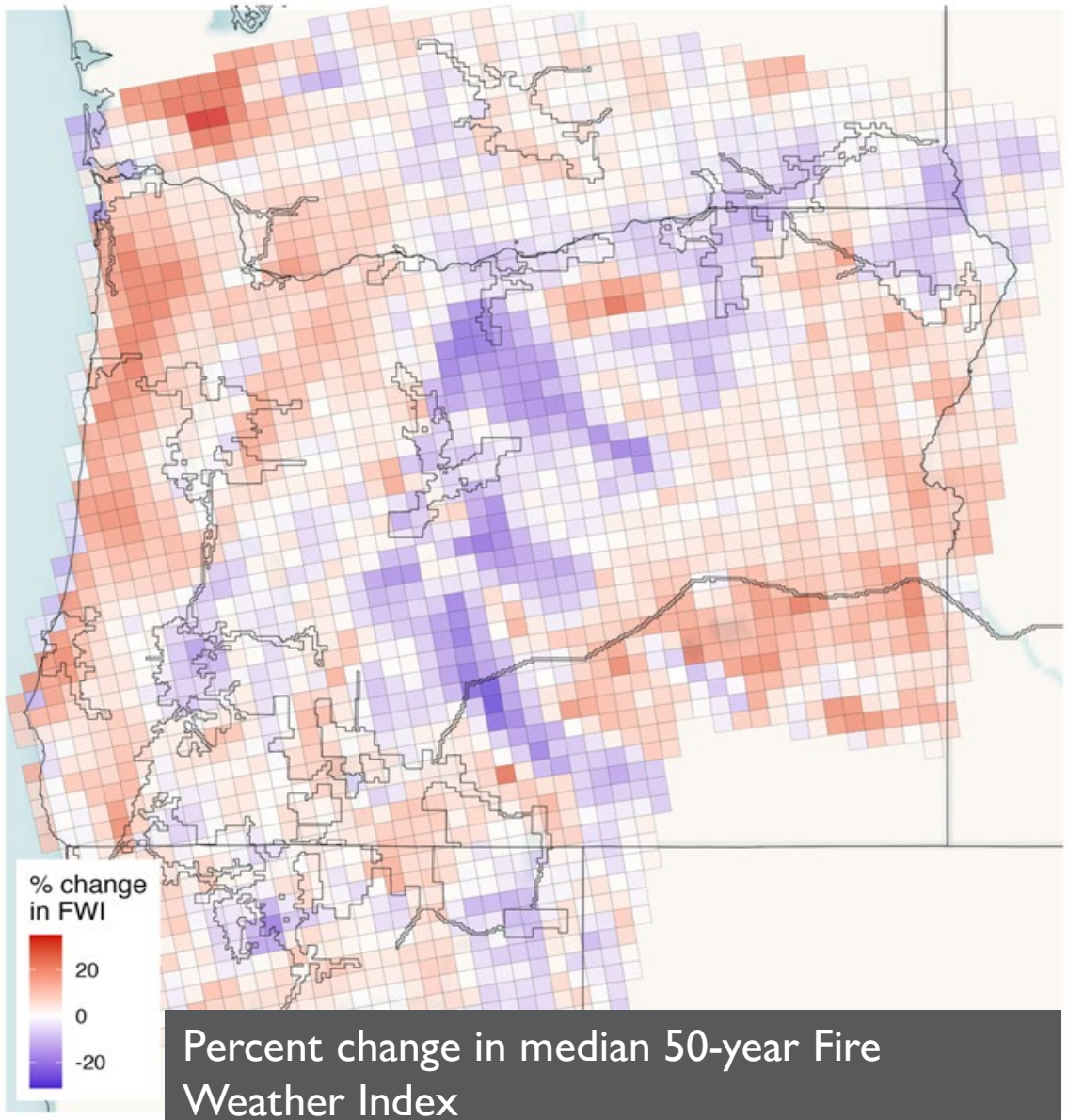
Real-Time Situational Awareness:
- ✓ Weather stations
- ✓ Cameras
- ✓ Real Time Weather and Fuels
- ✓ Early Detection Software / Technology

New or Expanded Teams
- ✓ Wildfire Intelligence Center
- ✓ Wildfire & Emergency Response

Public Dashboard
- ✓ PacifiCorp WRF Forecast
- ✓ Weather Station Visibility
- ✓ Multiple Model Comparison



Climate Adaption and Agency Coordination



Percent change in median 50-year Fire Weather Index

Climate Adaptation

- Mid-Century (2045 +) analysis of Fire Weather Index (FWI) for changes in fire weather patterns and fire behavior
- Extreme Value Analysis: How rare extreme events become less rare in the future
- Key Takeaways: notable increases in fire weather extremes in and west of Cascades. Expanding fire season and variation in extreme conditions

Federal Agency Partners

- The PacifiCorp internal Weather Research Forecast (WRF) model is downscaled from National Oceanic and Atmospheric Administration (NOAA)-operated global models, specifically the Global Forecast System (GFS).
- PacifiCorp's internal historical reanalysis is downscaled from the Climate Forecast System (CFS).
- PacifiCorp has the necessary data resources if these systems are not maintained/supported by NOAA in the future.

Operational Risk Mitigation

Fire Season is a condition, not a date.

- ✓ Five-day forecasts provided for advanced planning and risk analysis for weather and wildfire risk
- ✓ Daily modeling for entire service territory through the entire year to determine conditions of risk
- ✓ 24 x 7 monitoring via wildfire intelligence center and meteorology teams

Emergency De-Energization

Example Thresholds for Emergency De-Energization:

- Wildfire Intelligence monitors w/in 10 miles of T&D assets
- Fires within 6, 4 and 2 miles may require de-energization
- Actions depend on weather, fuel condition and spread risk
- Adequate control measures and coordination may offset de-energization

Enhanced Safety Settings Enabled on Circuits

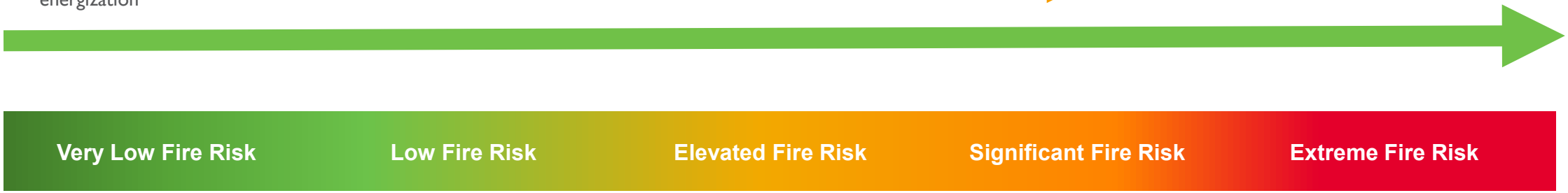
Example Thresholds for Elevated / Significant Risk:

- Energy Release Components above 80th percentile
- Hot Dry Windy Index above 70th percentile
- Dry vegetation, dead fuel moisture 12-14%

PSPS Potential

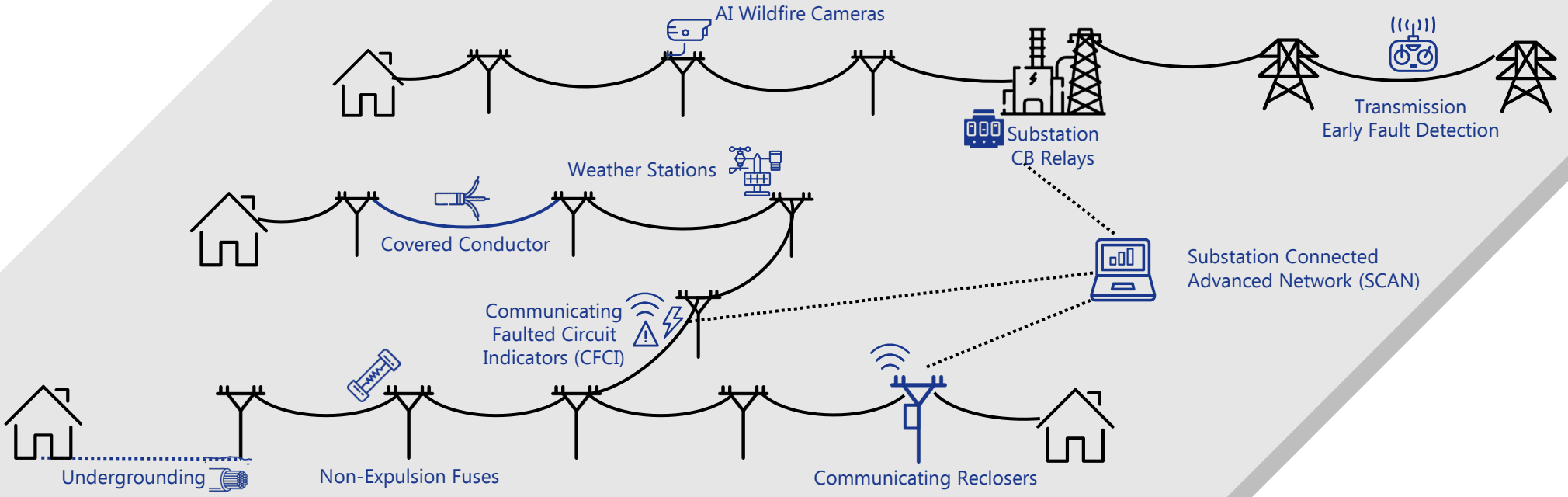
Example Thresholds PSPS:

- Very strong winds relative to normal above 99th percentile
- Critically dry vegetation, dead fuel moisture lower than 10%



System Hardening & Resiliency

Leveraging the Modern Grid for a Multi-Layered Approach to Wildfire Risk Reduction



HIF *in substation and recloser relays to detect system high impedance fault conditions for evaluation*

Substation Circuit Breaker (CB) Relays *with fast-trip-capable wildfire settings to minimize potential ignitions under fault conditions*

Communicating Reclosers *have alternate wildfire settings for fast-trip capability, remote data acquisition and setting changes*

Covered Conductors *replace bare overhead lines to mitigate interference from foreign objects like tree branches*

Substation Connected Advanced Network (SCAN) *applies sophisticated data analytics to assess events from grid-edge infrastructure*

Communicating Faulted Circuit Indicators (CFCI) *detect fault info. enabling remote fault location analysis and quick response*

Weather stations *monitor local conditions to inform operations*

Undergrounding *is an alternative to covered conductor in areas of high fire risk where access or installation costs are feasible*

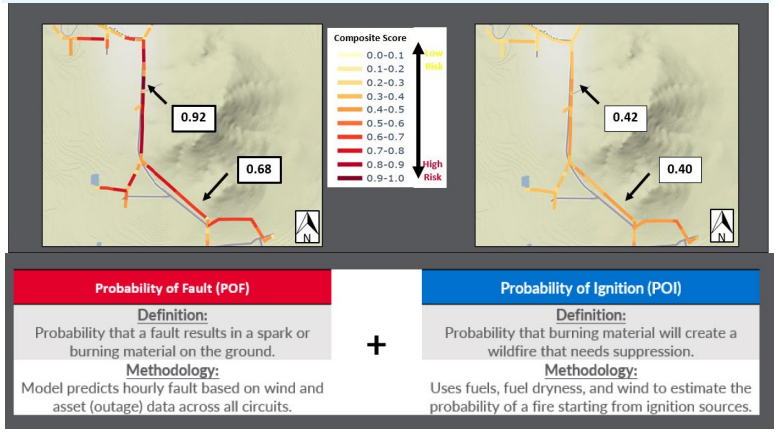
AI wildfire cameras *quickly detect and alert fire agencies—reducing response times*

Early Fault Detection (EFD) *uses radio frequency information collected by sensors to identify failing equipment*

Risk Informed Decision Making

Risk Modeling (Technosylva)

✓ Wind driven ✓ Fuel driven



Engaged Strategic Partner

- ✓ Engaged Kiewit to improve the throughput of design and line construction
- ✓ Achieving program efficiency through scale of program leading to reducing line mile cost

Benefit Cost Analysis

- ✓ Established risk and consequence scores
- ✓ Financial consequence study completed
- ✓ Outage cause to fire incident
- ❑ Cost risk framework
- ❑ Model calibration
- ❑ WMP integration

Risk-Consequence Based Project Selection

- ✓ Established wildfire construction standards
- ✓ Established wildfire Enhanced Safety Settings relay standard
- ✓ Effectiveness benchmarked with other utilities
- ✓ Evaluate system rebuild phasing
- ❑ Selection advised by cost risk analysis

Established Program Governance

- ✓ Wildfire scoping governance meeting requires committee vote on plan changes or deviations from standard
- ✓ Wildfire risk governance committee established to confirm framework, methodology, models and program changes

Post Investment Review (new)

- ❑ Building framework for post investment reviews to calibrate industry benchmark values
- ❑ Setting effectiveness measurement values for each program
  - Lessons learned advise future program adjustments
  - QA / QC

Risk Informed Decision Making

PacifiCorp is committed to using continuous improvement strategies to guide risk spend. We work to integrate new tools, safety practices and implement strategies that mitigate risk while balancing financial pressures facing our customers.

Evaluation

Risk

- Composite Risk Score
  - Wind driven risk
  - Fuel driven risk
- HFTD/HFRA

Cost

- Covered Conductor ($/Mi)
- Underground ($/Mi)
- Inspections ($/pole)
- Situational Awareness

Qualitative Assessment

- Regulatory Requirements
- Stakeholder and Customer Input
- Risk Impact

Technical Assessment

- Constructability
- Accessibility
- Vegetation
- Geotechnical
- Environmental
- Permitting

Oversight

Wildfire Risk Governance Committee
Wildfire Scoping Committee
Executive Sponsor - SVP Power Delivery

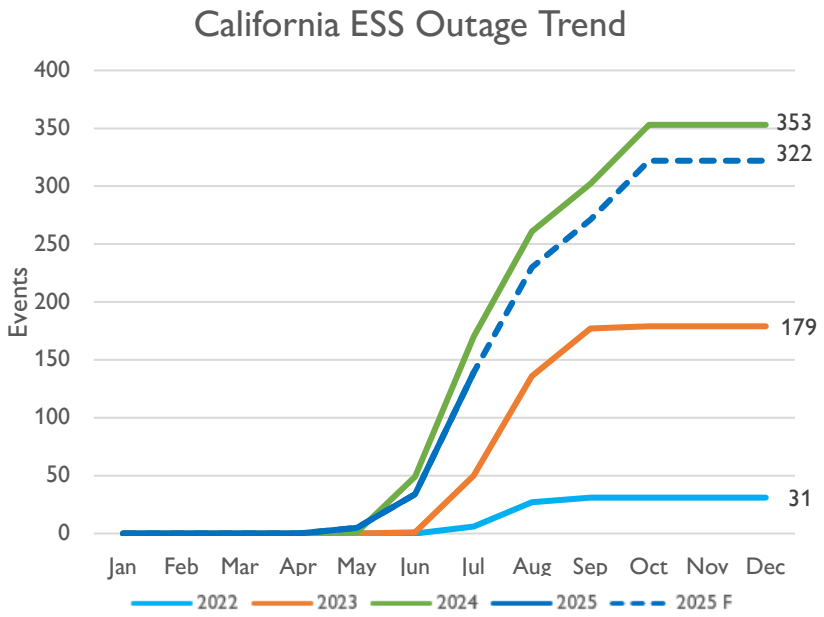
- VP Asset Mgmt. & Wildfire
- VP Project Management
- VP Operations
- VP Engineering
- VP System Operations
- Assistant General Counsel

Mitigation Implementation

PSPS and PEDS Forecasting

PSPS History

- ✓ September 2020 – California
- ✓ October 2020 – California
- ✓ August 2021 – California / Utah
- ✓ August 2022 – Oregon
- ✓ June 2025 – Utah



HFTD/HFRA Experience	2022	2025
Customers	19,776	26,574
Reclosers	23	56
Customers / Reclosers	860	475
Avg. ESS Outage Duration (Hrs.)	5.8	4.1

PSPS Forecasting

Completed:

- ✓ Post event review
- ✓ Post season review
- ✓ Established PSPS criteria

Under-development:

- ❑ Weather reanalysis
- ❑ Identify areas with higher customer PSPS impact

Enhanced Safety Setting Forecasting

Completed:

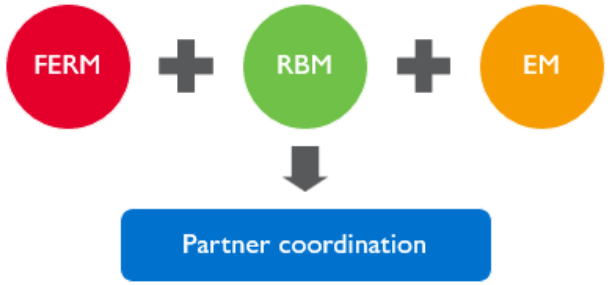
- ✓ Post season review
- ✓ Identified within the annual reliability reporting high impacted circuits

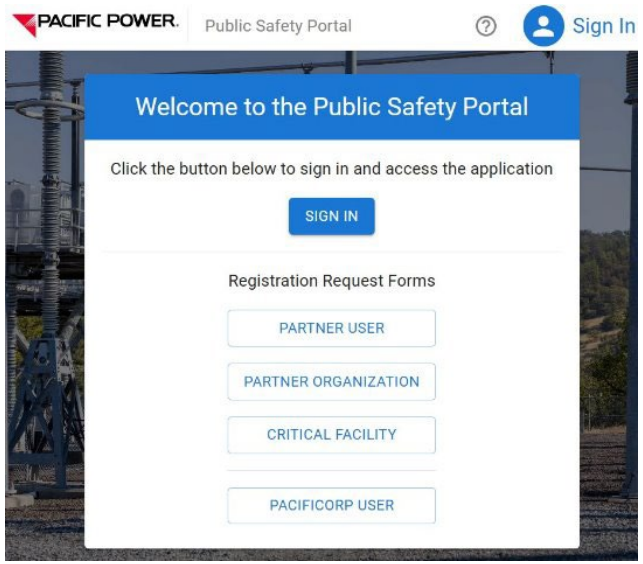
Under-development:

- ❑ Establish ESS forecasting method (historical performance)
- ❑ Establish ESS forecasting weather model calibrated (wind)

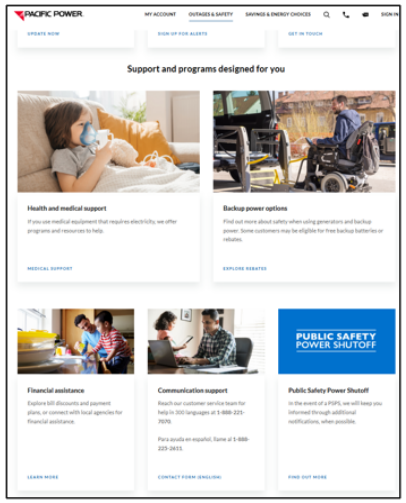
Public Safety Power Shutoff - Communication

Notification Process & Tools

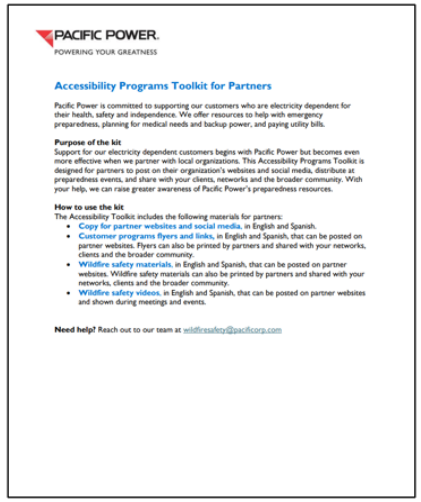




Accessibility, Education & Outreach (Available in English and Spanish)



Accessibility programs webpage



Accessibility programs toolkit for partners

Access and Functional Needs (AFN) Self-Certification webform

Tenant preparedness flyer

- ✓ Targeted outreach to:
  1. Tribal Nations
  2. Master meter customers, property managers and tenants
  3. Survey respondents with AFN
- ✓ Recruited additional Wildfire Advisory Board members from Tribal Nations and AFN communities - Quarterly Meetings
- ✓ Hosted a Western Utilities Wildfire Communications Workshop in California
- ✓ Tabletop and Functional Exercises

Pre-Season Communication & Workshops

Emergency Communications

- ✓ Develop messaging updates during extended duration outages due to wildfire
- ✓ Updates to outage map and automated notifications
- ✓ Notifications to critical infrastructure & large customers

Wildfire Season Communications

- ✓ Updated pre-season communication
- ✓ Customer preparedness and education
- ✓ Mid-season customer communication
- ✓ Advertising campaign for communities impacted by enhanced safety settings and emergency de-energization in 2024

System strengthening

Backed by a big investment and a targeted, informed strategy, we're strengthening our system from end to end.

Enhanced safety settings

In areas with elevated fire risk, we may place equipment on more sensitive settings.

Public Safety Power Shutoff

In response to elevated fire-risk conditions, we may proactively turn off power in specific areas.

Emergency de-energization

When wildfires get too close to our equipment we will do an emergency de-energization, shutting off power to our lines to

Lessons Learned & Inter-jurisdictional Partnerships

Lessons Learned

Achieved Improvements	Methodology	Improvement
Kiewit Partnership	Achieving program efficiency through scale of program leading to reducing line mile cost	Reduction in cost per line mile of construction and accuracy of design outputs
SCAN / CFAN Deployment	Leveraging LTE network for substation and field recloser communications	Reduction in cost for communications, nimble activation and deactivation of ESS, improvement in customer outage minutes
Operational Response	Establishing real time engineering support, use of cFCI and digital technology to our control center for increased troubleshooting capability	Improved fault-finding capabilities and reduction in outage restoration timelines
Wildfire Intelligence Center	New in 2025 – full-time situational awareness for wildfire and all hazard threats to the electrical network through early detection technology	Reduced quantity of emergency de-energization and reduced customers impacted when de-energization is necessary

Inter-Jurisdictional Partnerships

Key Partnerships	Partnership Description	Objective
California IOU Benchmarking	Wildfire Mitigation Plan benchmarking meeting across utility partner subject matter experts. Recently completed with SDG&E	Improve technology, methodologies and compliance through peer utility best practices and lessons learned
California IOU Joint Alignment	Monthly meeting across California IOUs to discuss emerging issues, technology and best practices	
California Advisory Board	Quarterly engagement with critical California stakeholders to receive and implement feedback for WMP and community outreach	
International Wildfire Risk Mitigation Consortium	Global utility community sharing of data, information, technology, and practices to proactively address the wildfire issues through learning, innovation, analysis, assessment, and collaboration.	
Edison Electric Institute	Electric companies, regulators, and investors compare and contrast industry wide issues and mitigation efforts	
EPRI ClimateReadi	Comprehensive framework to enhance the resilience of the electric network against climate related risks.	

Thank you