

Community Wildfire Safety Program

February 20, 2019



Together, Building
a Better California

Community Wildfire Safety Program



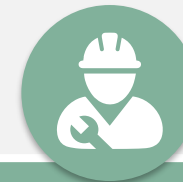
REAL-TIME MONITORING AND INTELLIGENCE

- Coordinating prevention and response efforts by monitoring wildfire risks in real time from our **Wildfire Safety Operations Center**
- **Expanding our network of PG&E weather stations** to enhance weather forecasting and modeling
- Supporting the **installation of new high-definition cameras** in high fire-threat areas



NEW AND ENHANCED SAFETY MEASURES

- Further enhancing vegetation management efforts to **increase focus on vegetation that poses a higher potential for wildfire risk**
- **Conducting accelerated safety inspections** of electric infrastructure in high fire-threat areas
- **Disabling automatic reclosing of circuit breakers and reclosers** in high fire-risk areas during wildfire season
- **Proactively turning off electric power for safety** as a last resort when extreme fire danger conditions are forecasted



SYSTEM HARDENING AND RESILIENCY

- Installing **stronger and more resilient poles and covered power lines**, along with **targeted undergrounding**
- **Upgrading and replacing electric equipment and infrastructure** to further reduce wildfire risks
- Working with communities to **develop new resilience zones**

Real-Time Monitoring and Intelligence

MONITORING wildfire risks in real time from our
24/7 Wildfire Safety
 Operations Center
 and coordinating **prevention and response efforts**



INSTALLING

~1,300 new weather
 stations by **2022**

Data available at mesowest.utah.edu



SUPPORTING the installation of:

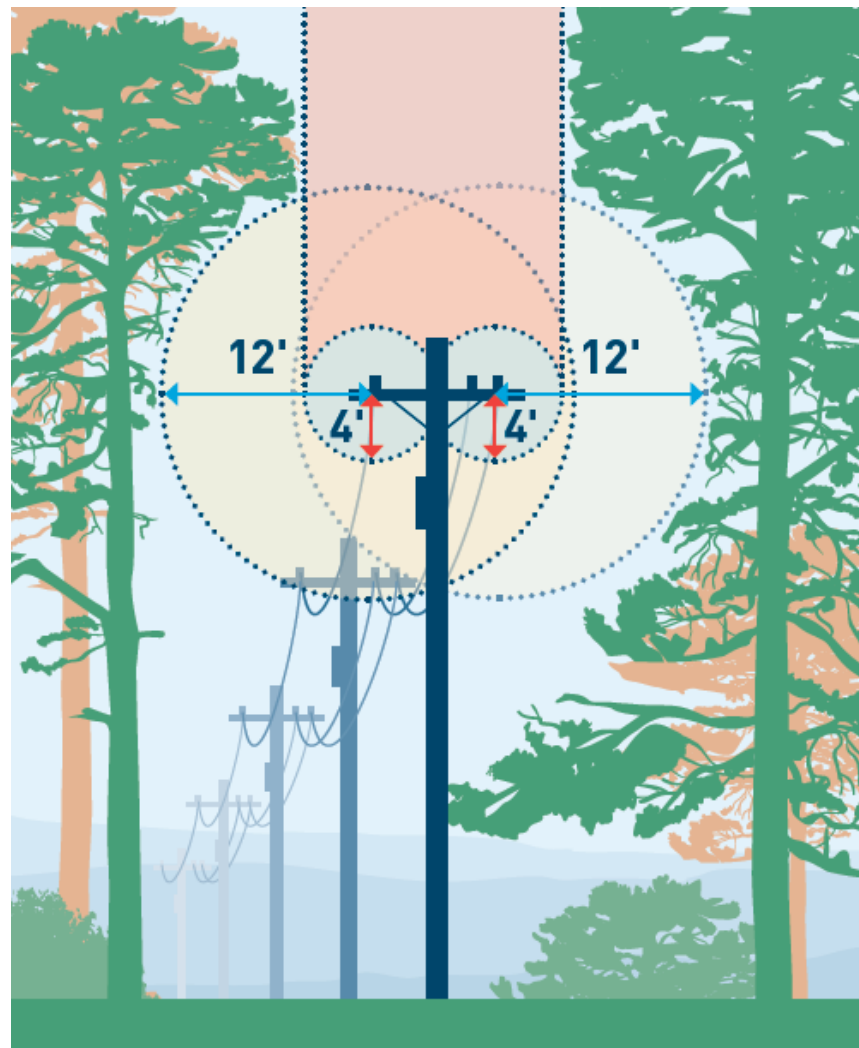
~600 high-definition
 cameras by **2022**

Images available at alertwildfire.org

Enhanced Vegetation Management

We are increasing our focus on **addressing the vegetation that poses a higher potential for wildfire risk.**

- This enhanced focus includes the following:
 - ✓ **Meeting and exceeding state standards** for minimum clearances around the power line
 - ✓ **Addressing overhanging limbs and branches** directly above and around the lines
 - ✓ **Targeted removal of dead and dying trees** as well as certain species that pose an increased potential risk of falling into power lines
- We are working to complete this important safety work **in high fire-threat areas** over the next several years



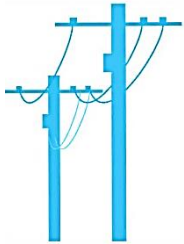
Wildfire Safety Inspections



As part of our enhanced wildfire safety efforts, implemented following the recent wildfires as additional precautionary measures to further reduce wildfire risks, **we are conducting accelerated safety inspections of electric infrastructure in areas at higher risk of wildfire (Tier 2 and Tier 3).**

- **We are inspecting electric towers and poles** from top to bottom through visual and aerial inspections.
- This work is being done as part of our Community Wildfire Safety Program, and is **in addition to our routine inspections and maintenance** programs.
- We have **started with transmission lines** in high fire-threat areas, and plan to begin similar **inspections of distribution lines and substations** in high fire-threat areas **in early 2019.**

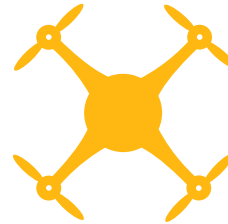
Inspections Overview



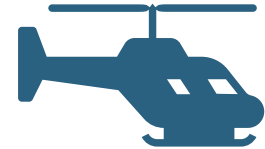
Accelerated inspections of transmission and distribution poles and towers as well as substations in high fire-threat areas



Visual inspections (ground and/or climbing) will be performed by crews of up to four people



Aerial inspections by drones will complement and further enhance inspections



Helicopters may also be used for inspections or to deliver crews to remote locations

We will take action right away to address any immediate risk to public safety found during the accelerated inspections

Electric System Maintenance and Repairs

We will **evaluate inspection results to determine repair needs and associated timing**. If any issues are found during the accelerated inspections that pose an immediate risk to public safety, **we will take action right away to address the issue**.



- When inspections determine that repairs are needed, but **there is not an immediate safety risk, we follow CPUC guidelines** for high fire-threat areas **to determine repair timing**.
- **Repairs will depend on what we observe in the field but could range** from installing new signs or electrical components to replacing poles or towers.
- Where possible, **we will bundle work to minimize customer impact**, particularly if we need to de-energize the line to safely complete the repairs.

System Hardening and Resiliency

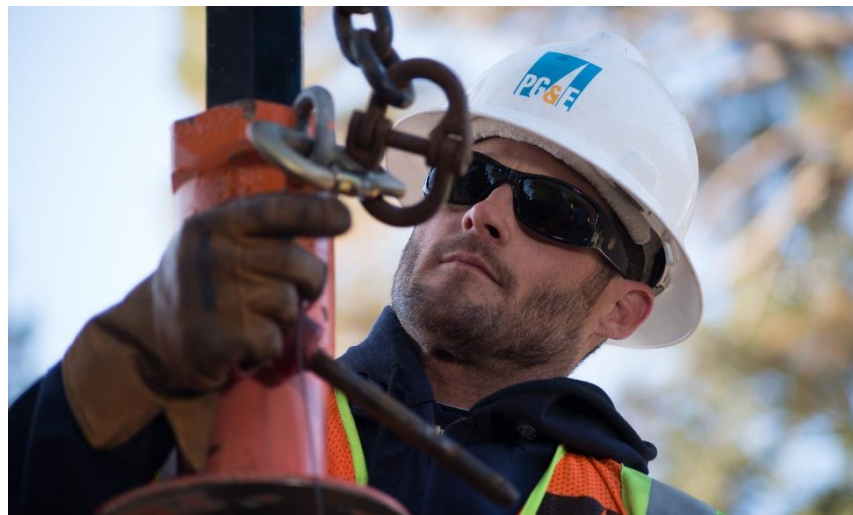
Installing stronger and more resilient poles and covered power lines across approximately 7,100 line miles of highest fire-risk areas

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Replacing equipment to further reduce risk to our system and tailoring upgrades based on terrain and weather conditions using more granular analysis of fire-prone regions

.....

Piloting new resilience zones to allow PG&E to provide electricity to central community resources serving local customers during a Public Safety Power Shutoff event



Additional Safety Measures

To further reduce the risk of wildfires, we are **disabling automatic reclosing of circuit breakers and reclosers** on lines in high fire-risk areas during wildfire season.

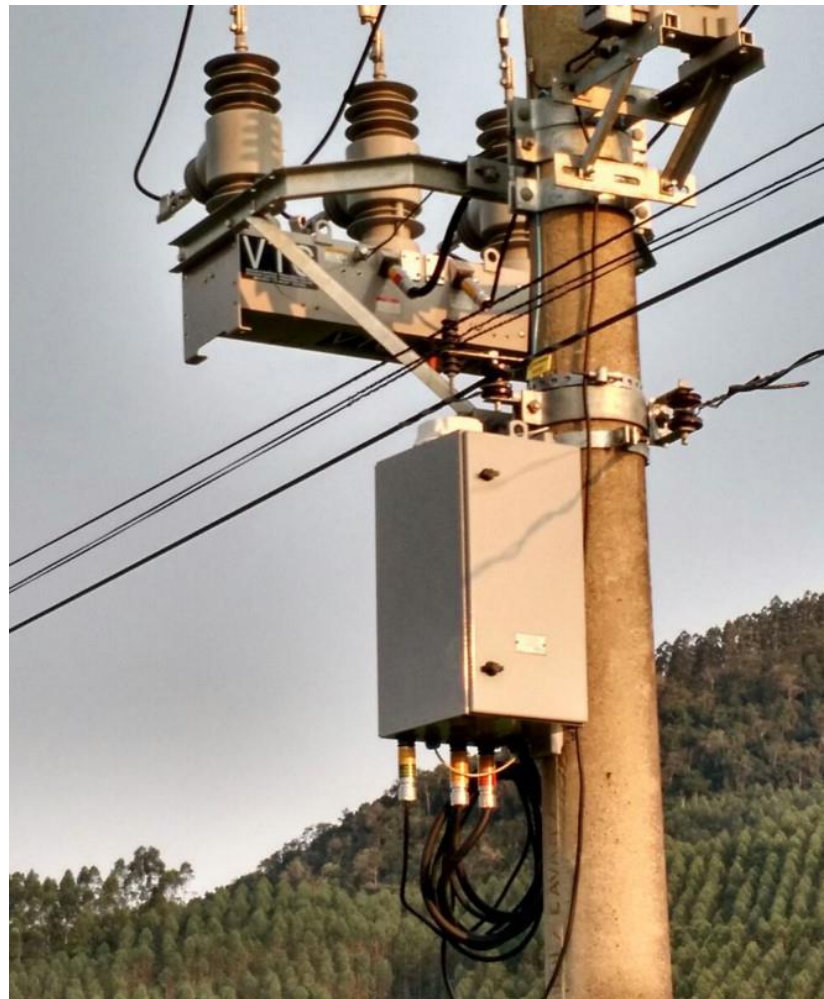
Where we have remote control capability, we **disable reclosing based on a daily decision-making process** during times of elevated risk.

ENABLED

450 reclosing devices with remote capabilities in **2018**

WORKING to enable nearly

300 additional reclosing devices with remote capabilities in advance of the **2019 wildfire season**



Public Safety Power Shutoff (PSPS)

We monitor conditions across our system and evaluate whether to proactively turn off electric lines, as a last resort, in the interest of safety.

While no single factor will drive a Public Safety Power Shutoff, some factors include:



A Red Flag Warning declared by the National Weather Service



Low humidity levels, generally 20% and below



Forecasted sustained winds generally above 25 mph and wind gusts in excess of approximately 45 mph, depending on **location and site-specific conditions** such as temperature, terrain and local climate

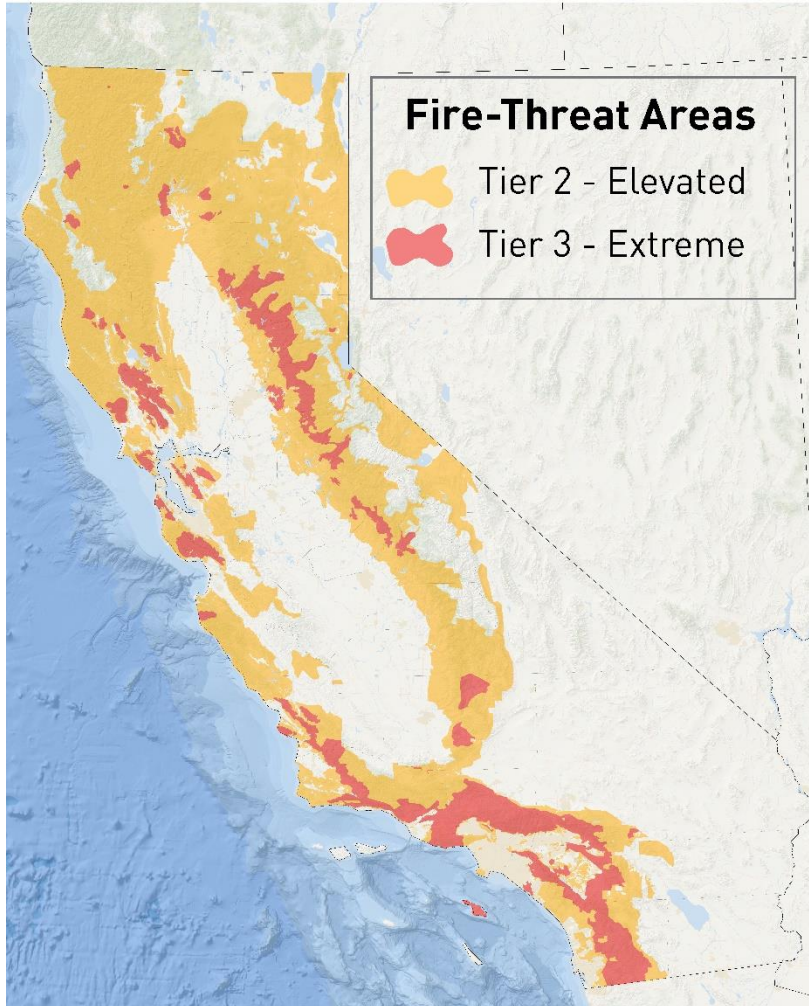


Condition of dry fuel on the ground and live vegetation (moisture content)



On-the-ground, real-time observations from PG&E's Wildfire Safety Operations Center and field observations from PG&E crews

PSPS Potentially Impacted Areas



Source: California Public Utilities Commission

- Beginning with the 2019 wildfire season, we are expanding our Public Safety Power Shutoff program to include **all electric lines that pass through high fire-threat areas – both distribution and transmission.**
- The most likely electric lines to be considered for shutting off for safety will be those that pass through **areas that have been designated by the CPUC as at elevated (Tier 2) or extreme (Tier 3) risk for wildfire.**
- Although a customer may not live or work in a high fire-threat area, their **power may be shut off if their community relies upon a line that runs through an area experiencing extreme fire danger conditions.**

PSPS Event Notifications

Extreme weather threats can change quickly. **When and where possible, we will provide customers with advance notice prior to turning off power.** We will also provide updates until power is restored.

Timing of Notifications (when possible)

- **~48 HOURS** before electricity is turned off
- **~24 HOURS** before electricity is turned off
- **JUST BEFORE** electricity is turned off
- **DURING THE PUBLIC SAFETY OUTAGE**
- **ONCE POWER HAS BEEN RESTORED**

Customer Notifications

We will attempt to reach customers through **calls, texts and emails**. We will also use **social media** and keep **local news** and **radio outlets** informed and updated.



City/County/Agency Notifications

If possible based on conditions, we will **provide notice in advance of notifying customers** through:

- **Phone calls/emails** to primary contacts
- **Automated notifications** to send alerts through multiple channels
- **Provide customer alerts** to share via channels, such as city or county website, Nixle, Nextdoor and Reverse 911

Working to Restore Power

We will only restore power when we are certain it is safe to do so. For planning purposes, we suggest customers **prepare for multiple-day outages.**



WEATHER ALL CLEAR

After the extreme weather has passed and it's safe to do so, our crews begin **patrols and inspections.**



PATROL & INSPECT

Crews **visually inspect every mile** of the lines to **look for potential weather-related damage to the lines, poles and towers.** This is done by vehicle, foot and air.



ISOLATE & REPAIR DAMAGE

Where damage is found, **crews work to isolate the area** so other parts of the system can be restored. Crews work **safely and as quickly as possible** to make repairs.



RESTORE POWER

Once it is safe to energize, **a call is made to the PG&E Control Center** to complete the energization process. **Power is then restored to customers.**



NOTIFY CUSTOMERS

Customers are **notified that power has been restored.**

Working With Our Customers to Prepare

We are continuing to **reach out to our customers and communities** about wildfire safety and steps they can take to prepare.

- ✓ **Reaching out to customers** and asking them to update their contact information at pge.com/mywildfirealerts
- ✓ **Engaging with organizations for our customers who have specific needs** to explore ways we can partner
- ✓ **Partnering with community leaders, first responders, and public safety authorities** around PSPS preparedness and coordination
- ✓ **Holding answer centers and open houses** (as needed) in advance of and during wildfire season
- ✓ **Doing additional outreach to Medical Baseline and Medical Baseline-eligible customers** in high fire-threat areas
- ✓ **Continuing to share information** through pge.com/wildfiresafety



For questions regarding PG&E's Community Wildfire Safety Program, please direct customers to:

- Call us at **1-866-743-6589**
- Email us at **wildfiresafety@pge.com**
- Visit **pge.com/wildfiresafety**

WE'LL BE IN YOUR COMMUNITY WORKING TO REDUCE WILDFIRE THREATS.

ACCELERATED SAFETY INSPECTIONS

ENHANCED VEGETATION WORK

REAL-TIME MONITORING OF FIRE CONDITIONS

Visit pge.com/wildfiresafety for more information and steps you can take to prepare for the growing threat of wildfires.