

DETERMINING WHEN TO TURN OFF POWER FOR SAFETY

DECISION-MAKING FOR PUBLIC
SAFETY POWER SHUTOFFS



CONTENTS

Overview	2
Why Are Public Safety Power Shutoffs Necessary?	3
Tools and Technology To Support PSPS Decision-Making	4
PSPS Decision-Making	7
Notifying Customers and Communities	16
Support for Customers and Communities	17



OVERVIEW



Pacific Gas and Electric Company's (PG&E) most important responsibility is the safety of our customers and communities. California continues to experience extreme weather and drought, leading to increased wildfire risk and longer wildfire seasons. High winds can cause trees and debris to contact energized lines, damage electric equipment and cause a wildfire. As a result, we may need to turn off power during severe weather to help prevent wildfires. This is called a Public Safety Power Shutoff (PSPS).

We will not take any chances with customer safety, which is why PSPS continues to be a necessary tool as a last resort. We understand losing power disrupts lives. That is why we are listening to our customers and providing more information and better resources to help customers and communities before, during and after PSPS events.

In this document, we'll explore how PG&E evaluates weather and environmental risks that may lead to power shutoff, when we determine a shutoff is necessary for public safety and how we've improved to better support our customers and protect our communities. Below is a high-level overview of how we progress from PSPS weather conditions to the decision to de-energize.



FORECASTED WEATHER



DISTRIBUTION SCOPE



TRANSMISSION SCOPE



MITIGATIONS



PSPS RISK/BENEFIT ANALYSIS



DECISION TO DE-ENERGIZE

Improving the Electric Grid

PSPS events are just one of the steps we are taking to prevent wildfires. We are also working year-round and nonstop to make our system safer and more resilient. These improvements include:



Hardening the electric system with strong poles, covered power lines, targeted undergrounding and remote grids to reduce the need for PSPS events across PG&E's electric system.



Enhancing our vegetation management efforts beyond state standards to manage trees/brush that could cause a wildfire or power outage.




Testing and using new technology to pinpoint how to best prevent and respond to the risk of wildfires.

Why are Public Safety Power Shutoffs Necessary?


Public Safety Power Shutoffs are a last resort measure that PG&E and other utilities take to prevent wildfires during times of high winds, low humidity and dry conditions that could lead to a catastrophic wildfire.*

Nearly one-third of PG&E's power lines run through high fire-threat districts (HFTDs), including:

 **25.5K**
OVERHEAD
DISTRIBUTION MILES

 **5.5K**
OVERHEAD
TRANSMISSION MILES

 **~500K**
PG&E CUSTOMERS
LIVE IN HFTDS

 **90%**
PG&E CUSTOMERS DO NOT LIVE
IN HFTDS AND ARE NOT LIKELY
TO EXPERIENCE PSPS EVENTS



PSPS EVENTS ARE MORE LIKELY BETWEEN
SEPTEMBER AND NOVEMBER WHEN THE
WEATHER IS DRY AND WINDY

**A fire that destroys 100 or more structures and results in a serious injury and/or fatality (SIF).*

TOOLS AND TECHNOLOGY TO SUPPORT PSPS DECISION-MAKING



High-Resolution Weather Forecasting

Since 2014, we have partnered with leading weather prediction experts to develop historical datasets and advanced forecast models that can help to predict wildfire behavior.

Using high-resolution weather and fuel moisture forecasting models, we are able to generate five-day lookahead fire potential forecasts that include wind speed, temperature, humidity and fuel moisture.

How do we analyze wildfire risk?

Using historical weather data we can help answer questions such as:

- What weather and fuel moisture values are best to predict when large fires will occur or not occur?
- Where do Diablo and Santa Ana winds most frequently develop?
- Are there fuel moisture values above which large fires do not occur?
- Have Diablo wind events increased over the past 30 years?
- At what wind speeds do we see an increase in outage activity?

Tracking Weather in Real Time

PG&E has a dedicated meteorology team that continually tracks weather conditions and potential wildfire risks. Using advanced weather modeling systems and data from our network of more than 1,200 weather stations, this team is able to forecast and track weather conditions in real-time. This includes:



TEMPERATURE



WIND SPEEDS



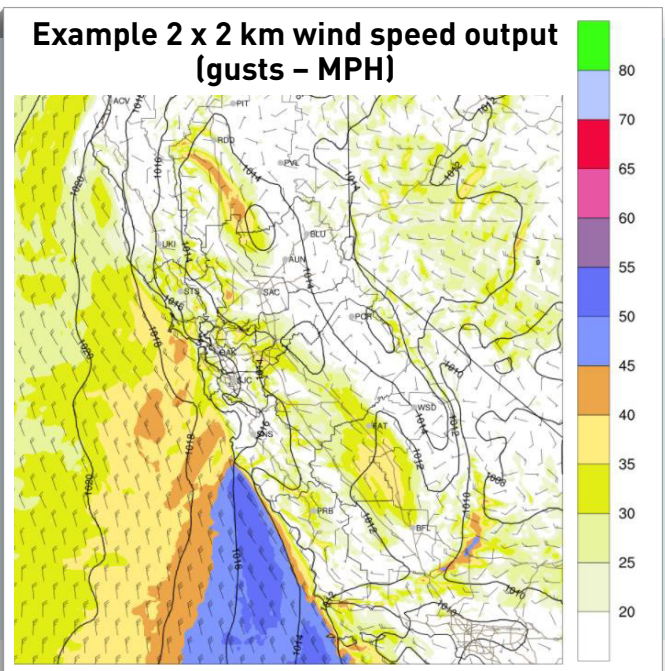
HUMIDITY



WIND DIRECTION

It starts with the weather. State-of-the-art weather forecasting:

- **Determines the historical potential for ignitions** from each analyzed weather event (IPW)
- **Assists with fire model development** and calibration (Fire Potential Index - FPI)
- **Data inputs** improve fire spread modeling (*Technosylva*)
- **Provides guidance** for operation decision-making (PSPS models)



Fire Spread Analysis Technology

PG&E has undertaken the development of tools and models to better understand the impact of potential ignitions on surrounding areas and communities. PG&E has partnered with *Technosylva*, an external expert in the wildfire modeling field to test and deploy cloud-based wildfire spread model capabilities to better understand where we might need to turn off power.

Each day, PG&E delivers our wildfire conditions datasets to *Technosylva*, who then **perform over 100 million fire spread simulations every three hours out ~5 days**. These simulations provide fire spread scenarios that help to identify circuits that may be at risk during severe weather.

Machine Learning Models

Through partnerships with external experts, we developed our 2021 machine learning models to give us a better understanding of historical weather events and to improve our weather forecasting.

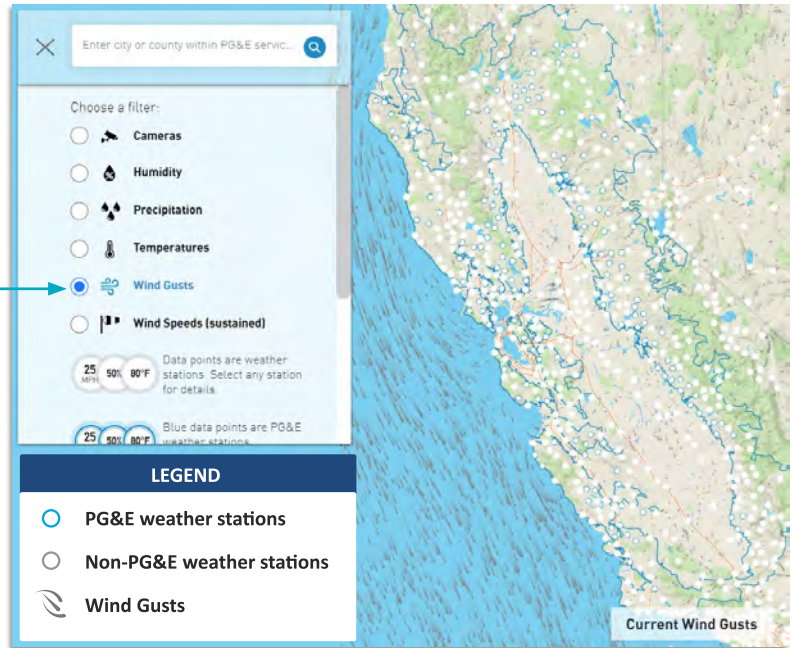
These models use:

- **Precise location data points across our service territory** to conduct hourly weather analyses using high-resolution, historical data
- **Over 100 trillion overall data points** and 20 trillion in PG&E's service area
- **Hourly weather data** such as temperature, relative humidity, wind speed, precipitation, pressure and dead and live fuel moisture
- **Data storage and processing** via the PG&E-Amazon Web Services Cloud




Weather Awareness

PG&E provides current weather conditions, an interactive weather map, forecasts and tools to prepare through our weather page.

- Learn about the role weather plays in a PSPS
- Find our 7-day PSPS potential forecast
- Review criteria to determine a PSPS
- Explore PG&E’s weather map to find:
 - HD camera locations and images
 - Weather station locations and outputs
 - Humidity and precipitation levels
 - Temperature
 - Wind gusts and speeds



Explore all that PG&E’s meteorology department has to offer at: pge.com/weather

Who Makes Up the Team?	What Do We Do?	Who Do We Work With?
		
<ul style="list-style-type: none"> • Leadership from PG&E’s Meteorology and Fire Science, Meteorology Operations and Systems and Analytics • Over 15 team members with backgrounds in meteorology, data science, fire weather analysis, high-resolution weather modeling, cloud-computing and more 	<ul style="list-style-type: none"> • Analyze historic weather patterns to inform future decisions • Create high-resolution weather models used by industry leaders • Utilize one of the world’s largest utility-owned weather station and high-definition camera networks to monitor and forecast wildfire risks • Inform PSPS decision-making 	<ul style="list-style-type: none"> • Our team regularly collaborates with San Jose State’s Fire Weather Research Lab, the University of Madison Wisconsin Space Science and Engineering Center, Technosylva, the National Weather Service, the U.S. Forest Service, Atmospheric Data Solutions, as well as others

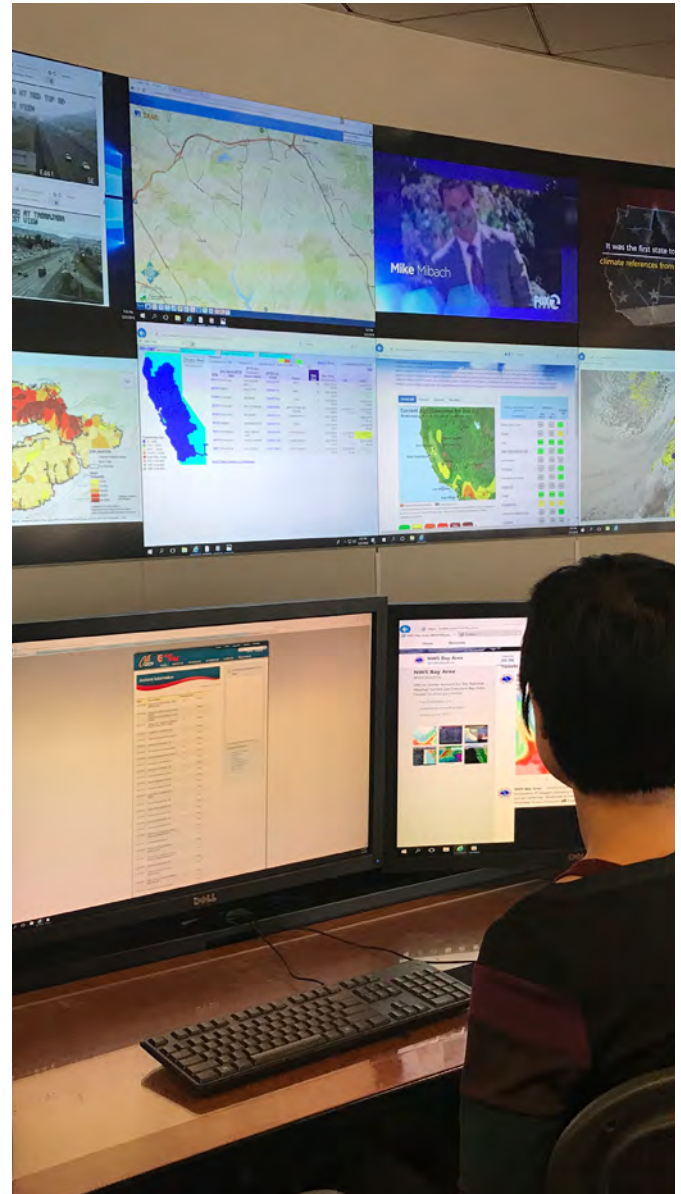
PSPS DECISION-MAKING



How Do We Determine When PSPS is Necessary?

PG&E carefully monitors data from multiple sources to confirm that conditions require a power shutoff for public safety. These sources include weather data and federal forecasts, such as the following:

- High resolution forecasts of the Fire Potential Index (FPI), Ignition Probability and *Technosylva* Fire Spread Simulations
- Weather model forecast data from external sources including American, European and Canadian weather models
- Red Flag Warnings from the National Weather Service
- High Risk forecasts of Significant Fire Potential from the Geographic Area Coordination Center
- Fire weather outlooks from the Storm Prediction Center, which is part of the National Weather Service and National Oceanic and Atmospheric Administration
- Information received on Interagency Conference Calls during high-risk periods
- Field observer information
- Real-time data from weather stations



PSPS Risk/Benefit Analysis

While we shut off power to protect public safety, we also recognize how losing power can disrupt lives and create its own safety risks. To help us better assess the potential impact of a PSPS outage, we analyze the potential safety risk of turning the power off with the potential risk of wildfires that could occur on the circuits being considered for PSPS. The analysis uses safety as its primary driver, with customer reliability and financial impact scores being secondary considerations. **The purpose of this step is to ensure that PSPS is being used as a last resort to protect the safety of customers and communities.**

Distribution System PSPS Decision-Making

When determining whether to turn off power for safety, we start with the distribution system, which has power lines that are closer to communities and generally more susceptible to severe weather threats. The values presented here were developed using 10 years of PG&E's high-resolution climate data to help understand wildfire risk and the potential customer impacts of PSPS events.

In general, there are three steps for determining if a PSPS is necessary. These are explained in further detail below.

1

If **ALL** the minimum fire conditions are met...



High wind speeds



Low fuel moisture



Low relative humidity



High fire potential

2

...we conduct an in-depth review of fire risk using three separate measures:

A. Catastrophic Fire Probability

PG&E uses machine learning to assess the likelihood of equipment to fail during a given weather event and the risk of catastrophic wildfire if a failure occurs. This model uses a combination of the IPW Model and the Fire Potential Index (FPI).

B. Catastrophic Fire Behavior

Even if probability of a power line or equipment failure is unlikely, we may still turn off power where the consequence of a potential wildfire starting would be extreme.

C. Vegetation and Electric Asset Criteria Considerations

We review locations from recent safety inspections of our electric equipment to determine where high-priority tree or electric compliance issues are present that may increase the risk of ignition.

3

If **ANY** of these three measures outlined in step 2 are met, we turn off power for safety

Determining the Outage Area

Each of the three measures is evaluated within a small geographic area (4 square kilometers). If any of the measures are met, circuits within that area are de-energized. Because power lines travel across long distances, customers outside the affected area may also be impacted.

STEP 1 MINIMUM FIRE CONDITIONS/FIRE POTENTIAL INDEX

The first step of determining the scope of a PSPS event is evaluating the minimum Fire Potential Conditions. These conditions serve as a first review of weather conditions for PSPS to be considered. This ensures that PSPS is only executed during wind events when the atmospheric conditions and fuels (live and dead) are dry.

The minimum Fire Potential Conditions includes when **ALL** of the following criteria are met:



>0.7
Fire Potential Index



<30%
Humidity



>19MPH
Sustained wind speeds



<9-11%
Dead Fuel Moisture



Fire Potential Index



Fire Potential Index (FPI) is used as a daily and hourly tool to drive operational decisions to reduce the risk of utility-caused fires. It has been enhanced in 2019 and again in 2021 with additional data and improved analytic capabilities. The latest iteration of the model is called the 2021 FPI model. The 2021 FPI model is a machine learning model.

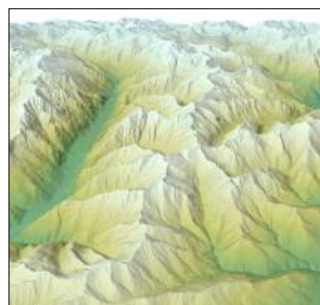
At a high level, the 2021 FPI model combines the following to predict the probability of large and/or catastrophic fires:



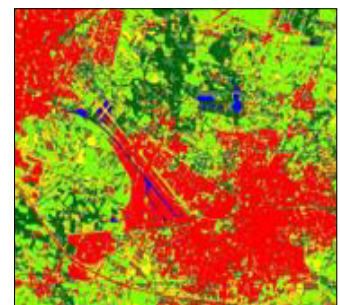
Fire weather parameters
(wind speed, temperature and vapor pressure deficit)



Fuel moisture data
(dead fuel, such as fallen branches and trees, and live fuel, such as growing shrubs and grass)



Topography
(terrain ruggedness, slope, wind-terrain alignment)



Fuel type data
(grass, shrub, timber, urban)

The FPI model outputs the probability that a fire will become large or catastrophic, which is considered as part of the PSPS decision-making process.

STEP 2 IN-DEPTH REVIEW OF FIRE RISK

If all the minimum fire conditions in Step 1 are met, we conduct an in-depth review of fire risk using three separate measures. If the criteria for ANY of these measure are met then we may need to turn off power for safety:

- A. Catastrophic Fire Probability
- B. Catastrophic Fire Behavior
- C. Vegetation and Electric Asset Considerations

Further detail for each of these criterion is below.

A. Catastrophic Fire Probability

The Catastrophic Fire Probability Model (CFP_D) is the primary method of determining whether a PSPS event is necessary. This model combines the probability of fire ignitions due to weather impacting the electric system with the probability that a fire will be catastrophic if it starts. It is the combination of the FPI model described above and the IPW model outlined below.

Ignition Probability Weather Model

When determining the potential for utility-caused ignitions, PG&E uses historical outage data as a primary source of information. An outage generally means that the system has been damaged in some way.

The IPW model, a machine learning model, uses 10 years of weather data to correlate approximately 500,000 outages occurring on PG&E's distribution grid. This data provides the likelihood of an outage for specific circuits during past weather events. The model also uses historical data to identify the outage causes. **This helps because some outages are more likely to cause an ignition than others (i.e., a downed power line has more ignition risk than a blown fuse).**

The IPW model analyzes the potential for several types of outages in a given weather event, as well as the potential for that outage to be the source of an ignition. Some of the causes tracked include vegetation, structural failures, electrical malfunctions, animal or third-party damage and unknown causes.

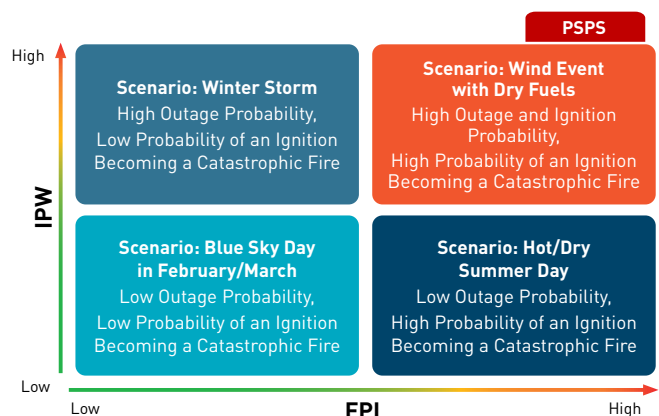
IPW learns and accounts for changes on the grid from year to year. These include positive changes in performance from EVM, system hardening and well as potentially negative changes due to the drought and other factors.

Tree Considerations

New for 2021, our PSPS Protocols now utilize a machine learning model to integrate the potential for trees to strike the lines into our IPW Model. This helps our meteorology teams more accurately analyze risk posed by trees and how that translates to increased ignition probability.

$$IPW = P(\text{Ignition}) = \sum_{\text{type}}^{\text{cause types}} P(\text{Outage}_{\text{type}}) * P(\text{Ignition}_{\text{type}} | \text{Outage}_{\text{type}})$$

This graph shows how PG&E ranks scenarios based on the IPW risk and the FPI value. Scenarios with a high risk of an IPW and a high FPI value will always warrant a PSPS. However, for the safety of our customers and communities, power may be shut off in other scenarios to avoid catastrophic wildfires.



B. Catastrophic Fire Behavior

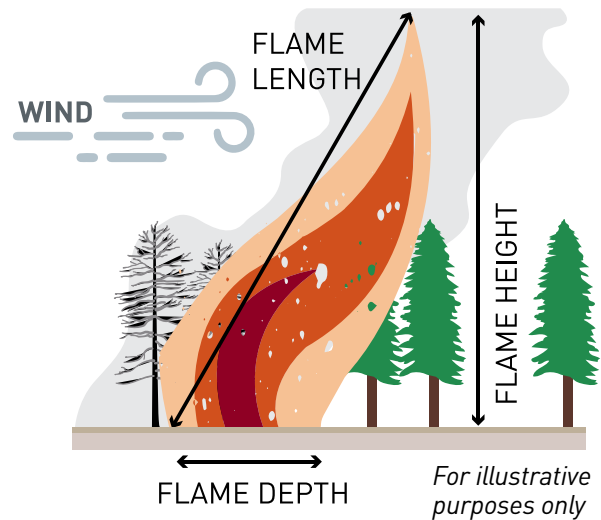
In 2020, PG&E introduced an evaluation of conditions that could lead to a major wildfire, even if there is a lower probability of an outage. In addition to using historical data and machine learning models, PG&E also considers environmental conditions, like dead and dying trees or drought conditions, of significant wildfires. This allows us to capture potential ignition events that are more rare and difficult to forecast such as animal contacts and external debris (e.g., metallic balloons), impacting the electric lines. These locations are only considered once the minimum fire potential conditions are met.

The United States Forest Service Rocky Mountain Research Station, a federal hub of wildfire research, has published documentation that relates the observed and modeled fire behavior to the type of fire suppression efforts that may be effective or ineffective. This includes a study of fireline intensity, which is an analysis of how wildfires can grow and spread.

Fireline intensity is determined by the size components of flames. It is measured as the rate of heat energy released (Btu) per unit length of the fireline (ft) per unit time (s).

It can also be calculated by estimating the flame length, which is the distance measured from the average flame tip to the middle of the base of the fire.

We use potential fireline intensity to evaluate the potential need to turn off power.



The two rows outlined are considered catastrophic fire behavior, which would necessitate a PSPS.

FLAME LENGTH (L)	FIRELINE INTENSITY	INTERPRETATION
ft	Btu/ft/s	
< 4	< 100	<ul style="list-style-type: none"> Fires can generally be attacked at the head of flanks by persons using hand tools Hand line should hold the fire
4-8	100 - 500	<ul style="list-style-type: none"> Fires are too intense for direct attack on the head by persons using hand tools Hand line cannot be relied on to hold the fire Equipment such as dozers, pumpers, and retardant aircraft can be effective
8-11	500 - 1000	<ul style="list-style-type: none"> Fires may present serious control problems - torching out, crowning, and spotting Control efforts at the fire head will probably be ineffective
> 11	> 1000	<ul style="list-style-type: none"> Crowning, spotting, and major fire runs are probable Control efforts at head of fire are ineffective

This chart is reproduced from Andrews, et al., 2011. It shows the relationship of the surface fire flame length, measured in feet (ft), and fireline intensity, measured in British Thermal Units per feet per second (Btu/ft/s), to different methods of fire suppression and their effectiveness.

C. Vegetation and Electric Asset Criteria Considerations

We review locations where high priority trees or electric compliance tags are present that may increase the risk of ignition. If an area is forecast to experience Minimum Fire Conditions and there are known issues with equipment or vegetation that have not yet been addressed, we may need to turn off power, even if the criteria above are not met. Note that we will make every effort to address these conditions in advance so turning off power is only a last resort.

Priority 1 or Priority 2 Tree Tags

We will turn off power if there are trees with open maintenance tags.



PRIORITY 1 TREES

Must be addressed within
24 hours

- **In contact or showing signs** of previous contact with a primary conductor
- **Actively failing** or at immediate risk of failing and which could strike PG&E's facilities
- **Presenting an immediate risk** to PG&E's facilities



PRIORITY 2 TREES

Must be addressed within
30 days

- **Encroached within** the PG&E minimum clearance requirements
- **Having any other identifiable potential safety issues**, including the ability to strike PG&E facilities, requiring expedited work

Electric Asset Criteria

We will turn off power if there is equipment with open high-risk safety-related compliance tags.



REPAIR TAGS

A TAGS

Must be addressed
immediately

B TAGS

Must be addressed within
3 months of identification

E TAGS

Are addressed based
on **priority**

PG&E actively inspects for and schedules work to address these tags. To the extent possible, we take a proactive stance to identify and fix these issues in the areas that may be within a severe weather footprint before a potential PSPS event so we don't have to turn off power.

However, if an area meets event criteria and also has open tags, we will shut off power and prioritize work on these tags immediately.

Transmission PSPS Decision-Making

In addition to analyzing distribution circuits that may need to be de-energized for safety, we also review the transmission lines and structures in those areas where meteorology has identified severe weather conditions. Transmission lines are like the freeways of the electric system, carrying high-voltage energy across long distances.

Similar to our distribution protocols, there is no single factor or threshold that will require shutting off power to a transmission circuit. When determining whether to turn off power for safety on transmission lines, we review the same minimum fire potential conditions as with distribution lines. If these conditions are met, we will then look at the below criteria to determine whether a transmission line must be shut off for public safety.

TRANSMISSION LINE PSPS SCOPING CRITERIA



Asset Health

Risk assessment based on FPI and Operability Assessment (OA) to determine probability of asset failure due to weather and CFP



Vegetation Risk

Risk assessment based on a Transmission Vegetation Risk Model and FPI to determine the probability of fire ignitions due to vegetation failure and CFP



Catastrophic Fire Behavior

Analysis of fire spread modeling from *Technosylva* to determine where intense and fast-spreading fires are possible



Additional Vegetation and Electric Asset Criteria

Transmission Asset Health Specialists review locations of known high-priority trees and electric compliance A Tags



Public Safety Impact

Grid stability and potential de-energization impacts considered (i.e., non-consequential loss, generation loss)



Safety Shutoff Decision

Decision is made on a transmission structure level that intersects within a weather footprint

Additionally, during rare cases where weather conditions are especially windy and dry that the chance of a wildfire starting would be extremely dangerous, we may need to turn off power to transmission lines even if the equipment is unlikely to fail. This is known as the Catastrophic Fire criteria.

Once PG&E identifies the initial scope, we work with the California Independent Service Operator (CAISO) to ensure the initial scope is workable. This includes analyzing whether it will compromise the power supply to other jurisdictions, utilities or facilities connected to our system. This important step can last several hours, which is why the potential scope of a PSPS may change as we get closer to the forecasted weather event.

Operational Assessment (OA)

The OA determines the probability that an asset (a tower or pole structure plus the equipment and conductors it supports) will fail during wind gusts of a given speed. While wind speed is the intensity measure used to determine this probability, the OA considers many damage mechanisms, such as corrosion, fatigue, wear and decay, that could lower the capacity of an asset to resist extreme winds.

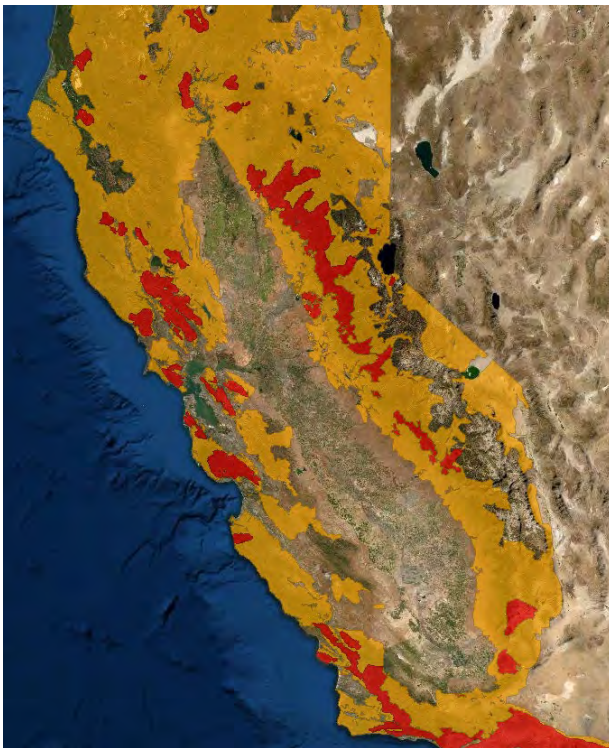
STEP 3 DETERMINING THE OUTAGE AREA

Power is turned off if any of the criteria listed above are met over a certain geographic area. This happens if the criteria are met for more than 25 2x2 km grid cells, or 0.25% of PG&E's High Fire Risk Area (HFRA). This map is used in distribution and transmission decision-making.

PG&E's High Fire Risk Area Map

This year, PG&E is enhancing its fire risk mapping to more closely align with the risk of catastrophic fire from offshore winds. As part of our holistic review of wildfire risk, PG&E has re-examined the boundaries of the California Public Utilities Commission (CPUC) High Fire-Threat District (HFTD) map to be more reflective of current conditions in our service territory.

CPUC HFTD MAP

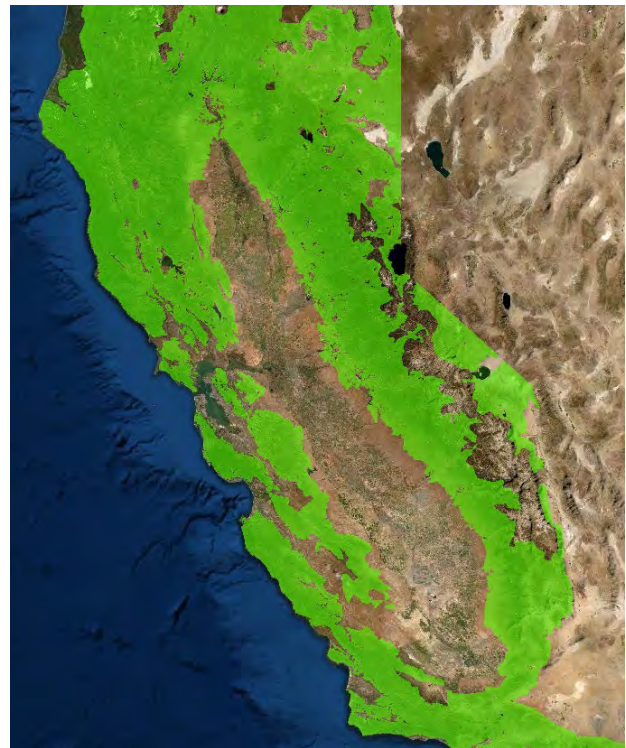


■ HFTD Tier 2 ■ HFTD Tier 3

HFTD Background:

- Built to categorize areas of fire risk, not utility assets – not intended to be used for PSPS scoping
- Since its release in 2018, the map has been used as a general reference guide for where PSPS events may be necessary

PG&E HFRA MAP



■ HFRA

HFRA Background:

- Re-examination of HFTD to align catastrophic wildfire risk driven by offshore winds and to reflect the latest land-use and fuel conditions
- Built by making incremental changes around the HFTD boundaries using both computer analysis and on-the-ground observations
- Designed to include all areas of significant fire risk and omit areas where risk may be overstated

Determining When it is Safe to Restore Power

PG&E shuts off power during severe weather to protect public safety. We understand that losing power can disrupt lives. As soon as it is safe to do so, PG&E will begin inspecting our lines and equipment to restore power to all customers within 24 hours when it is safe to do so.

Weather “All Clear”

Part of determining whether it is safe to begin inspections to restore power is determining that severe weather conditions have passed. PG&E uses weather stations, high-definition cameras and real-time observations from our Safety and Infrastructure Protection Teams across our service territory to monitor weather conditions and fire risks. Using this network of weather stations and advanced weather forecasting technology, we are able to determine when the severe weather has passed and we can begin inspecting for damage on the system.

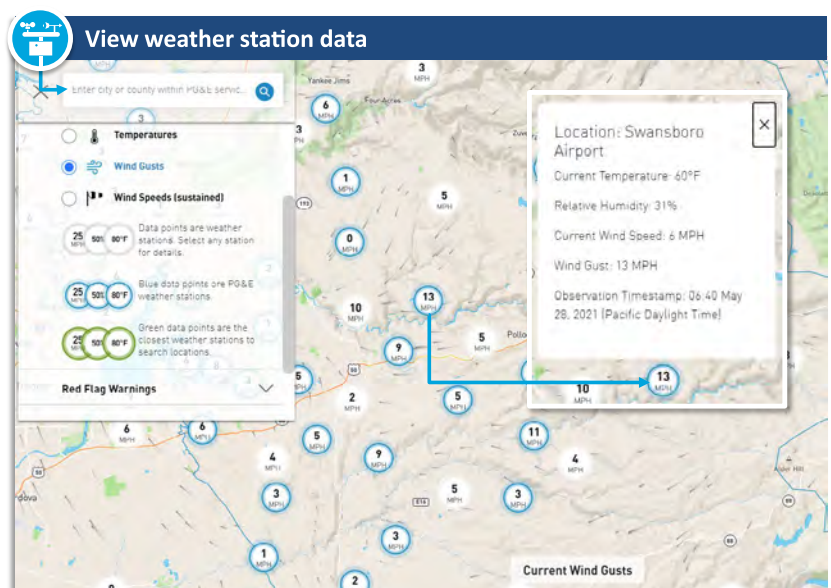
- We are continuing to build **one of the largest utility-owned weather stations networks in the world** which allows us to track temperature, wind speed and humidity in real-time.

✓ Over **1,100 weather stations** installed to date

🎯 Targeting **1,300 weather stations by the end of 2021** which will give us **one station every 20 miles in high fire-threat areas**

Available through PG&E’s weather map at:

pge.com/weather



Sample Weather Damage in Need of Repair

Following PSPS events, we analyze damage to the system and hazard. Each hazard or instance of damage would have potentially been an ignition source. In 2020, we experienced **257 separate damages/hazards** to our electric equipment in areas that were de-energized over the course of **six PSPS events**.



NOTIFYING CUSTOMERS AND COMMUNITIES



When we know that severe weather is coming that might require a PSPS, we first notify agencies, tribes and critical customers up to three days in advance. We then notify customers through a variety of channels and provide updates at regular intervals.

Direct-to-Customer Outreach

We will attempt to reach customers through automated calls, texts and emails. Note that timing is subject to change based on weather conditions and other real-time, emerging factors.

72-48 hours before power is turned off

ADVANCED NOTIFICATION: After PG&E's EOC is activated, direct contact is made to Cal OES and county OES/tribal contacts. We will also provide an initial notification to agency contacts. Customers impacted by outages on transmission lines will also receive notification.

48-24 hours before power is turned off

PSPS WATCH: We will send a notification to agency contacts in advance of sending customer notifications.

4-0 hours before power is turned off

PSPS WARNING: We will send a notification when the decision to de-energize has been made.

Just before **Shut Off**

SHUT OFF: Customers are notified power is about to be or has just been shut off for public safety.

Timing is **weather dependent**

CANCELLATION/UPDATE: A notification will be sent if at any time weather conditions change and a PSPS event is cancelled or different areas will be impacted.

Following **weather "all-clear"**

POST-WEATHER EVENT: After severe weather has passed, we will notify agencies that system inspections are underway and will follow up with additional notifications if there are significant changes to the forecasted restoration time.

Following **power restoration**

POWER RESTORATION: A notification will be sent once power in a given area has been restored.



We will also use our website (pge.com/pspsupdates), social media, community-based organizations, local news and radio outlets to keep customers informed and updated.

SUPPORT FOR CUSTOMERS AND COMMUNITIES



We know that losing power disrupts lives. That is why we have programs in place to help customers to prepare in advance of a PSPS and to provide support during an event. These include:



PORTABLE BATTERY PROGRAM

Portable batteries are available to low-income Medical Baseline customers who either reside in HFTD areas or have experienced 2+ PSPS events



GENERATOR REBATE PROGRAM

Rebates are available to HFTD customers who:

- Are enrolled in the Medical Baseline Program
- Rely on well water
- Are small, essential (non-critical care) business (i.e., grocery stores, veterinarians)



SAFETY ACTION CENTER

Information and tools to help customers before, during and after an emergency to keep their home, family or business safe.



COMMUNITY RESOURCE CENTERS

Safe, energized locations for customers to charge medical devices and receive basic supplies (i.e., water and snacks) during a PSPS



COMMUNITY-BASED ORGANIZATION SUPPORT

Partnerships with local organizations to provide information and in-language support, portable batteries, hotel stays/food stipends and accessible transportation



FOOD BANK/MEALS ON WHEELS SUPPORT

Providing meal replacements to communities impacted by PSPS outages

Additional Resources



Visit PG&E's YouTube Channel:

www.youtube.com/user/pgevideo

To view more PSPS information, tips to be prepared and other resources



To view webinar slides and recordings, visit

pge.com/firesafetywebinars

For more information

About our wildfire safety efforts and the topics below, visit:

pge.com/wildfiresafety

Or call us at **1-866-743-6589** or email us at wildfiresafety@pge.com