

Susan C. Martinez
Director of Liaison, Regulatory
Operations and Engagement
300 Lakeside Drive
Oakland, CA 94612
Tel: 415-513-3871
Susan.Martinez@pge.com

February 7, 2025

VIA ELECTRONIC MAIL

Leslie Palmer Director, Safety and Enforcement Division California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102

Dear Mr. Palmer:

As required by Resolution ESRB-8 and in accordance with Ordering Paragraph 1 of California Public Utilities Commission (CPUC) Decision (D.) 19-05-042, Pacific Gas and Electric Company (PG&E) respectfully submits this report for the January 22 – 24, 2025 PSPS. This report has been verified by a PG&E officer in accordance with Rule 1.11 of the Commission's Rules of Practice and Procedure.

Members of the public may submit both formal and informal comments on this report to the CPUC by following instructions on the CPUC's website (www.cpuc.ca.gov). The CPUC's Public Advisor's Office has established procedures for providing such comments, including via online form. Comments may also be submitted directly to the Director of the Safety and Enforcement Division (SED) of the CPUC using the contact information below.

If you have any questions, please do not hesitate to call.

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Sincerely,

Susan C. Martinez

Director of Liaison, Regulatory Operations and Engagement

Enclosures

cc: Anthony Noll, SED

ESRB_ComplianceFilings@cpuc.ca.gov EnergyDivisionCentralFiles@cpuc.ca.gov Pacific Gas and Electric Company (PG&E)
Public Safety Power Shutoff (PSPS) Report to the California Public Utilities Commission (CPUC)
January 22 – 24, 2025 De-energization

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PG&E Public Safety Power Shutoff (PSPS) Report to the CPUC January 22 – 24, 2025 De-energization

Section 1 – Summary and Overview

Section 1.1 - Brief description of the PSPS event starting from the time when the utility's Emergency Operation Center is activated until service to all customers have been restored. (D.21-06-014, page 286, SED Additional Information.)

Response:

High winds can cause tree branches and debris to contact energized electric lines, and potentially damage our equipment causing 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). PG&E will not take any chances with customer safety. For the safety of our customers and communities, PSPS continues to be a necessary tool as a last resort. We know that turning off the power disrupts lives, and do not take this decision lightly.

During the January 20 - 21, 2025 PSPS, PG&E's Meteorology Team continued to monitor weather reports and began tracking additional unfavorable weather conditions driven by the Santa Ana winds for January 22 - 24, 2025. Due to the ongoing severe weather, the EOC remained activated. Once the PSPS scope was confirmed on January 21, approximately one day before potential de-energization, we formally notified Public Safety Partners and customers in the areas anticipated to be impacted, readied the grid, and prepared Community Resource Centers (CRCs) and other customer support.

We also coordinated with Southern California Edison (SCE) as their customers served by a PG&E circuit were in scope for de-energization. These customers are referred to as "shared customers." Throughout this EOC activation, we were in constant contact with SCE related to scope and notifications for customers in these areas.

We closely monitored weather conditions across two Time Places (TPs)¹, as shown in Figure 1, and ultimately PG&E decided to move forward with de-energizing customers, due to unfavorable weather conditions.

On January 22 at 17:37 PST, PG&E began de-energizing its assets and customers to mitigate catastrophic wildfire risk across the Tehachapis and I-5 Grapevine area. Wind gusts up to 46 mph were recorded during the period of concern.

PG&E opened one CRC operated in Kern County, which hosted approximately 500 visitors through January 24, 2025. Additionally, we partnered with local organizations to provide resources and support to our Access and Function Needs (AFN)² customers. See Section 6.5 for more details.

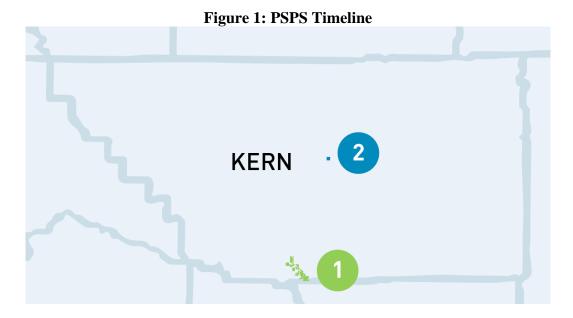
¹ A Time-Place (TP) is a portion of the PG&E grid that is electrically and geographically coherent and is forecast to experience consistent timing for severe fire weather. Time-Places are identified for each PSPS and receive consistent treatment for notifications and de-energization. Once actual weather conditions occur, Weather "All-Clear" and service restoration times may vary due to actual weather conditions within a TP.

² AFN is defined by the CPUC as individuals who have developmental or intellectual disabilities, physical disabilities, chronic conditions, injuries, limited English proficiency or who are non-English speaking, older adults, children, people living in institutional settings or those who ware low income, homeless, or transportation disadvantaged, including but not limited to those who are dependent on public transit or those who are pregnant.

Once winds subsided on January 24 at 08:17 PST, the Weather All-Clear was issued for all circuits in All-Clear zones. During this PSPS, we ultimately de-energized 583 customers³ in two TPs across Kern County.

During patrol inspections, we did not identify any damages or hazards caused by weather.

Customers were re-energized safely and as quickly as possible. Within 24 hours of the Weather All-Clear, 100% of customers' power had been restored. The average restoration time for this PSPS was 2.2 hours.



Section 1.2 - A table including the maximum numbers of customers notified and actually de-energized; number of counties de-energized; number of Tribes de-energized; number of Medical Baseline customers de- energized; number of transmission and distribution circuits de- energized; damage/hazard count; number of critical facilities and infrastructure de-energized. Hazards are conditions discovered during restoration patrolling or operations that might have caused damages or posed an electrical arcing or ignition risk had PSPS not been executed (D.21-06-034, Appendix A, page A15, SED Additional Information.)

Response:

Table 1 identifies the maximum number of customers notified and de-energized; number of Tribes de-energized; number of counties de-energized; number of Medical Baseline (MBL) Program customers de-energized; number of transmission and distribution circuits de-energized; damage/hazard count; and number of Critical Facilities and Infrastructure (CFI) de-energized.

3

³ Customers refers to active service points (meters).

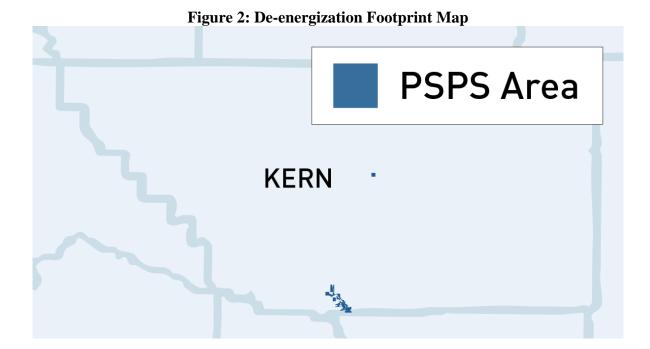
Table 1: Customers Notified and De-energized⁴

Т	Cotal Custom	iers	MBL Program Customers	Counties	Tribes Circuits		Damaga			
Notified	De- energized	Cancelled	De- energized	De- energized	De- energized	Transmission De-energized	(irellife in	Circuits De-	Damage / Hazard Count	CFI De- energized
583	583	0	26	1	0	4	2	2	0 damages 0 hazards	33

Section 1.3 - A PDF map depicting the de-energized area(s) (SED Additional Information.)

Response:

During the January 22 - 24, 2025 PSPS, we de-energized 583 customers in two TPs. The final de-energization footprint is shown in Figure 2.



⁴ The information, times, and figures referenced in this report are based on the best available information available at the time of this report's submission. The information, times, and figures herein are subject to revision based on further analysis and validation.

Section 2 – Decision Making Process

Section 2.1 - A table showing all factors considered in the decision to shut off power for each circuit de-energized, including sustained and gust wind speeds, temperature, humidity, and moisture in the vicinity of the de-energized circuits (Resolution ESRB-8, page 3, SED Additional Information.)

Response:

See Appendix A for a list of factors considered in the decision to de-energize each of the circuits in scope for the January 22 - 24, 2025 PSPS.

Section 2.2 - Decision criteria and detailed thresholds leading to de-energization including the latest forecasted weather parameters versus actual weather. Also include a PSPS decision-making diagram(s)/flowchart(s) or equivalent along with narrative description (D.19-05-042, Appendix A, page A22, D.21-06-014, page 284, SED Additional Information.)

Response:

This section provides an overview of the criteria and threshold evaluation process that were used in the decision to de-energize customers during the January 22 - 24, 2025 PSPS.

PSPS Preparation and Scoping Process

At a high-level, Figure 3 shows the process used to prepare for a PSPS. PG&E utilized and referenced the following protocols and tools during the January 22-24, 2025 PSPS to determine the latest forecasted weather parameters versus actual weather. Appendix A includes anticipated parameters based on the latest forecast used to develop the planned de-energization scope versus actual weather parameters for each circuit.

Activate EOC

Approve Scope & Power Flow Assessment

Approve Additional Notifications

Approve Additional Notifications

Confirm/Cancel/Delay
Meeting(s) (optional)

Planning

Readiness
Posture

Approve Notifications

De-Energize
Lines

De-Energize
Lines

Patrol and
Restore

Post-Event
Reporting

Figure 3: PG&E's High-level PSPS Process Steps

PG&E considers executing a PSPS when strong gusty winds, critically low humidity levels, and low fuel moisture levels pose an unacceptable risk of causing fast-spreading, catastrophic wildfires. Assessments begin several days before the weather event is forecasted to take place.

We identify weather conditions that could create high fire potential by using a combination of high outage and ignition potential, high-resolution internal and external weather forecasting models and data from federal agencies that include the following:

- <u>Ignition Probability Weather (IPW)</u>: Determines the potential of an outage due to weather conditions, and then for that outage to lead to an ignition.
- Fire Potential Index (FPI): Assists with fire model development and calibration.

• Technosylva: Provides fire spread modeling via data inputs.

Through partnerships with external experts, we developed our machine learning models using historic datasets and advanced forecast models that provide a better understanding of historical weather events and improve our weather forecasting. These models use the following:

- Precise location data points across our service territory to conduct hourly weather analyses using high-resolution, historical data.
- Over 100 trillion data points of historical weather and fuel.
- 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.

Our thresholds and guidance for identifying critical fire risk and outage/ignition potential are determined by analyzing and rigorously testing our current PSPS protocols and criteria through decades of historical weather data in and around California.

External forecast information from the National Weather Service (NWS) (e.g., Red Flag Warnings (RFWs)) and other forecast agencies are examined carefully. Furthermore, we coordinate with these agencies during high-risk periods via daily conference calls to ultimately decide whether to de-energize portions of the grid for public safety.

Tools and Technology

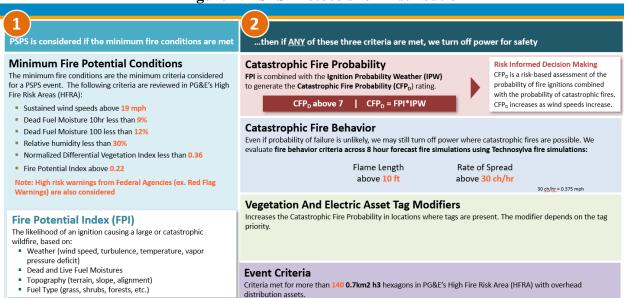
PG&E partners with Technosylva, an external expert in the wildfire modeling field to test and deploy cloud-based wildfire spread model capabilities. This helps us to better understand where we might need to turn off power.

Each day, PG&E delivers our wildfire conditions datasets to Technosylva, who then perform over 100 million fire spread simulations to provide fire spread scenarios that help to identify circuits that may be at risk during dry, windy weather. These are done every three hours, for the five days ahead.

Decision Criteria and Thresholds for Distribution PSPS Protocols

When determining whether to turn off power for safety, we start with the distribution system. These powerlines are closer to communities and are generally more susceptible to dry, windy weather threats. The values presented in Figure 4 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. We evaluate within a small geographic area (700 square kilometers) and if any of the measures are forecasted to be met, we scope the circuit segments within that region for deenergization. There is no single criterion or threshold that will require turning off power to a distribution circuit. For event-specific thresholds, see Appendix A. Our process is outlined in Figure 4 below.

Figure 4: PSPS Protocols for Distribution



Step 1: Minimum Fire Potential Conditions

The first step to determine the scope of a PSPS is evaluating the Minimum Fire Potential Conditions (mFPC). This ensures that PSPS is only executed during wind events when atmospheric conditions and fuels are dry. A PSPS is evaluated if the mFPC noted in Step 1 of Figure 4 above is met.

These values were established from an examination of historical fire occurrence in the PG&E service area, PSPS sensitivity studies using historical data viewed through the lens of both customer impacts and wildfire risk mitigated, as well as information published by federal agencies regarding fire behavior and criteria used to issue warnings to the public.

Step 2: In-Depth Review of Fire Risk

If all minimum fire conditions are met, we conduct an in-depth review of fire risk using three separate measures. If the criteria for any of these measures are met, we may need to turn off power for safety. We evaluate all the factors below together, rather than isolating any specific factor to assess fire risk against the potential harms of de-energization. For event-specific factors, see Appendix A.

- <u>Catastrophic Fire Probability (CFPD)</u>: 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 IPW and the FPI. The CFPD model accounts for changes over time based on actual performance data. Thus, the model will address positive and negative trends in grid performance and reliability year-over-year, incorporating grid improvements such as system hardening, and enhanced vegetation management based on their performance at mitigating outages over time.
 - o IPW Model: A system comprised of two machine learning models. These models are used to evaluate the probability of outages across several outage classes (Outage Probability Weather (OPW) model) and the probability of that outage becoming an ignition (Ignition Given Outage Probability Weather Model (IOPW)). These models are combined for each location at each hour to ascertain the ignition probability. These machine learning models use 10 years of weather data to correlate approximately 500,000 outages occurring on PG&E's

- distribution grid. The model analyzes the potential for several types of power outages in each weather event, as well as the potential for that outage to be the source of an ignition. IPW learns from and accounts for changes on the grid from year-to-year.
- FPI Model: This model outputs the probability that a fire will become large or catastrophic and is used as a daily and hourly tool to drive operational decisions to reduce the risk of utility caused fires. It was enhanced in 2024 with additional data and improved analytic capabilities.
- <u>Tree Considerations</u>: Our PSPS protocols utilize a machine learning model to integrate the potential for trees to strike the lines into our OPW Model and IPW Model. This helps our Meteorology Team more accurately analyze risk posed by trees and how that translates to increased ignition probability. See Figure 5 below explaining OPW modeling. Scenarios with a high risk of an IPW and a high FPI value will always warrant a PSPS. However, power may be turned off in other scenarios to avoid catastrophic wildfires.

Figure 5: Incorporating Tree Strike Potential into PSPS Modeling Enhanced PG&E Outage Probability Weather Machine Learning Model (OPW 5.0) OPW 5.0 is a multi-classification machine learning model predicting the probability of outage for each cause class **Model Features Model Approach** Weather Asset Age **Local Performance** Vegetation Exposure Environmental OPW is updated annually with the latest model data and outages and is trained on all hours since 2008 and whether an unplanned outage was observed or not in each location, representing more than 550,000 outages and 270 billion data points evaluated in the development of OPW 5.0 Tree Height + Canopy Outage trends Turbulence Cover of Strike Trees OPW exponentially weights recent years more heavily to learn and predict from Planet Labs Temperature system performance changes, including positive changes from vegetation outage node. management and system hardening, and negative changes from asset degradation and tree mortality. $OPW = P(Outage_{cell,hou})$ $P(Outage_{class,cell,hour})$ Improved spatial resolution of outage node from 50 to 26 primary overhead lines miles per node; and added secondary system to outage nodes. **Model Evaluation** Improved statistical skill **OPW 4.0 OPW 5.0 Model Feature Enhancements** HFRA Model **HFRA Model** across all outage cause Asset: Added pole age to the model as the model found older assets have classes compared to the **Outage Cause Class ROC AUC ROC AUC** increased probability of outage, so as assets are replaced, the forecast outage current models for both Vegetation 0.81 0.84 probability will decrease. HFRA and non-HFRA **Equipment-Structural** 0.70 0.72 **Outage Probability** 3rd-Party-Animal 0.68 0.68 Vegetation: Changed from one-time lidar derived tree overstrike (2019) to Weather models. Equipment-Electrical annual Planet Labs (formerly SALO) satellite derived tree heights and canopy 0.67 0.70 cover of strike trees with underlying resolution of 3m, will be updated annually. Unknown 0.64 0.68 No Outage 0.67 0.69 Weather: Added additional turbulence feature to enhance explanation of wind Macro-Average caused outages, added soil moisture to help with saturated soils related 0.70 0.72 **ROC AUC**

- <u>Catastrophic Fire Behavior (CFB)</u>: We also evaluate areas that are meeting mFPC (windy and dry conditions) but are not meeting our CFP guidance values by utilizing dynamic wildfire spread simulations from Technosylva. This allows us to consider potential ignition events that are rarer and more difficult to forecast such as animal and third-party contacts, or external debris impacting electrical lines. These locations are only considered once the mFPC are met, ensuring that conditions are sufficiently windy and dry.
- Fireline Intensity: The U.S. Forest Service Rocky Mountain Research Station did a study of fire line intensity which is determined by the size and components of flames. It is measured as the rate of heat energy released (Btu) per unit length of the fire line (ft) per unit(s). It is also calculated by estimating the flame length, the distance measured from the average flame tip to the middle of the fire's base. Internal studies that evaluated historical fire simulation outputs to actual fire events, damages, and fatalities showed that outputs of flame length and rate of spread were best correlated to historical fire outcomes.

- Studies, as mentioned above, have shown that more intense fires with higher flame lengths and higher rates of spread are more difficult to control. Thus, we evaluate fire simulation data that indicates where fast-spreading and intense fires could manifest and incorporate that into our PSPS decision making process.
- Vegetation and Electric Asset Criteria Considerations: We review locations from recent inspections where high-priority trees or electric compliance issues may increase the risk of ignition. If an area is forecasted 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.

PSPS Protocols for Transmission

In addition to analyzing distribution circuits that may need to be de-energized for safety, we also review the transmission lines and structures in areas experiencing dry and windy 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 turning off power to a transmission line.

Step 1: Minimum Fire Potential Conditions

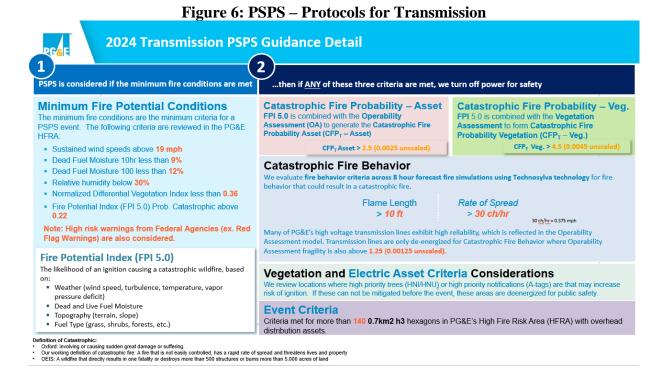
When determining whether to turn off power for safety on transmission lines, we review the same minimum fire potential conditions as with distribution circuits. If these conditions are met, we will review the criteria below to determine whether a transmission line must be turned off.

Step 2: In-Depth Review of Fire Risk

Once PG&E identifies the initial scope, we work with the California Independent System Operator (CAISO) to ensure the initial scope is appropriate. 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.

- <u>Catastrophic Fire Probability Asset (CFP_T Asset)</u>: We use computer models to assess the likelihood of equipment failure during a given weather event, and the subsequent risk of catastrophic wildfires if a failure occurs. This model uses a combination of the Operability Assessment (OA) and FPI Models, both in time and space, at every transmission structure to form the Transmission CFP_T model for asset failures. The OA Model combines historical wind speeds for each structure, historical outage activity, Bayesian updating, and the condition of assets based on inspection programs to help understand the wind-related failure probability of each structure. The OA Model can be driven with forecast wind speeds to output the probability of failure at the structure level.
- Catastrophic Fire Probability Vegetation (CFP_T Veg): The transmission-specific vegetation risk model is a calibrated probability of vegetation risk built internally using data collected and managed by PG&E vegetation management and external contractors such as NV5 and Formation Environmental. This model leverages aerial LiDAR data to map the location and attributes of trees near transmission lines. The transmission vegetation risk model is based on several factors such as overstrike, the amount of unobstructed fall paths to a wire, the slope between tree and conductor, and tree exposure. The transmission vegetation risk model is combined with the FPI Model in space and time to form CFP_T Veg.
- <u>Catastrophic Fire Behavior (CFB)</u>: We may de-energize customers where the consequence of a potential wildfire ignition would be extreme, even if the probability of a power line or equipment failure is low.

 Vegetation and Electric Asset Criteria Considerations: We review locations from recent inspections where high-priority trees or electric compliance issues are present that may increase the risk of ignition. Figure 6 provides a quantitative summary of our PSPS Protocols for Transmission.



Step 3: Determining the Outage Area

Transmission lines meeting the criteria above pass to the next stage of review. We conduct a Power Flow Analysis on the in-scope transmission lines (if applicable) to analyze any potential downstream impacts of load shedding.

Reviewing Impact and Forecasted Weather

After determining the outage area both for Distribution and Transmission, PG&E reviews the forecasted customer impacts of each circuit against the forecasted wildfire risk of each circuit. If there's reasonable risk for ignition on the distribution circuits or transmission lines during the forecasted weather event, it is included in the PSPS scope. During key decision-making points, we internally share this analysis to inform PSPS decision-making and further risk modeling.

Starting 12 hours before the forecasted PSPS de-energization time, we transition from evaluating forecast data to observing the weather in real-time. Based on real-time observations and analysis, we continually evaluate all the outage areas identified in the previous steps and use external tools and analysis to determine whether to initiate PSPS de-energization.

Decision-Making and Analysis to Validate if PSPS is Necessary

During high-risk periods, PG&E Meteorologists participate in daily interagency conference calls that commonly include multiple NWS local offices, the NWS western region headquarters, and representatives from the Geographic Area Coordination Center (GACC), also known as Predictive Services. This call is hosted by the Northern California and/or Southern California GACC offices.

During these calls, the external agencies present their expert assessment on the upcoming periods and locations of risk, wind speeds and fuel moisture levels, and any other relevant factors to consider.

During a PSPS, PG&E's Lead Meteorologist, called the Meteorologist-in-Charge (MIC), summarizes these forecasts and discussions for the PG&E Officer-in-Charge (OIC), who ultimately makes the decision to execute a PSPS.

The following sources and tools are considered before initiating a PSPS by the MIC:

- Fire Weather Watches and RFW (NWS Federal)
- Significant fire potential for wind (GACC Federal)
- Storm Prediction Center (part of the National Oceanic and Atmospheric Administration (NOAA) Federal)
- Daily interagency conference call with agencies during high-risk periods
- Field observer information
- Live weather data from weather stations
- Location of existing fires
- External weather model data

Based on the above analyses, we can determine how many customers may be subject to deenergization, and further investigate mitigation options, such as advanced switching solutions, sectionalization, the use of islanding, alternative grid solutions, and temporary generation, to support customers who could lose upstream power sources but are in areas that may be safe to keep energized.

We monitor and forecast weather over a multi-day horizon, so we can anticipate when a PSPS may be needed and activate our EOC as far in advance as possible. Our internal weather model and external modeling are updated multiple times per day. PG&E's Meteorology Team constantly evaluates both internal and external weather models for changes in weather timing, strength, and potential locations impacted. We then incorporate these changes into a new weather scope generally once per day.

Weather shifts may force changes to PSPS scope and impacts at any point in time during PSPS planning and execution; this may allow us to avoid de-energization in some areas if fire-critical conditions lessen but can also cause some areas and customers to move into de-energization scope late in the process if forecasted fire-critical weather footprints change or increase. Possible changes in PSPS scope and impact are driven by the inherent uncertainty in weather forecast models.

Section 2.3 - A thorough and detailed description of the quantitative and qualitative factors it considered in calling, sustaining, or curtailing each de-energization event including any fire risk or PSPS risk modeling results and information regarding why the de-energization event was a last resort, and a specification of the factors that led to the conclusion of the de-energization event. (D.20-05-051, Appendix A, page 9, SED Additional Information.)

Response:

The quantitative factors that were used in the decision to de-energize customers for safety are provided in Appendix A. Below, we outline a detailed description of the qualitative factors that were provided by our Meteorology Team when determining to de-energize customers.

PG&E Meteorology Team Review

On Monday, January 20, 2025, weather models indicated a Santa Ana wind event across Southern California that would potentially affect southern areas of Kern County developing on January 22. On Monday, January 20, PG&E's Meteorology Team, Emergency Planning and Response Team, and EOC Commander met to discuss the potential PSPS.

The EOC remained activated from the January 20 - 21, 2025 PSPS due to the ongoing risk of another PSPS.

The first PSPS scope was developed Monday evening, January 20, reflecting the risk of dry winds mostly along the Tehachapi Mountains and Grapevine along I-5 in southern Kern County.

During the afternoon hours of Sunday January 19, the federal forecast agency, NWS Oxnard, updated a Fire Weather Watch for portions of Los Angeles and Ventura Counties to extend into Thursday evening. On Tuesday January 21, they upgraded their Fire Weather Watch to a RFW through Thursday evening.

On January 21, South Ops Predictive Services included Moderate Risk in their forecast due to wind in the Tehachapi Mountains and adjacent foothills (SC09) for January 22 and January 23. On January 22, they upgraded to a High Risk in their forecast for January 23.

High Resolution PSPS Models Guidance

The tools and models outlined in Section 2.2 are part of the decision criteria that PG&E's Meteorologists consider when determining PSPS scope. Longer range weather forecast model data are used to determine the location and timing of a PSPS. Typically, these weather forecasts are less certain the farther the observed date. This is akin to the well-known hurricane "cone of uncertainty" in which the potential track of a hurricane is represented by an area that expands farther out in time, which resembles an expanding cone. Thus, there is an inherent tradeoff between the further out the forecasts are for a PSPS and the uncertainty in the PSPS scope and waiting until forecasts become more certain. Forecast uncertainty leads to changes in PSPS scope as weather forecast models are updated, and the scope is refined closer to the period of concern.

As the PSPS unfolds in real-time, PG&E's Meteorologists transition to real-time observations of weather stations, satellite data, pressure gradients, and live feeds from Alert Wildfire Camera. These observations help to evaluate if the weather is behaving as expected. In many instances, models trend stronger or weaker with each model iteration leading up to a PSPS.

External PSPS Decision Inputs

Meteorological analyses establish that high winds in California create significant fire threat and exacerbate fire spread. The NWS issues a RFW to indicate critical fire weather conditions under which any fire that develops will likely spread rapidly. California Department of Forestry and Fire Protection (CAL FIRE) states, "the types of weather patterns that cause a watch or warning include low relative humidity, strong winds, dry fuels, the possibility of dry lightning strikes, or any combination of the above." As noted previously, PG&E's PSPS outages consistently occur during periods and in areas where federal, state, and local authorities have identified as having extreme fire risk including the presence of strong winds.

We compare our fire risk forecasts against those of external agencies, for validation that there is shared recognition of high fire risk across the California meteorology community. Between January 21, 2025, and January 24, 2025, our analysis of fire risk justifying a PSPS was validated by numerous sources and warnings:

- South Ops Predictive Services issued their 7-day Significant Fire Potential Outlook showing Medium to High Risk for one Predictive Service Area SC09, which covered the Tehachapi Mountains and adjacent terrain.
- Red Flag Warnings from the NWS were issued from one local NWS office: NWS Oxnard (Figure 7).
- The NOAA's Storm Prediction Center's Fire Weather Outlooks indicating elevated fire-weather conditions across California (Figure 8).

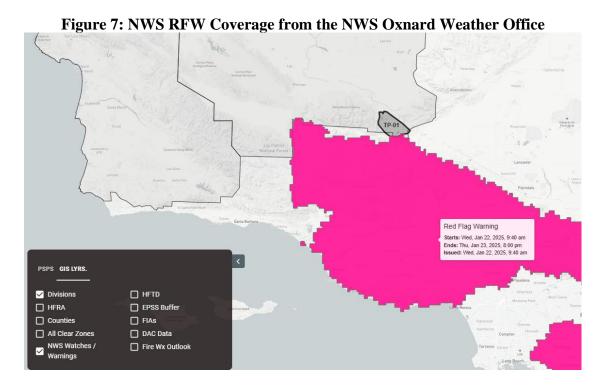
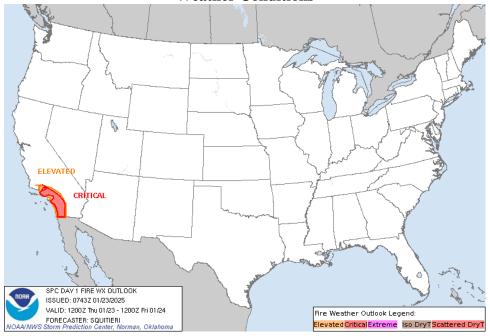


Figure 8: NOAA – Storm Prediction Center (SPC) Forecasts of Elevated and Critical Fire **Weather Conditions**

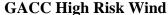


We also review forecasted wind speeds in the potential PSPS-impacted counties to evaluate the need for a PSPS. Figure 9 also shows the Utility Fire Potential Index (FPI) Ratings for Fire Index Areas (FIAs) in PG&E's service area for January 22, 2025. We determine the scope for PSPS outages within those FIAs with fire risk rating R5-Plus from PG&E's FPI model. In Figure 10, the PSPS scope can be compared with other agencies to vet the fire weather risk.

PG&E Utility Fire Potential Index Ratings Valid for 01/22/2025 PG&E Utility Fire Potential Index Ratings Valid for 01/23/2025 PG&E Utility Fire Potential Index Ratings Valid for 01/24/2025 R2 R2 R2 R1 R1 R1 RFW/FWW RFW/FWW RFW/FWW

Figure 9: PG&E Utility Fire Potential Index Ratings for January 22 – 24, 2025

Figure 10: Comparison of Federal Agency Sever Fire Weather Warning Footprints to Final PSPS Scope

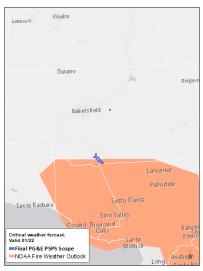


NWS RFW

NOAA Fire Weather Outlook







Section 2.4 - An explanation of how the utility determined that the benefit of deenergization outweighed potential public safety risks, and analysis of the risks of deenergization against not de-energizing. The utility must identify and quantify customer, resident, and the general public risks and harms from de-energization and clearly explain risk models, risk assessment processes, and provide further documentation on how the power disruptions to customers, residents, and the general public is weighed against the benefits of a proactive de-energization (D.19-05-042, Appendix A, page A24, D.21-06-014, page 284, SED Additional Information.)

Response:

For the January 22 – 24, 2025 PSPS, PG&E used the PSPS Risk Model with the latest scope prior to the first de-energization. As discussed in detail below, based on the scoping of this PSPS, our Risk Model supported initiating a PSPS based on the forecasted impact information that indicated that each of the two distribution circuits and four transmission lines in the latest scope surpassed the analysis threshold of one to support a PSPS. Note the PSPS Risk Model calculations are based on forecasted conditions.

PG&E's PSPS Risk-Benefit Tool, which is further detailed below, addresses the CPUC's requirements presented in the 2019 PSPS OII.⁵ This decision requires California investor-owned utilities (IOUs) to quantify the risk/benefits associated with initiating or not initiating a PSPS for our customers.

PG&E incorporated the aforementioned risk-benefit analysis into our PSPS execution process to help inform our PSPS decision-making process. Our risk-benefit tool aligns with California IOUs Multi-Attribute Value Function (MAVF) framework, as defined through the Safety Modeling Assessment Proceeding (SMAP), which specifies how various consequences are

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⁵ D. 21-06-014.

factored into a risk calculation. Utilizing this framework, we incorporate PSPS forecast information into our PSPS Risk-Benefit Tool, which is further described under the "Risk Assessment" section below.

The output of the tool is a ratio that compares the calculated PSPS potential benefit from initiating de-energization (i.e., mitigation of catastrophic wildfire consequence) to the risks associated with PSPS (i.e., impact to customers resulting from a PSPS outage). Key inputs in the risk-benefit analysis include results from Technosylva wildfire simulations specific to the distribution circuit and transmission lines in scope for a potential de-energization, the number of customers forecasted to be de-energized, and the forecasted number of customer minutes across each identified circuit in scope for a potential de-energization.

After the potential de-energization scope is determined, including the identification of potentially impacted circuits for the potential PSPS in question, this scope and the Technosylva wildfire simulation outputs are used as inputs into the Risk-Benefit tool, which quantifies the potential public safety risk and wildfire risk resulting from the forecasted impacts of the pending PSPS. Note that the Wildfire Risk Score is based on an 8-hour simulation from Technosylva and while useful, in some cases this can significantly understate the risk. Thus, the MIC may still recommend to de-energize circuits where the Risk-Benefit tool shows higher PSPS risk than Wildfire risk.

Risk Assessment

As referenced above, PG&E's PSPS Risk-Benefit Tool utilizes California IOU agreed approach utilizing the MAVF framework that captures the safety, reliability, and financial impact of identified potential risk events, as outlined in our Enterprise Risk Register.⁶ The tool's calculations use a non-linear scaling of consequences reflecting our focus on low-frequency/high-consequence risk events without neglecting high-probability/low-consequence risk events. Developed by the PSPS Risk-Benefit Tool, MAVF scores are used to compare the potential de-energization risk from a forecasted PSPS to the potential risk of catastrophic wildfires from keeping the circuits energized, specific to the potentially impacted circuits being considered for PSPS de-energization.

The following inputs are used in calculations to build MAVF risk scores for PSPS outages and wildfires, which are ultimately weighed against one another:

- <u>Technosylva Wildfire Simulation Data</u>: Fire simulation forecasts on the consequence of a
 potential wildfire's impact on customers, wildlife, and infrastructures on each circuit for
 every three hours. These values are based on Technosylva's proprietary and sophisticated
 wildfire modeling, using real-time weather models, state-of-the-art fuel, and 8-hour fire
 spread modeling.
- <u>Forecasted Circuits</u>: The final list of the distribution circuits and transmission lines identified to be in-scope for a potential PSPS.
- <u>Customer Minutes</u>: Forecasted outage duration the customers will face by the potential PSPS.
- <u>Customers Impacted</u>: Forecasted number of customers anticipated to be impacted by the potential PSPS.
- <u>Customer Category and Critical Customer Adjustment Factor</u>: The type of customer (e.g., MBL Program, etc.) is incorporated into the analysis through the use of a "critical

⁶ Full details of the MAVF methodology are provided through the RAMP Report, pp. 3-3 to 3-15 and General Rate Case (GRC) workpapers in response to Energy Division GRC-2023-PhI_DR_ED_001_Q01Supp01.

customer adjustment factor," which is applied to the customer outage duration to reflect a higher risk score for customers who are at a greater adverse risk of a potential deenergization event.

Once the above data are made available and incorporated into the tool, the modeling considerations described below are used to estimate the consequence of the: 1) potential wildfire risk and 2) PSPS risk at the per-circuit level. Throughout the tool, a variety of modeling considerations are made to facilitate calculations which are included in Table 2 and summarized in Figure 11.

Table 2: 2025 PSPS Risk-Benefit Consequence Modelling Considerations

Consequence Type	Wildfire Consequence Considerations	PSPS Consequence Considerations
Safety	Calculated based on maximum population impacts derived from Technosylva wildfire simulation models and a fatality ratio based on National Fire Protection Association (NFPA) data.	Calculated from an estimate of Equivalent Fatalities (EF) per Million Customer Minutes Interrupted (MMCI). The EF/MMCI ratio is estimated from previous PG&E PSPS outages and other large external outage events. ⁷
Reliability	N/A	Calculated directly from the potential number of customers impacted and outage duration based on customer minutes interrupted.
Financial	Calculated based on maximum building impacts derived from Technosylva wildfire simulation models and a cost per structure burned previously evaluated in 2020 RAMP Report. ⁸	Calculated based on two financial estimates, 1) distribution of a lump sum cost of execution across all relevant circuits and 2) an estimated proxy cost per customer in scope per PSPS. ⁹

Potential Wildfire Risk

Wildfire consequence impacts are calculated based on the outputs of the Technosylva simulations. Variables include 1) population impacted by wildfire and 2) structures impacted by wildfire used to calculate natural unit values for two consequence components:

- Wildfire Safety Consequence: Equivalent Fatalities (EF)
- Wildfire Financial Consequence: Financial Cost of Wildfire (in dollars)

Potential PSPS Risk

PSPS consequence impacts are based on the following values: duration of de-energization by circuit, and number of customers impacted by de-energization on each circuit. These input values are used to calculate natural unit values for three consequence components:

⁷ Previous PG&E PSPS include 2019-2021 events, and other large external outage events include the 2003 Northeast Blackout in New York City, 2011 Southwest Blackout in San Diego, 2012 Derecho Windstorms, 2012 Superstorm Sandy, 2017 Hurricane Irma, 2021 Blackout event.

⁸ See A.20-06-012.

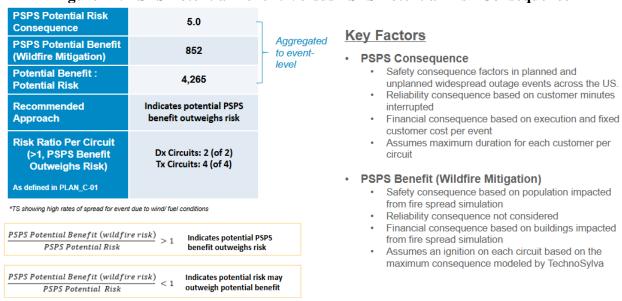
⁹ The assumptions used in these calculations, including the proxy cost per customer per PSPS, are subject to be updated and are not intended to prejudge or create precedent with regard to the development of more precise values of resiliency or cost of PSPS metrics being considered in other ongoing proceedings at the California Public Utilities Commission, such as the Risk-Based Decision-Making Rulemaking [R.20.07.013] and the Microgrid and Resiliency Strategies.

- PSPS Safety Consequence: EF as an output of Customer Minutes interrupted
- <u>PSPS Electric Reliability Consequence</u>: Customer Minutes Interrupted × Critical Customer Adjustment Factor
- <u>PSPS Financial Consequence</u>: Financial Cost of PSPS (in dollars) × Critical Customer Adjustment Factor

Once the consequence values (safety, reliability, financial) are estimated they are converted into MAVF risk scores. Once the Risk-Benefit tool calculates the impacts between the PSPS and a wildfire, it is summarized in Figure 12 by indicating if the adverse impact from a PSPS outweighs the risk of a wildfire.

Figure 11: Visual Representation of PSPS Risk-Benefit Tool **Public Safety Power Shutoff Risk** Public Safety Power Shutoff Benefit Measure of the adverse impact to customers due to · Measure of the adverse impact to customers due to de-energization a catastrophic fire Based off Technosylva fire simulation forecast · Based off forecast of impacted circuits, customers matched against PSPS impacted circuits only impacted, and customer impact duration (weather + restoration) 50% 25% 25% 50% 25% 25% Safety Reliability Safety Reliability **Financial** Financial Based on PG&E's Based on Customer Based on Max Based on Max Cost of execution of estimation of SIF/CMI Not calculated Population Impacted Number of Buildings Minutes Interrupted (null value) Impacted Customer costs Industry Data **PSPS MAVF Score** Wildfire MAVF Score

Figure 12: PSPS Potential Benefit Versus PSPS Potential Risk Consequence



Section 2.5 - Explanation of alternatives considered and evaluation of each alternative. (D.19-05-042 Appendix A, page A22.)

Response:

After reviewing the meteorological information that indicated potential for catastrophic wildfire and the impacts on customers through de-energization, we considered whether alternatives to deenergizing, such as additional vegetation management and disabling automatic reclosers, could adequately reduce the risk of catastrophic wildfire thus lowering the need for de-energization. We determined these measures alone did not reduce the risk of catastrophic wildfire in areas within the PSPS scope sufficiently to protect public safety. Leading up to the January 22 - 24, 2025 PSPS, PG&E readied de-energization mitigations, reviewed alternatives to de-energization and took the following steps:

- Our Operations team reviewed asset and vegetation tags that included incremental customers into PSPS scope and worked to correct these tags.
- Conducted hazard tree mitigation efforts on circuits potentially in PSPS scope in the days leading up to the PSPS. Tree-trimming near a utility line can keep limbs and trunks from nearby trees from falling into a line, but it does not mitigate against broken limbs from distant trees outside the vegetation management perimeter that could blow into a line or break utility equipment.
- Enabled Enhanced Powerline Safety Setting (EPSS) and disabled automatic reclosing in Tier 2/Tier 3 High Fire Threat District (HFTD) areas. This reduces the ignition risk from attempts to re-energize circuits via automatic reclosing.
- Prepared to reduce the public safety impacts of de-energization by employing granular scoping processes to significantly reduce the public safety impacts of de-energization by de-energizing smaller segments of the grid within the close confines of the fire-critical weather footprint, rather than de-energizing larger amounts of customers in more populated areas.
- Reviewed opportunities for islanding, sectionalization, temporary generation, backupgeneration, and alternate grid solutions to reduce and mitigate the number of customers de-energized.
- Prepared to reduce the public safety impacts of de-energization by providing local CRCs closest in proximity to support customers in those impacted communities.
- Supported vulnerable customers through California Foundation for Independent Living Centers (CFILC) and Community Based Organizations (CBO) resource partners that offered various services to customers impacted by this PSPS. Further information is detailed in Section 6.5.
- Notified impacted customers via extensive use of Advanced Notifications and outreach tools of the expected de-energization.
- Increased our restoration efforts including helicopters and fixed wing aircraft to conduct line safety patrols after the Weather All-Clear, readied and prepared equipment for patrols and needed repairs to restore service to lines that were deemed operationally safe to power.

Section 3 – De-energized Time, Place, Duration and Customers

Section 3.1 - The summary of time, place and duration of the event, broken down by phase if applicable (*Resolution ESRB-8 page 3, SED Additional Information.*)

Response:

The PSPS occurred over the timeframe of January 22 - 24, 2025 in two TPs located in one county.

Section 3.2 - A zipped geodatabase file that includes PSPS event polygons of de-energized areas. The file should include items that are required in Section 3.3. (SED Additional Information.)

Response:

A zipped geodatabase file that includes PSPS polygons of final de-energized areas combined with the PSPS data can be found in the attachment, "PGE_PSPS_Polygons_of_De-energized_Areas_20250122.gdb.zip."

Section 3.3 - A list of circuits de-energized, with the following information for each circuit. This information should be provided in both a PDF and excel spreadsheet (Resolution ESRB-8, page 3, SED Additional Information.)

- County
- De-energization date/time
- Restoration date/time
- "All Clear" declaration date/time
- General Order (GO) 95, Rule 21.2-D Zone 1, Tier 2, or Tier 3 classification or non- High Fire Threat District
- Total customers de-energized
- Residential customers de-energized
- Commercial/Industrial Customers de-energized
- Medical Baseline (MBL) customers de-energized
- AFN other than MBL customers de-energized
- Other Customers
- Distribution or transmission classification

Response:

A total of 583 customers were de-energized during the PSPS. Of the customers de-energized, 473¹⁰ were residential, 94 were commercial/industrial, 94 were MBL Program customers, 26 AFN other than MBL, and 11 were customers in the "Other" category. Additionally, five PG&E defined transmission-level¹² customers were de-energized. Appendix B lists de-energized circuits and the relevant information relating to each circuit. Delayed restoration time due to reclassification and/or damages are further noted for each circuit.

¹⁰ MBL Program and AFN customers are included within the count of residential customers affected.

¹¹ 'Other' includes customers that do not fall under the residential or commercial/industrial categories such as governmental agencies, traffic lights, agricultural facilities, and prisons.

¹² PG&E defines transmission level customers as customers being served by 60 kV assets or higher.

Section 4 – Damages and Hazards to Overhead Facilities

Section 4.1 – Description of all found wind-related damages or hazards to the utility's overhead facilities in the areas where power is shut off. (Resolution ESRB-8, page 3, SED Additional Information.)

Response:

During the period of concern, weather stations near the PSPS areas recorded wind gusts as high as 46 mph. These are shown in Table 15 and Figure 20 in Section 12.

During patrols of the de-energized circuits prior to restoring power, PG&E did not find any incidents of wind-related damages or hazards. Damages are conditions that occurred during the PSPS, likely wind-related, necessitating repair or replacement of PG&E's asset, such as a wire down or a fallen pole. Hazards are conditions that might have caused damages or posed an electrical arcing or ignition risk had PSPS not been executed, such as a tree limb found suspended in electrical wires.

Section 4.2 - A table showing circuit name and structure identifier (if applicable) for each damage or hazard, County that each damage or hazard is located in, whether the damage or hazard is in a High Fire-Threat District (HFTD) or non-HFTD, Type of damage/hazard of damage. (SED Additional Information.)

Response:

PG&E did not locate any incidents of wind-related damages or hazards; therefore, Section 4.2 is not applicable.

Section 4.3 - A zipped geodatabase file that includes the PSPS event damage and hazard points. The file should include items that are required in Section 4.2. (SED Additional Information.)

Response:

PG&E did not locate any incidents of wind-related damages or hazards; therefore, Section 4.3 is not applicable.

Section 4.4 - A PDF map identifying the location of each damage or hazard. (SED Additional Information.)

Response:

PG&E did not locate any incidents of wind-related damages or hazards; therefore, Section 4.4 is not applicable.

Section 5 - Notifications

Section 5.1 - A description of the notice to public safety partners, local/tribal governments, paratransit agencies that may serve all the known transit- or paratransit-dependent persons that may need access to a community resource center, multi-family building account holders/building managers in the AFN community, and all customers, including the means by which utilities provide notice to customers of the locations/hours/services available for CRCs, and where to access electricity during the hours the CRC is closed. (Resolution ESRB-8, page 3. D21-06-034, Appendix A, page A2, A9-A10, SED Additional Information.)

Response:

Throughout the PSPS, PG&E made significant efforts to notify Local Governments, Public Safety Partners, CBOs (including paratransit agencies) and impacted customers in accordance with the CPUC PSPS Phase 1 Guidelines.¹³ Tribes were not in scope for the January 22 – 24, 2025 PSPS, therefore, Tribal communications were not provided.

PG&E followed the Notification Plan included in our <u>PG&E's 2024 Pre-Season Report</u>, <u>Appendix C: Notification Plan</u>, pp. 70-79. In addition, PG&E completed the following:

- Worked closely with telecommunications service providers throughout the PSPS to effectively coordinate, share information, and manage the weather event. PG&E also provided telecommunications service providers with a dedicated PG&E contact in the EOC known as the Critical Infrastructure Lead (CIL), who shared up-to-date PSPS information and answered specific, individual questions. These partners were able to reach the CIL 24/7 during the PSPS by e-mail or phone. In addition, PG&E proactively reached out to 4 telecommunications service providers¹⁴ via email or phone as weather changes or new information regarding the PSPS became available.
- In accordance with the Phase 3 PSPS Guidelines, ¹⁵ PG&E provided proactive notifications and impacted zip code information to paratransit agencies that served known transit- or paratransit-dependent persons. All notifications to paratransit agencies included a link to the PSPS emergency website updates page, pge.com/pspsupdates and a section called "Additional Resources" with a link to a map showing areas potentially affected by the shutoff. This site also directs users to other webpages, such as the CRC page, which includes CRC information such as CRC locations, hours, and services available (see Section 9). The PSPS emergency website updates page also includes two prominent buttons at the top of the page, allowing customers to look up an address to determine impact, and a map showing areas potentially affected by the shutoff.
- Directs customers to <u>pge.com/pspsupdates</u> via each PSPS notification, which includes a link to CRC information. This website prominently highlights the dedicated CRC page, which includes CRC locations, hours of operation, services available at each site, information regarding how to find local CRCs via the PSPS outage map and where to access electricity during the hours CRCs are closed.
- PG&E considers multi-family building account holders/building managers in the AFN community as part of our All Customers (including MBL Program customers and Self-

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¹³ D 19-05-042

¹⁴ AT&T, Crown Castle International, T-Mobile, and Verizon Wireless.

¹⁵ D.21-06-034.

- Identified Vulnerable (SIV)¹⁶ Program customers) recipient group. For information on PG&E's outreach and community engagement with master-metered owners, property managers, and building account holders, refer to PG&E's AFN Quarterly Progress Report of activities between July 1, 2024, and September 30, 2024.
- During this high threat event, Southern California Edison (SCE) identified six shared customers (non-residential) with PG&E on the Tejon circuit that were in scope for potential de-energization. SCE and PG&E collaborated closely to ensure situational awareness of PG&E's PSPS so that SCE could successfully execute PSPS notifications to these customers.

Table 3 provides a description of the notifications PG&E sent to Local Governments Public Safety Partners, and all customers in accordance with the minimum timelines set forth by the CPUC PSPS Phase 1 Guidelines.¹⁷

Table 3: Notification Descriptions

Table 5: Nouncation Descriptions					
Type of Notification	Recipients	Description			
PRIORITY	Public Safety	On January 20, 2025, PG&E's Meteorology Team noted a			
NOTIFICATION:	Partners and	potential PSPS and updated the weather forecast on			
48-72 hours in	CBOs, ¹⁸	pge.com/weather to "elevated" in certain parts of the			
advance of	transmission	service area. At this time, local PG&E representatives			
anticipated de-	level customers,	called each County Office of Emergency Services (OES)			
energization	and municipal	in PG&E's electrical service area and select cities to			
	utilities	inform them that PG&E is monitoring an increased			
		potential of PSPS outages.			
		As mentioned in Section 1.1, PG&E's EOC was still active from a previous PSPS. During this time, PG&E submitted a PSPS Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&E was monitoring for a potential PSPS.			
WATCH	Public Safety	During this time, the following was completed:			
NOTIFICATION:	Partners, CBOs,	PG&E submitted a PSPS Notification Form to Cal			
24-48 hours in	and All	OES.			
advance of	Customers	PG&E sent notifications to other Public Safety			
anticipated de-	(including MBL	Partners, transmission level customers, municipal			
energization	Program	utilities, and all customers via call, text message, and e-			
	customers and	mail; these notifications included the following			
	SIV Program	information:			
	customers),	 Estimated window of the de-energization time. 			
	transmission				

¹⁶ SIV Program is inclusive of customers who have indicated they are "dependent on electricity for durable medical equipment or assistive technology" as well as customers that are not enrolled or qualify for the MBL Program and "certify that they have a serious illness or condition that could become life threatening if service is disconnected." In accordance with D.21-06-034, PG&E includes customers who have indicated they are "dependent on electricity for durable medical equipment or assistive technology" in an effort to identify customers "above and beyond those in the medical baseline population" to include persons reliant on electricity to maintain necessary life functions including for durable medical equipment and assistive technology. This designation remains on their account indefinitely.

¹⁷ D.19-05-042.

¹⁸ Phase 3 D.21-06-034, Appendix A, page A9, Section G. MBL Program and AFN Communities, No. 4, Each electric investor-owned utility must provide proactive notification and impacted zip code information to paratransit agencies that may serve all the known transit- or paratransit-dependent persons that may need access to a CRC during a PSPS.

Type of Notification	Recipients	Description
, ,	level customers,	 When the adverse weather is anticipated to
WARNING NOTIFICATION: 1-4 hours in advance of anticipated de- energization, if possible	Public Safety Partners, CBOs, and All Customers (including MBL Program customers, SIV Program customers), transmission level customers, and municipal utilities	pass. ETOR. For Public Safety Partners only: Links to the PSPS Portal. For Customers only: Potentially impacted addresses, links to PSPS Updates webpage with CRC information, and resources for AFN customers, including but not limited to information on the MBL Program, language support, and the Portable Battery Program. For transmission-level customers only: Transmission Substation Name and Line name serving substation. PG&E sent notifications to MBL Program customers, including tenants of master metered accounts, and SIV Program customers every hour until the customer confirmed receipt of the notification. Customer notifications were provided in English, with information on how to get PSPS information in translated languages. Customers with their language preference selected in their PG&E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English. During this time, the following was completed: PG&E submitted a PSPS Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&E has made the decision to de-energize. PG&E sent notifications to other Public Safety Partners, transmission-level customers, and customers; these notifications included the same key PSPS timing information and resource links as the "Watch Notification." PG&E sent notifications to MBL Program customers, including tenants of master metered accounts, and SIV Program customers every hour until the customer confirmed receipt of the notification. PG&E sent notifications to master metered accounts, and SIV Program customers every hour until the customer confirmed receipt of the notification. PG&E sent notifications in order to provide transmission-level customers within 30 minutes of de-energization when possible in order to provide transmission-level customers with sufficient time to properly ramp down any processes and shut down equipment.
		translated languages. Customers with their language

Type of Notification	Recipients	Description
POWER OFF NOTIFICATION: When de- energization is initiated	Public Safety Partners, CBOs, and All Customers (including MBL Program customers and SIV Program customers), transmission level customers ¹⁹ , and municipal utilities	 preference selected in their PG&E accounts received inlanguage (translated) notifications. Public Safety Partner notifications were provided in English. When shut off was initiated, the following was completed: PG&E submitted a PSPS State Notification Form to Cal OES and sent an e-mail to the CPUC to notify them that de-energization has been initiated. Agency Representatives of PG&E conducted a live call and/or sent an e-mail, as appropriate, to County OES representatives that were within the potential PSPS scope area and select cities to inform them that customers within their jurisdiction were beginning to be de-energized. PG&E Grid Control Center (GCC) conducted live agent calls to impacted transmission-level customers. PG&E sent notifications to other Public Safety Partners, municipal utilities, transmission level customers and customers via call, text messages, and e-
		mail, which included: Impacted addresses (for customers only). De-energization time. When the adverse weather is anticipated to pass. For Customers Only: Links to the PSPS Updates webpage with CRC information, and resources for AFN customers, including but not limited to information on the MBL Program, Meals on Wheels, language support, and the Portable Battery Program.
		Customer notifications were provided in English, with information on how to receive PSPS information in translated languages. Customers with their language preference selected in their PG&E accounts received inlanguage (translated) notifications. Public Safety Partner notifications were provided in English.
WEATHER "ALL-CLEAR"/ETOR UPDATE NOTIFICATION: Immediately before re-energization begins	Public Safety Partners, CBOs, and All Customers (including MBL Program customers and SIV Program customers),	After the weather event had passed and the area was deemed safe to begin patrols and restoration, PG&E completed the following: • Submitted a PSPS State Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&E is initiating re-energization patrols. • Sent notifications to other Public Safety Partners, transmission level customers ²⁰ , municipal utilities and

¹⁹Transmission-level customers receive a GCC live call before de-energization and prior to re-energization.
²⁰Transmission lines serving impacted Transmission-level Customers and Municipal Utilities may cut across multiple Fire Index Areas (FIAs) and will only be notified when all those FIAs that the line cuts across have been given the All-Clear.

Type of Notification	Recipients	Description
	transmission level customers, and municipal utilities	customers via call, text message and e-mail; these notifications included the ETOR. • Sent "PSPS update" notifications to customers if their ETOR changed; two ways that an ETOR may change include: ○ New field or meteorology conditions. ○ Damage was found during patrols and repair is needed.
		Customer notifications were provided in English, with information on how to get PSPS information in translated languages. Customers with their language preference selected in their PG&E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English.
RESTORATION	Public Safety	GCC conducted live agent calls to notify impacted
NOTIFICATION: When re-	Partners, CBOs, and All	transmission-level customers of restoration. Once customers, including MBL Program customers and
energization is	Customers	SIV Program customers, were restored, they received
complete	(including MBL Program customers and SIV Program customers), transmission level customers, and municipal utilities	notifications via call, text, and e-mail. This was done using an automated process that issued customer notifications every 15 minutes upon restoration of service. Customer notifications were provided in English, with information on how to receive PSPS information in translated languages. Customers with their language preference selected in their PG&E accounts received in-language (translated) notifications.
		Once all customers were restored, PG&E submitted the final PSPS State Notification Form to Cal OES, sent an email to the CPUC confirming restoration of PSPS outages and reclassification of customers if applicable, and sent a notification to Public Safety Partners via call, text, and email. Public Safety Partner notifications were provided in English.

In addition to providing notifications to Local Governments, Public Safety Partners, CBOs (including paratransit agencies) and impacted customers, PG&E alerted the public in advance of de-energization, via media and PG&E's website.

Media Engagement

From the time PG&E publicly announced the potential PSPS until power was restored, PG&E engaged with customers and the public through the media as described below.

- Responded to seven media inquiries, either from media outlets that contacted PG&E's 24-hour media line, or direct calls/emails to field media representatives. This included:
 - o Six integrated multicultural news outlets.
 - One local or national news outlets.

- Participated in one media interview (i.e., live, recorded or unrecorded phone interviews) to provide situational updates and preparedness messages for the PSPS.
- As of January 28, 2025, PG&E identified three unique print, online, and broadcast stories. This included:
 - o One integrated multicultural news outlets.
 - Two local or national news outlets.

PG&E Website

During this PSPS, PG&E placed an Informational Alert on the <u>pge.com</u> home page that drove traffic to PG&E's PSPS site and implemented tools to drive traffic to and maintain stability of the PSPS emergency website/PSPS updates page <u>pgealerts.alerts.pge.com/psps-updates</u>. The emergency website saw a total of 38,622 visits and 106,558 page views from the time the PSPS began to the time all customers had been restored to power. Visits to the emergency website peaked on Wednesday, January 22, 2025, with 17,754 visits and 50,750 page views.

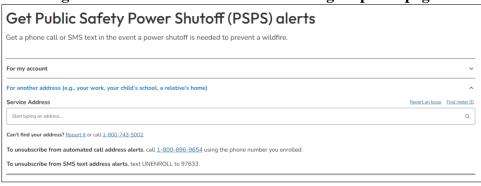
We remain committed to the continuous improvement of our websites to better meet the diverse needs of its customers. As we launch new features and functionality to pge.com and to pgealerts.alerts.pge.com, we test to help ensure compliance with updated WCAG 2.1AA standards. We also seek to improve customer experience with user testing for key components. Where possible, we remediate accessibility issues that customers or stakeholders have brought to our attention.

The following content was available on PG&E's PSPS updates pages or on links from those pages:

- Straightforward, simplified PSPS information available in 16 languages, with clear updates about the planned scope of the event, including location (e.g., list of impacted cities and counties), duration of the PSPS, including estimated times of de-energization and re-energization at the individual address level, and overall, for the event.
- PDFs of potentially impacted areas, shape and KMZ files for Public Safety Partners to
 use with their own mapping applications, and city/county lists with shutoff and
 restoration summaries.
- CRC details were made available as soon as sites were confirmed, including locations listed by county, resources available at each center, type of CRC (e.g., indoor, outdoor), health and safety policies, and operating hours. CRC locations were also indicated on the PSPS impact map.
- Links to additional resources including Electric Vehicle (EV) charging location map, videos in ASL (American Sign Language), locations of ILCs, resources for customers with accessibility, financial, language, and aging needs, backup power safety tips, MBL Program information, and more.
- Webpage, available in 15 non-English languages, that describes our language support services for customers during a PSPS at pge.com/pspslanguagehelp.
- Survey to provide input about the website and PSPS communications.
- Address look-up tool that a customer and the public could use to identify specific potential PSPS impacts.
- Address-level alerts, available in 15 non-English languages, that allow non-PG&E-account holders to receive notifications via a phone call or SMS text for any address where they do not receive a bill (e.g., workplace, child's school, renters, mobile home parks, etc.). This is also a valuable communication tool for renters and tenants of master

metered accounts, such as mobile home parks. See pgealerts.alerts.pge.com/outagetools/get-psps-alerts/ and Figure 13 below.

Figure 13: PG&E PSPS Address Alert Sign-Up Webpage



Section 5.2 – Notification timeline including prior to de-energization, initiation, restoration, and cancellation, if applicable. The timeline should include the required minimum timeline and approximate time notifications were sent. (D.19-05-042, Appendix A, page A8-A9, D.21-06-034, page A11)

Response:

Table 4 describes notifications and the time the notification was sent in accordance with the minimum timelines set forth by the CPUC PSPS Phase 1 Guidelines, 21 to Local Governments, Public Safety Partners, and all customers prior to de-energization, initiation, and restoration.

During the January 20 – 21, 2025 PSPS, PG&E's Meteorology Team continued to monitor weather data and reports and began tracking additional unfavorable weather conditions driven by the Santa Ana winds forecasted for January 22. PG&E communicated the potential for an additional January 22 – 24, 2025 PSPS during the State Executive Briefing on January 20 at 15:30 PST. Additionally, local agency representatives were in contact with and alerted Public Safety Partners of the potential PSPS as meteorological conditions started to align with a January 22 – 24, 2025 PSPS. Once the approved PSPS scope materials were established for a potential de-energization for safety, the (72-48hr) Priority Notification window had already passed, therefore, we failed to send any Priority Notifications. Note all other required pre-deenergization and post-de-energization notifications were successfully delivered to Public Safety Partners.

Table 4: Customer Notification Timeline Summary

Event Order	Minimum Timeline ²²	Notification Sent to:	Approximate Time Sent (PST)	Message	Notes	Who made the Notification
Pre-De- energization (Prior)	72-48 hours	Local Governments and CCAs,*	Not sent	Priority	Priority Notifications were not sent. See	Failed

²¹ D.19-05-042.

²² D.19-05-042, Appendix A, Timing of Notification.

Event Order	Minimum Timeline ²²	Notification Sent to:	Approximate Time Sent (PST)	Message	Notes	Who made the Notification
		Public Safety Partners**			Section 5.2 and 5.5 for more information.	
		Local Governments and CCAs*	1/21/2025 15:29	Watch		PG&E
	48-24 hours	Public Safety Partners**	1/21/2025 15:52	Watch		PG&E
		All Customers***	1/21/2025 15:49	Watch		PG&E
		All Customers***	1/21/2025 15:59	Watch		SCE
		Local Governments and CCAs*	1/22/2025 06:45	Watch		PG&E
	24-12 hours ²³	Public Safety Partners**	1/22/2025 07:40	Watch		PG&E
		All Customers***	1/22/2025 07:38	Watch		PG&E
		All Customers***	1/22/2025 08:15	Watch		SCE
	4-1 hours	Local Governments and CCAs*	1/22/2025 14:35	Warning		PG&E
		Public Safety Partners**	1/22/2025 15:00	Warning		PG&E
		Public Safety Partners**	1/22/2025 18:20	Warning		PG&E
		All Customers***	1/22/2025 14:48	Warning		PG&E
		All Customers***	1/22/2025 14:47	Warning		SCE
		All Customers***	1/22/2025 18:17	Warning		PG&E
		Public Safety Partners**	1/22/2025 18:01	Power Off		PG&E
Initiation	When De- energization	Public Safety Partners**	1/22/2025 18:45	Power Off		PG&E
(During)	is initiated (Power Off)	Public Safety Partners**	1/22/2025 22:16	Power Off		PG&E
		All Customers***	1/22/2025 17:55	Power Off		SCE

 $^{^{23}}$ While not a CPUC requirement, PG&E provides an additional 24-12 hour notification to Local Governments, Public Safety Partners and Customers.

Event Order	Minimum Timeline ²²	Notification Sent to:	Approximate Time Sent (PST)	Message	Notes	Who made the Notification
		All Customers***	1/22/2025 18:01	Power Off		PG&E
		All Customers***	1/22/2025 18:45	Power Off		PG&E
		All Customers***	1/22/2025 22:16	Power Off		PG&E
		Local Governments and CCAs*	1/24/2025 08:58	Inspecting /Weather All-Clear		PG&E
	Immediately before re-	Public Safety Partners**	1/24/2025 08:47	Inspecting /Weather All-Clear		PG&E
	energization (All-Clear)	All Customers***	1/24/2025 08:33	Inspecting /Weather All-Clear		SCE
		All Customers***	1/24/2025 08:47	Inspecting /Weather All-Clear		PG&E
	After re- energization	Local Governments and CCAs*	1/24/2025 11:05	Restore		PG&E
		Public Safety Partners**	1/24/2025 10:16	Restore	First initial Restoration Notification sent.	PG&E
Restoration		Public Safety Partners**	1/24/2025 10:47	Restore	Last initial Restoration Notification sent.	PG&E
(After)	was completed	All Customers***	1/24/2025 10:16	Restore	First Restoration Notification sent.	PG&E
		All Customers***	1/24/2025 10:47	Restore	Last Restoration Notification sent.	PG&E
		All Customers***	1/24/2025 16:12	Restore		SCE

^{*}A subset of Public Safety Partners, including cities, counties, and community choice aggregators.

^{**}A subset of Public Safety Partners, including water, wastewater, and communication service providers.

^{***}All Customers, including MBL Program customers and SIV Program customers.

Section 5.3 - For those customers where positive or affirmative notification was attempted, use the following template to report the accounting of the customers (which tariff and/or access and functional needs population designation), the number of notification attempts made, the timing of attempts, who made the notification attempt (utility or public safety partner) and the number of customers for whom positive notification was achieved. (D.19-05-042, Appendix A, page A23, SED Additional Information.)

"Notification attempts made" and "Successful positive notification" must include the unique number of customer counts. When the actual notification attempts made is less than the number of customers that need positive notifications, the utilities must explain the reason. In addition, the utilities must explain the reason of any unsuccessful positive notifications. (SED Additional Information.)

Response:

Table 5 below includes metrics associated with PG&E notifications provided to customers where positive or affirmative notification was attempted. PG&E interprets the number of customers that need positive or affirmative notification as customers the company seeks confirmation from, namely MBL Program customers and SIV Program customers. Per Section 5.3 of the PSPS Post-Event Report Template, PG&E tracks positive confirmation from MBL/SIV customers via text, phone call, email, doorbell rings, live agent phone calls or door hanger at all stages of notifications. If a notification is acknowledged at any stage and/or a door hanger is left, that is considered a successful positive notification. Refer to PG&E's AFN Plan and AFN Quarterly Progress Reports for more information.

Table 5: Notifications to Customers where Positive or Affirmative Notification was

Attempted²⁴

Designation	Total Number of customers	Notification Attempts Made ²⁵	Timing of Attempts ²⁶	Who made the Notification Attempt	Successful Positive Notification ²⁷
MBL^{28}	26	419	Daily	PG&E	26
MBL behind a master meter ²⁹	0	0	N/A	PG&E	0
SIV	14	191	Daily	PG&E	14

²⁴ Counts of Notification Attempts Made will not reflect the actual total of customers notified as both MBL Program and SIV Program customers can appear in both subset groups.

²⁷ PG&E tracks positive confirmation from MBL/SIV customers via text, phone call, email, doorbell rings, live agent phone calls or door hanger at all stages of notifications. If we receive confirmation at any stage or a door hanger was left, that is considered a successful positive notification. See PG&E's quarterly AFN reporting and PG&E Pre-Season reports for more information.

²⁵ Count of Attempts Made includes doorbell rings and Live Agent phone calls.

²⁶ Initial start time notification was sent.

²⁸ Residential tenants of master-metered customers can also qualify for MBL quantities. The MBL category for the purposes of Table 5 does not include MBL Program customers who are master meter tenants.

²⁹ PG&E has additional processes in place to ensure MBL Program customers are notified. Master meter tenants are contacted directly to be considered a positive notification. Contacting the property or building manager does not count as a positive notification.

For this PSPS, MBL Program customers and SIV Program customers received automated calls, texts, and emails at the same intervals as the general customer notifications. PG&E provided unique PSPS Watch and PSPS Warning Notifications to MBL Program customers³⁰ and SIV Program customers.

These customer groups also received additional calls and texts at hourly intervals until the customer confirmed receipt of the automated notifications by either answering the phone, responding to the text, or opening the email. If confirmation was not received, a PG&E representative visited the customer's home to check on the customer (referred to as the "doorbell ring" process) while hourly notification retries continued. If the customer did not provide confirmation to PG&E following the check-in, the PG&E representative left a door hanger providing additional PSPS notification and information at the home to indicate PG&E had visited. In each case, the additional door hanger notification was considered successful.³¹

At times, PG&E also made Live Agent phone calls in parallel to the automated notifications and doorbell rings, as an additional attempt to reach the customer prior to and/or after deenergization.

PG&E shared the lists of the MBL Program customers and SIV Program customers who had not confirmed receipt of their notifications with the appropriate county emergency managers twice daily via the PSPS Portal. PG&E proactively notified agencies that the data was available on the PSPS Portal and encouraged them to inform these customers of the resources available to them. PG&E is unable to track and report on notifications made by Public Safety Partners, as notification systems and/or platforms used by Public Safety Partners are out of PG&E's purview; PG&E encourages Public Safety Partners to include PSPS messages on all of their platforms. PG&E describes its engagement with Public Safety Partners in Section 6.

Section 5.4 - A copy or scripts of all notifications with a list of all languages that each type of notification was provided in, the timing of notifications, the methods of notifications and who made the notifications (the utility or local public safety partners). (D.19-05-042, Appendix A, page A23, SED Additional Information.)

Response:

Please reference attachment, "PGE_PSPS_Notifications_20250122.pdf" for a copy of the notification templates, the timing of the notifications and methods of notifications that PG&E sent during the January 22 – 24, 2025 PSPS. Additional information on the timing of notifications sent during this PSPS can be found in Section 5.2.

PG&E provides city, county, CCAs, Public Safety Partner and transmission-level customer notifications in English only. All other customer notifications are delivered in-language if a customer's language preference is on file. If there is no language preference on file, the notification is delivered in English, with information on how to access and receive PSPS information in translated languages. Although PG&E offers notifications in 15 non-English languages (Spanish, Chinese [Mandarin and Cantonese], Vietnamese, Korean, Tagalog, Russian,

³⁰ Including MBL Program customers who are master-metered tenants (e.g., renters or tenants in mobile home park).

³¹ For MBL Program customers and SIV Program customers, the in-person door ring visit where a door hanger is left, but no contact made with the customer is considered "successful contact," but not confirmed as "received." If the representative makes contact with the customer, then it is considered "received."

Portuguese, Arabic, Farsi, Punjabi, Japanese, Khmer, Hmong, Thai and Hindi), only one non-English language, Spanish, was requested for this PSPS.

Section 5.5 - If the utility fails to provide notifications according to the minimum timelines set forth in D.19-05-042 and D.21-06-034, using the following template to report a breakdown of the notification failure and an explanation of what caused the failure. (D.21-06-014 page 286, SED Additional Information.)

Response:

PG&E makes a substantial effort to provide notifications whenever possible and to the extent it is operationally feasible in accordance with the PSPS Phase 1, Phase 3 and 2019 PSPS OII guidelines within the CPUC's minimum timeline requirements, weather and other factors permitting.³²

As mentioned in Section 5.2, during the January 20 - 21, 2025 PSPS, PG&E's Meteorology Team continued to monitor weather data and reports and began tracking additional unfavorable weather conditions driven by the Santa Ana winds forecasted for January 22. PG&E communicated the potential for an additional January 22 – 24, 2025 PSPS during the State Executive Briefing on January 20 at 15:30 PST. Additionally, local agency representatives were in contact with and alerted Public Safety Partners of the potential PSPS as meteorological conditions started to align with a January 22 – 24, 2025 PSPS. Once the approved PSPS scope materials were established for a potential de-energization for safety, the (72-48hr) Priority Notification window had already passed, therefore, we failed to send any Priority Notifications. Note all other required pre-de-energization and post-de-energization notifications were successfully delivered to Public Safety Partners.

Table 6: Notification Failure Causes

Notifications Sent to	Notification Failure Description	Number of Entities or Customer Account	Explanation of Failure
	Entities who did not receive 48-to 72-hour priority notification	1	Priority Notifications were not sent. See above and Section 5.2 for explanation.
	Entities who did not receive 1–4-hour imminent notification	0	No failures.
Public Safety Partners excluding CFI ³³	Entities who did not receive any notifications before de- energization	0	No failures.
	Entities who were not notified immediately before re- energization	0	No failures.
	Entities who did not receive cancellation notification within two hours of the decision to cancel	0	No failures.

³² D.19-05-042, D.21-06-034.

Notifications Sent to	Notification Failure Description	Number of Entities or Customer Account	Explanation of Failure
CFI ³⁴	Facilities who did not receive 48-to 72-hour priority notification	33	Priority Notifications were not sent. See above and Section 5.2 for explanation.
	Facilities who did not receive 1–4-hour imminent notification	0	No failures.
	Facilities who did not receive any notifications before deenergization	0	No failures.
	Facilities who were not notified at de-energization initiation	0	No failures.
	Facilities who were not notified immediately before re-energization	0	No failures.
	Facilities who were not notified when re-energization is complete	0	No failures.
	Facilities who did not receive cancellation notification within two hours of the decision to cancel	0	No failures.
All other affected customers	Customers who did not receive 24–48-hour advance notifications	0	No failures.
	Customers who did not receive 1–4-hour imminent notifications	0	No failures.
	Customers who did not receive any notifications before de-energization	0	No failures.
	Customers who were not notified at de-energization initiation	0	No failures.
	Customers who were not notified immediately before re-energization	0	No failures.
	Customers who were not notified when re-energization is complete	0	No failures.
	Customers who did not receive cancellation notification within two hours of the decision to cancel	0	No failures.

 $^{^{\}rm 34}$ Includes Public Safety Partners who are CFI customers.

Section 5.6 - Explain how the utility will correct the notification failures. (D.21-06-014, page 286.)

Response:

We have reviewed the notifications for this PSPS and are in the process of identifying corrective actions. Any planned corrective actions will be included in the 2025 PSPS Post-Season Report.

Section 5.7 - Enumerate and explain the cause of any false communications citing the sources of changing data. (D.20-05-051, Appendix A, page 4.)

Response:

We did not identify any cases of false positives or false negative communications for this PSPS.

Section 6 – Local and State Public Safety Partner Engagement

Section 6.1 - List the organization names of public safety partners including, but not limited to, local governments, tribal representatives, first responders and emergency management, and critical facilities and infrastructure the utility contacted prior to deenergization, the date and time on which they were contacted, and whether the areas affected by the de-energization are classified as Zone 1, Tier 2, or Tier 3 as per the definition in CPUC General Order 95, Rule 21.2-D. (Resolution ESRB-8, page 5, SED Additional Information.)

Response:

Please see Appendix C for a list of Public Safety Partners including local governments, first responders and emergency management, and critical facilities notified with the date and time of the initial notification, and whether the areas affected by the de-energization are classified as Zone 1, Tier 2, or Tier 3.

As stated in our 2023 Safety Outage Decision Making Guide, we use a High Fire Risk Area (HFRA) classification which PG&E utilizes in addition to HFTD to determine PSPS scope. In Appendix C, we begin by identifying HFTD area assigned to Public Safety Partners. Any area outside of HFTD is re-classified as HFRA. PG&E's circuits can run miles long and span across multiple jurisdictions. Some Public Safety Partners outside of HFRA and HFTD were also in the potentially impacted scope in order to de-energize areas within HFRA and HFTD for safety.

Section 6.2 - List the names of all entities invited to the utility's Emergency Operations Center for a PSPS event, the method used to make this invitation, and whether a different form of communication was preferred by any entity invited to the utility's emergency operation center. (D.21-06-014, page 289.)

Response:

PG&E invited the CPUC via email to virtually embed in the EOC for the duration of the activation January 21, 2025, at 15:20 PST.

PG&E also provides communication service providers a dedicated PG&E contact in the EOC known as the CIL, who shares PSPS updates and answers specific questions. They can reach the CIL 24/7 during a PSPS by e-mail or phone at PG&E's Business Customer Service Center.

As part of our PSPS Pre-Season outreach,³⁵ PG&E provides water infrastructure and communication service providers in PG&E's electrical service area with information on how to request representation at PG&E EOC's. Alternatively, some partners may also request PG&E representation at their jurisdiction's activated Operations Emergency Center (OEC).³⁶

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³⁵ See 2024 PSPS Pre-Season Report, pp 70-71.

³⁶ D.19-05-042.

Section 6.3 - A statement verifying the availability to public safety partners of accurate and timely geospatial information, and real time updates to the GIS shapefiles in preparation for an imminent PSPS event and during a PSPS event. (D.21-06-014, page 289.)

Response:

In preparation for a potential PSPS, PG&E sent automated notifications with links to the PSPS Portal, which provides PDF maps and GIS data to Public Safety Partners at the times outlined in Table 4. In addition, when PDF maps and GIS data were updated on the PSPS Portal due to scope changes, Portal users were notified via e-mail at the times outlined below in Table 7.

After the EOC was activated, PDF maps and GIS data on the PSPS Portal were determined accurate and updated in a timely manner following changes to geographic scope or customer impacts.

Table 7: PSPS Portal Time & Date for Map Sharing

Date	Time PDF and GIS Maps Shared (PST)
1/21/2025	15:33
1/22/2025	06:47
1/22/2025	13:44

Section 6.4 - A description and evaluation of engagement with local and state public safety partners in providing advanced outreach and notification during the PSPS event. (D.19-05-042, Appendix, page A23.)

Response:

Below is a description of the engagement with state CPUC, Cal OES, CAL FIRE, and local (i.e., cities and counties) Public Safety Partners:

• Submitted the PSPS Notification Form to Cal OES twice a day (07:00 PST and 15:00 PST), if there was a significant change to scope and at least once for each of the five PSPS stages: Activating PSPS Protocols/Potential to De-energize (Stage 1), Decision to De-energize (Stage 2), De-energization Initiated (Stage 3), Initiating Reenergization Patrols (Stage 4) and All PSPS Lines Re-energized (Stage 5). See Table 8 below.

Table 8: PSPS Notifications Submitted to Cal OES

Date	Time PDF and GIS Maps Shared (PST)
1/21/2025	15:13
1/22/2025	06:38
1/22/2025	11:36
1/22/2025	14:21
1/22/2025	17:32
1/23/2025	06:16
1/23/2025	14:06
1/24/2025	06:47
1/24/2025	08:29

Date	Time PDF and GIS Maps Shared (PST)
1/24/2025	11:45

• Sent e-mails to the CPUC at least once for each of the five PSPS stages listed above. See Table 9 below.

Table 9: PSPS Notifications Submitted to CPUC

Date	Time PDF and GIS Maps Shared (PST)
1/21/2025	15:20
1/22/2025	14:26
1/22/2025	17:54
1/24/2025	08:39
1/24/2025	11:09

- Hosted daily State Executive Briefings with invitees including Cal OES, CPUC, CAL FIRE, Governor's Office, and other state and federal agencies to provide the latest PSPS information and answer questions. A deck with key PSPS information was provided to participants.
- Hosted a daily Systemwide Cooperators Call, where all Public Safety Partners in the service area were invited to join for situational awareness.
- Hosted Operational Areas Cooperators Communication Calls to provide situational awareness updates and answer questions.³⁷
- Conducted ongoing coordination with local county OES contacts through dedicated Agency Representatives. This includes but is not limited to providing the latest PSPS information, coordinating CRC locations, and resolving local issues in real-time.
- Provided links to the PSPS Portal that included planning and event-specific maps, situation reports, critical facility lists and MBL Program customer lists at each notification and when scope changed. Note that the Situation Report was provided twice a day and at scope changes prior to de-energization and hourly once restoration began.
- Sent automated and live call notifications to agency partners before, during and after de-energization.
- Offered local and state agencies to be embedded in PG&E's EOC, as well as offered PG&E Agency Representatives to be embedded virtually in local EOCs.
- A dedicated State Operations Center Agency Representative provided ongoing support to Cal OES to ensure all questions were addressed.

PG&E considers the advanced outreach and notification to local and state Public Safety Partners during this EOC activation successful but with minor improvements needed. This is based on the number and various types of outreach conducted (see list above), the feedback received from Public Safety Partners through the post-PSPS survey and the success rate of automated agency notifications.

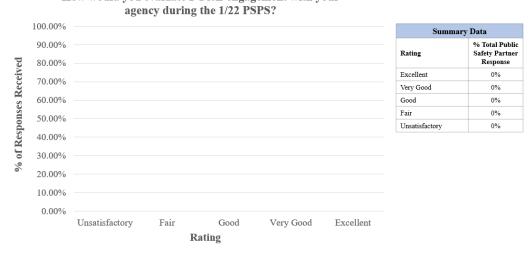
Leading up to potential de-energization, we sent 100% of our automated notifications to local governments within the required timeframes. Figure 14 below shows the post-PSPS survey

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³⁷ May vary in cadence and type based on County OES.

results when Public Safety Partners were asked to "evaluate PG&E engagement with your agency during the outage." We did not receive any response to the survey for this PSPS. PG&E will continue to refine the agency notification process to ensure accurate and timely information sharing.

Figure 14: Evaluation of Public Safety Partner Engagement How would you evaluate PG&E engagement with your



Section 6.5 - Specific engagement with local communities regarding the notification and support provided to the AFN community. (D.20-05-051, Appendix A, page 8, SED Additional Information)

Response:

To ensure PG&E provides adequate support to AFN communities, we engage with local communities through paratransit agencies, media partnerships and CBOs to share coordination efforts, notifications plans, CRC information, PSPS-specific information and more. See below for details on this engagement.

Engagement with Paratransit Agencies

In accordance with the Phase 3 Guidelines. 38 PG&E provided proactive notifications and impacted zip code information to paratransit agencies that may serve all the known transit- or paratransit-dependent persons that may need access to a CRC during the PSPS. PG&E provided proactive notifications³⁹ to paratransit agencies for the January 22 - 24, 2025 PSPS. All notifications included a link to the PSPS emergency website updates page, pge.com/pspsupdates and a section called "Additional Resources" with a link to a map showing areas potentially affected by a shutoff. For more information on Americans with Disabilities Act (ADA) compliant CRC locations, see Section 9.

Community Engagement

We engaged with approximately 500 "information-based" CBOs during the PSPS, sharing courtesy notification updates, fact sheets, and other relevant information that they could share with their constituents to expand our reach of communications, including infographic videos

³⁸ D.21-06-034.

³⁹ For this PSPS, paratransit agencies received the Watch, Warning and Restoration Notification. A list of zip codes was provided three times.

with relevant PSPS updates in 16 languages and ASL that the organizations could use to educate their consumers.

CBO resource partners were invited to the daily cooperator calls for Public Safety Partners, which was hosted by members from PG&E's EOC who provided a situational update about the latest scope of the PSPS and an overview of the services available to customers. We hosted additional daily coordination calls with the CBO resource partners supporting the PSPS to provide an open forum to answer questions, offer suggestions regarding how they can best support their consumers and facilitate more localized coordination among the partners.

Programs/Support for AFN Customers

PG&E provided a variety of resources to AFN customers before and during this PSPS. These resources include:

- <u>Disability Disaster Access and Resource Program (DDAR)</u>:⁴⁰ We continued our collaboration with the CFILC to implement the DDAR Program for this PSPS. Through DDAR, we have supported AFN customers with the delivery of backup portable batteries (since July 2020) to qualify customers who need power during a PSPS. Through DDAR, PG&E provided the following resources for the January 22 24, 2025 PSPS.
 - One local (ILC) provided aid to 18 customers who rely on power for medical or independent living needs. The direct assistance resources provided during this activation were 24 food vouchers and 27 hotel accommodations, no generator fuel vouchers or accessible transportation accommodations were provided during this PSPS. PG&E is evaluating intervenor comments regarding how the ILC aided customers reliant on power and will update the 2025 AFN Plan accordingly.
 - O 22 batteries were previously distributed in affected counties, and zero batteries were delivered during the activation to potentially impacted customers. PG&E is evaluating intervenor comments regarding engagement with customers and battery delivery requests through DDAR and will update the 2025 AFN Plan accordingly.
- Portable Battery Program (PBP):⁴¹ Our PBP provides free portable battery systems for customers who live in Tiers 2 and 3 HFTDs and are enrolled in the MBL Program. For this PSPS, 15 customers in scope were supported by batteries received through the PBP (delivered in 2020, 2021, 2022, and year to date 2025). Since July 2020, a total of approximately 26,166 battery units have been delivered through the PBP across the entire PG&E service area.
- <u>Food Bank Partnerships</u>: We continued to fund local food banks to provide food replacement to families during the PSPS and three days following service restoration. We do not have any partnerships with local Food Banks in Kern County. Instead, customers were provided information on how to work with California 211 Providers Network (CA 211) to be connected with food services.
- Meals on Wheels Partnerships: We continued our partnership with Meals on Wheels to
 provide additional support and services to customers in need during PSPS outages. We do
 not have any partnerships with local Meals on Wheels in Kern County. Instead,
 customers were provided information on how to work with CA 211 to be connected with
 food services.

⁴⁰ For more information on the types of aid ILCs provided and how the delivery of aid was coordinated among DDAR, ILCs and the customers, refer to PG&E's 2024 AFN Plan.

⁴¹ For more information about the PBP Program, refer to PG&E's 2024 AFN Plan.

- CA 211 Providers Network: PG&E has a long-standing relationship with CA 211 through our charitable grant program. As of August 13, 2021, PG&E has a partnership with the California network of 211s to connect customers with resources before, during, and after PSPS outages. For this PSPS, PG&E worked with CA 211 to assist 67 customers with resources. The direct assistance resources provided during this activation were 19 food vouchers, 10 generator fuel vouchers, and four hotel accommodations. No accessible transportation was requested or provided during this PSPS.
- Accessible Transportation Partnerships: We are partnered with Accessible Transportation organizations to provide customers with transportation to and from PG&E's CRCs.
 However, we do not have any existing Accessible Transportation Partnerships in Kern County. For this PSPS, we deferred AFN transportation requests to our DDAR and CA 211, who also provide transportation assistance.

Communications to Customers with Limited English Proficiency

PG&E provided translated customer support through its customer notifications, website, call center, social media and engagement with CBOs, and multicultural media partnerships. Customers with their language preference set, received in-language (translated) notifications. For customers with no language preference set, notifications were provided in English with information on how to receive PSPS information in 16 non-English languages.

Customers with limited English proficiency have access to translation phone numbers on our PSPS website, highlighting that translation services are available in over 200 languages. We received requests for information in five languages supported by our Call Center Translation Services resulting in 562 total calls related to this PSPS handled from January 21, 2025, through January 24, 2025.

PG&E continued support and engagement with multi-cultural media organizations and inlanguage CBOs to maximize the reach of in-language communications to the public. Prior to the PSPS, we reached out to six multicultural media organizations to provide outreach in translated languages throughout the one impacted county. These organizations covered the translated languages above and languages spoken by communities that occupy significant roles in California's agricultural economy (e.g., Nahuatl). Additionally, we shared information and updates on PSPS with these media outlets, including news releases and social media infographics in English, translated languages and ASL, for their use and distribution. We also shared our new PSPS Language Resources page (www.pge.com/pspslanguagehelp available in 16 languages) with organizations to share with their constituents. Highlights from our coordination with multicultural media organizations and CBOs during this PSPS includes coverage from Crossings TV. ⁴³ See Figure 15 below.

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⁴² Additional information on 211s is not available within the PSPS Post-Event Report timeline. More information will be available in the 2024 AFN Plan.

⁴³ Crossings TV: No Rain, Strong Winds Keep Kern County Customers in the PSPS Window.



Section 6.6 - Provide the following information on backup power (including mobile backup power) with the name and email address of a utility contact for customers for each of the following topics: (D.21-06-014, page 300.)

Response:

The information requested is included in Sections 6.6a - 6.6f. For questions related to backup power, customers can email TempGenPSPSSupport@pge.com.

Section 6.6a. Description of the backup generators available for critical facility and infrastructure customers before and during the PSPS.

Response:

Table 10 lists the generators available for CFI customers before and during the PSPS.

Table 10: Generators Available for CFI Customers

Generator Type	Number of Units	Individual Size (MW)	Run Time (Hrs.) ⁴⁴	Description
Турс	or Omes	Size (MW)	(1115.)	
Diesel Generator	13	0.032	37.6	13 units on reserve in Sacramento.
Diesel Generator	3	0.056	50.0	3 units on reserve in Sacramento.
Diesel Generator	5	0.065	31.0	5 units on reserve in San Leandro.
Diesel Generator	3	0.070	31.0	3 units on reserve in Sacramento.
Diesel Generator	35	0.100	25.3	35 units on reserve in Sacramento.
Diesel Generator	5	0.125	25.0	3 units on reserve in Sacramento and 2 units on reserve in San Leandro.
Diesel Generator	9	0.150	30.3	9 units on reserve in Sacramento.
Diesel Generator	13	0.200	22.9	5 units on reserve in Sacramento and 8 units on reserve in San Leandro.
Diesel Generator	5	0.275	26.0	5 units on reserve in Sacramento.
Diesel Generator	4	0.500	24.1	5 units on reserve in Sacramento.
Diesel Generator	4	0.570	24.1	4 units on reserve in San Leandro.
Diesel Generator	4	1.000	35.0	4 units on reserve in Sacramento.
Diesel Generator	5	1.140	24.0	5 units on reserve in San Leandro.
Diesel Generator	7	1.500	10.0	7 units on reserve in Benecia.
Diesel Generator	3	2.000	27.7	3 units on reserve in Sacramento.

 44 Estimated based on a 75% load. Barring mechanical failure and refueling the temporary generators have the ability to operate continuously throughout a typical PSPS.

6.6b. The capacity and estimated maximum duration of operation of the backup generators available for critical facility and infrastructure customers before and during the PSPS.

Response:

Table 10 lists the power capacity and maximum duration of operation of the generators available for critical facility and infrastructure customers before and during the PSPS.

6.6c. The total number of backup generators provided to critical facility and infrastructure customer's site immediately before and during the PSPS.

Response:

During and immediately before the PSPS, four backup generators were activated to energize the CFI customers that did not have an existing mitigation plan in place.

6.6d. How the utility deployed this backup generation to the critical facility and infrastructure customer's site.

Response:

As a general policy, PG&E does not offer backup generation to individual facilities. However, PG&E's policy grants exceptions for critical facilities when a prolonged outage could have a significant adverse impact to public health or safety.

Deployment of temporary generation is contingent upon the following circumstances: the expected duration to perform permanent repairs is significantly longer than the expected duration to install backup generation, the expected customer outage is 50,000 or more customer minutes, and the outage affects a distribution circuit serving multiple customers without a functional backtie.⁴⁵

PG&E has pre-arranged commitments with critical facility and infrastructure customers to provide temporary generation in case of a PSPS and evaluated requests received during the PSPS according to the prioritization described in Section 6.6e.

6.6e. An explanation of how the utility prioritized how to distribute available backup generation.

Response:

PG&E prioritizes the deployment of available generation by first meeting existing commitments to individual facilities in the following order:

- Intensive care unit (ICU) hospitals, pre-identified by PG&E in partnership with the California Hospital Association (CHA) and Hospital Council of Northern and Central California (HC).
- Pandemic Response sites classified as medical stations and shelters. Additional facilities
 are prepared to support public safety such as but not limited to First/emergency
 responders at the local, state, and federal level, water, wastewater, and communication
 service providers, affected community choice aggregators, publicly-owned

⁴⁵ 50,000 customer minutes is approximately equivalent to 100 customers for about 8 hours.

utilities/electrical cooperatives, the CPUC, the California Governor's Office of Emergency Services and the CAL FIRE.⁴⁶

Deployment of available generation is then followed by customers with special needs in the following order:

- Life support, MBL Program, and temperature sensitive
- Large customers, economic damage customers, and danger to health and safety customers

Deployment of available generation is then followed by other customers based on maximizing relief based on the number of customers times expected duration.

6.6f. Identify the critical facility and infrastructure customers that received backup generation.

Response:

During this PSPS, PG&E utilized its rental fleet of temporary generators to mitigate the impacts of PSPS on its customers. This fleet was used to support four stand-alone facilities serving public safety, no indoor CRCs were in scope for this event.

CFI customers that received backup generation are listed in Table 11.

Table 11: CFI Customers Energized with Backup Generation

County	Site Type	Generation Deployed (MW)	Duration of Operation (Hours)	Reason Deployed		
Kern	El Tejon School	0.200	39:00	High risk to environment or public safety.		
Kern	Residential Home in Lebec 0.056		43:25	High risk to environment or public safety.		
Kern	Tejon Ranch, Lebec 0.036 709		70:15	High risk to environment or public safety.		
Kern	Tejon Ranch, Lebec	0.200	65:14	High risk to environment or public safety.		

45

⁴⁶ 50,000 customer minutes is approximately equivalent to 100 customers for about 8 hours.

Section 7 – Complaints & Claims

Section 7.1 - The number and nature of complaints received as the result of the deenergization event and claims that are filed against the utility because of de-energization. The utility must completely report all the informal and formal complaints, meaning any expression of grief, pain, or dissatisfaction, from various sources, filed either with CPUC or received by the utility as a result of the PSPS event. (Resolution ESRB-8, page 5, D.21-06-014, page 304.)

Response:

Table 12 provides the number and nature of complaints received from customers and Public Safety Partners, submitted to both the CPUC and PG&E, for the January 22 – 24, 2025 PSPS. ⁴⁷ Any complaints received after January 24, 2025, for this PSPS will be included in the 2025 PSPS Post-Season Report.

Table 12: Number and Nature of Complaints due to the January 22 – 24, 2025 PSPS

Nature of Complaints	Number of Complaints
Communications/Notifications Including, but not limited to complaints regarding lack of notice, excessive notices, confusing notice, false alarm notice, problems with getting up-to-date information, inaccurate information provided, not being able to get information in the prevalent languages and/or information accessibility, complaints about website, Public Safety Partner Portal, Representational State Transfer (REST)/Digital Asset Manager (DAM) sites (as applicable).	3
PSPS Frequency/Duration Including, but not limited to complaints regarding the frequency and/or duration of PSPS, including delays in restoring power, scope of PSPS and dynamic of weather conditions.	6
Safety/Health Concern Including, but not limited to complaints regarding difficulties experienced by AFN/MBL populations, traffic accidents due to non-operating traffic lights, inability to get medical help, well water or access to clean water, inability to keep property cool/warm during outage raising health concern.	2
General PSPS Dissatisfaction/Other Including, but not limited to complaints about being without power during PSPS and related hardships such as food loss, income loss, inability to work/attend school, plus any PSPS-related complaints that do not fall into any other category.	7
Outreach/Assistance Including, but not limited to complaints regarding CRCs, community crew vehicles, backup power, hotel vouchers, other assistance provided by utility to mitigate impact of PSPS.	0

-

⁴⁷ PG&E Post-Event Reports are based on the CPUC template. Additional information regarding complaints and claims will be provided in the PSPS Post-Season Report.

Claims

As of January 29, 2025, PG&E received one claim for the January 22 – 24, 2025 PSPS.

Table 13: Count and Type of Claim(s) Received

Description of Claims	Number of Claims
Business Interruption / Economic Loss	0
Food Loss Only	1
Property Damage	0

Section 8 – Power Restoration

Section 8.1 - A detailed explanation of the steps the utility took to restore power (*Resolution ESRB-8 page 5*)

Response:

During the PSPS, the PG&E EOC Command and Meteorology Teams monitor real-time and forecasted weather conditions based on weather models, weather station data, and field observations while patrol crews and helicopters are pre-positioned in anticipation of the Weather All-Clear to begin patrols. Weather All-Clears are called based on pre-defined, geographic areas and mapping of each weather station in each zone to that area. This is known as the All-Clear Zone methodology, which based on past PSPS outages, was an improvement compared to issuing Weather All-Clear by FIAs.

All-Clear Zones align with known meteorological phenomena, such as mountain tops and wind gaps which may experience longer periods of extreme weather. This allows for further granularity in calling Weather All-Clear, thereby helping areas less prone to wind gusts or adverse conditions to be cleared and restored more quickly. PG&E monitors the conditions in each of these All-Clear Zones and as they fall below our minimum fire potential conditions the PG&E meteorologists will recommend areas for restoration.

As Weather All-Clears are issued, restoration crews patrol electrical facilities to identify and repair or clear any damage or hazard before re-energizing. Using the Incident Command System (ICS) as a base response framework, each circuit is assigned a taskforce consisting of supervisors, crews, trouble men, and inspectors. This structure allows PG&E to patrol and perform step restoration in alignment with the centralized control centers.

During restoration, PG&E issued one Weather All-Clears and deployed 12 personnel and two helicopters to patrol the lines in advance of restoration. Patrols were conducted on approximately 38 miles of distribution circuits and 13 miles of transmission lines that had been de-energized. Power was restored to customers as patrol completion verified the safe condition of each line.

Section 8.2 - The timeline for power restoration, broken down by phase if applicable (D.19-05-042, Appendix A, page A24, SED Additional Information.)

Response:

PG&E issued Weather All-Clears for All-Clear Zones at the times noted in Table 14.

Table 14: Weather All-Clear Times

All-Clear Zones	Weather All-Clear Date and Time (PST)
651A, 651B, 448B, 445	01/24/2025 08:17

Section 8.3 - For any circuits that require more than 24 hours to restore, the utility shall explain why it was unable to restore each circuit within this timeframe. (D.20-05-051, Appendix A, page 6.)

Response:

PG&E was able to restore all impacted customers within 24 hours of the Weather All-Clear.

Section 9 – Community Resource Centers

Section 9.1 - The address of each location during a de-energization event, the location (in a building, a trailer, etc.), the assistance available at each location, the days and hours that it was open, and attendance (i.e., number of visitors) (Resolution ESRB-8, page 5, SED Additional Information.)

Response:

During the January 22 - 24, 2025 PSPS, PG&E opened one CRC. The site was visited by 495 people. A list of the CRC location, assistance available, operating days and hours, and attendance is reported in Appendix E.

CRCs are typically open from 08:00 to 22:00 PST during the time the power is shut off until customers are restored. Visitors were provided with PSPS information by dedicated staff, ADA-compliant restrooms, physically distanced tables and chairs, power strips to meet basic charging needs for personal medical devices and other electronics, snacks, bottled water, Wi-Fi, and cellular service access. For visitors who did not wish to remain on site, "Grab and Go" bags with a PSPS information card, water, non-perishable snacks, a mobile battery charger, and a blanket were available. Bags of ice and heated tents were available due to inclement weather.

During all PSPS events, PG&E coordinates with county Offices of Emergency Management to determine the best locations for CRCs.

During this PSPS, onsite visitors requested and received:⁴⁸

- 221 snacks
- 253 bottled waters
- 236 device chargers
- 17 bags of ice
- 244 blankets

Two visitors requested and were provided information regarding hotel vouchers.

413 visitors did not remain on site and were provided "Grab and Go" bags while 82 visitors stayed on site.

Additional information about our CRC operations, including coordination with local governments, CRC types and resources, and more is available in the CRC Plan located in Appendix A of PG&E's 2024 Pre-Season Report, pp. 47-61.

Section 9.2 - Any deviations and explanations from the CRC requirement including operation hours, ADA accessibility, and equipment. (SED Additional Information.)

Response:

Due to the timing of power restoration on January 24, the hours of operation at the CRC listed in Appendix E deviated from the standard operating hours from 08:00 to 22:00 PST. See Appendix E for operating times.

⁴⁸ PG&E does not provide hotel vouchers at CRC locations. For more information on vouchers, see Section 6.5.

Section 9.3 - A map identifying the location of each CRC and the de-energized areas (SED Additional Information.)

Response:

See Figure 16 below for a map of the CRC location. Based on the CRC survey conducted for this PSPS, most respondents traveled roughly less than five miles to the nearest CRC location. Additional CRC location information can be found at PG&E Emergency Site – View Outage Map. Customers can find specific information using the 'Address Search' or 'City/County Search' functions.

PSPS Area **Outdoor CRC KERN**

Section 10 – Mitigations to Reduce Impact

Section 10.1 - Mitigation actions and impacts (both waterfall graph and map) including: sectionalization devices, temporary generation, microgrids, permanent backup generation, transmission switching, covered conductor, and any other grid hardening that mitigated the impact of the event (D.21-06-014, page 285, SED Additional Information.)

Response:

Mitigations to Reduce Impact

PG&E employed multiple measures to avoid de-energizing approximately 482 customers. Figure 17 depicts the impact each mitigation measure had on the total number of customers. Customer locations where mitigation efforts were utilized are mapped in Figure 18.

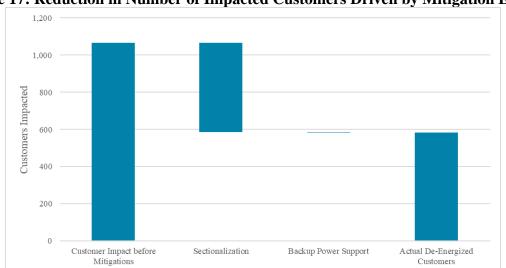
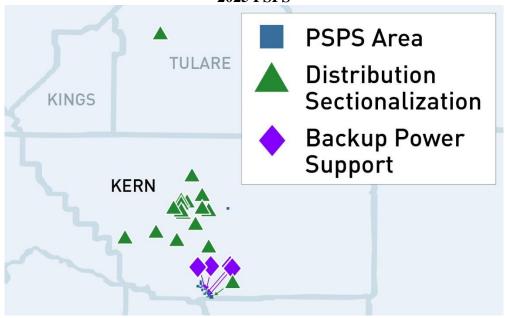


Figure 17: Reduction in Number of Impacted Customers Driven by Mitigation Efforts

Figure 18: Map of Locations Where Mitigation Was Utilized During the January 22 – 24, 2025 PSPS



Community Microgrids

A community microgrid is a group of customers and Distributed Energy Resources (DERs) within clearly defined electrical boundaries with the ability to disconnect from and reconnect to the grid. These microgrids are typically designed to serve the portions of communities that include community resources, like hospitals, police and fire stations, and gas stations and markets. PG&E continues to own and operate the distribution system within the microgrid. More information about PG&E's microgrid solutions or how to begin developing a community microgrid can be found at www.pge.com/cmep.

Community microgrids were not utilized during the January 22 – 24, 2025 PSPS.

Transmission Line Sectionalization

Transmission lines are segmented using switches enabled with Supervisory Control and Data Acquisition (SCADA), when possible, if only a portion of a line is required to be de-energized due to PSPS. Leaving segments of transmission lines energized allows PG&E to still reduce fire risk where needed and provide service to stations fed off the non-impacted segments during the PSPS.

Transmission sectionalization was not utilized during the January 22 - 24, 2025 PSPS.

Distribution Switching

Depending on fire risk patterns, distribution switch locations and switching plans maintain service to customers on lines that fall outside the high-risk area but are served by lines that pass through the fire risk area. Depending on PSPS scope, we may be able to use back-tie switching to bypass the distribution circuits that pass through the de-energization area to keep customers energized from a different set of lines.

During this PSPS, distribution switching was not used as a mitigation as there were no opportunities available. This was primarily due to the small scope of the PSPS.

Distribution Sectionalization

PG&E has installed new sectionalization devices near the borders of the CPUC-designated HFTD Tier 2 and Tier 3 to reduce the number of customers affected by PSPS outages.

PG&E used sectionalization devices on two circuits which reduced the customer impact by approximately 478 customers for this PSPS.

Islanding

In some cases, PG&E can leverage islanding capabilities to keep some customers islanded apart from the rest of PG&E's transmission system and energized by generation located within the island.

Transmission islanding was not utilized during the January 22 - 24, 2025 PSPS.

Temporary Substation Generation

The objective of temporary substation microgrids is to enable some community resources to continue serving the surrounding population during a PSPS at distribution substations resulting from transmission line outages. An interconnection is made at the substation, energizing entire circuits where downstream assets are not at weather risk and generator capacity is sufficient. If

there are downstream assets at risk, this mitigation is combined with distribution sectionalization to energize only safe areas. For reporting purposes, customers mitigated in the latter case will be documented in this category and not in sectionalization to avoid duplication. On average, customers served by temporary microgrids experience de-energization periods of under 30 minutes for the power source switchover from transmission to temporary generation and go-back from temporary generation to transmission.

Temporary substation generation was not utilized for the January 22 - 24, 2025 PSPS.

Temporary Microgrids

The objective of temporary microgrids is to enable some community resources to continue serving the surrounding population during PSPS outages where it is safe to do so, using pre-installed interconnection hubs to safely and rapidly interconnect temporary generation. While temporary microgrids do not often support large numbers of customers, the community resources served by temporary microgrids include fire stations, local water and waste companies, markets, post offices, and medical facilities. On average, when utilized, customers served by temporary microgrids experience de-energization periods of under 30 minutes for the switchover from grid to microgrid and go-back from microgrid to the grid. Thirteen temporary microgrid sites are currently ready for operation in PG&E's service area.

PG&E temporary distribution microgrids were not in scope for this PSPS.

Backup Power Support:

PG&E used temporary generation to support four stand-alone customers. Table 11 lists the facilities that received backup power support during the January 22 - 24, 2025 PSPS.

Covered Conductor:

The effects of grid-hardening and covered conductors are accounted for in our IPW model, which predicts the probability of utility-caused ignitions. Overhead system hardening is expected to reduce the probability of outages and ignitions in recently hardened sections. The IPW model more heavily weighs ignition and outage rates in recent years which will result in areas with fewer ignitions (e.g., areas that may have been recently hardened, being less likely to be deenergized for PSPS as there is a lower chance of ignition based on historical ignitions and outages).

Section 11 - Lessons Learned from this Event

Section 11.1 - Threshold analysis and the results of the utility's examination of whether its thresholds are adequate and correctly applied in the de-energized areas. $(D.21-06-014, page\ 305-306.)$

Response:

This section addresses our examination of the adequacy of our PSPS protocols and guidance thresholds. As prescribed in ESRB-8, the decision to de-energize electric facilities for public safety is based on the best judgment of the IOU and is dependent on many factors including and not limited to fuel moisture; aerial and ground firefighting capabilities; active fires that indicate fire conditions; situational awareness provided by agencies; and local meteorological conditions of humidity and winds.⁴⁹ Based on our current PSPS modeling and thresholds, as applied in this PSPS and explained in Section 2, we believe our current PSPS thresholds continue to be adequate and were correctly applied for the January 22 – 24, 2025 PSPS. See Appendix A for detailed information on our PSPS criteria and thresholds.

PG&E begins its threshold evaluation with a robust historical analysis that is described in detail below. This established the guidance values to be applied for PSPS, which has been optimized to capture data from past catastrophic fires to mitigate customer impacts. To do so, Meteorologists use internal and external tools and subject matter expertise to decide.

Typically, before de-energization, the PSPS customer risk is also evaluated against the wildfire risk on a per circuit basis to further evaluate the adequateness of the event. During the PSPS, the advanced weather modeling systems from our network of more than 1,300 weather stations can forecast and track weather conditions in real-time. Finally, data and post-PSPS analysis results are collected and provided as part of the PSPS Post-Event Report.

Establishing Threshold through Historical Analysis

Our PSPS guidance was established by calibrating a granular, historical dataset. We built our verification dataset by creating, or "backcasting," the PSPS guidance through our historical dataset. We extracted values for all recent fires that have occurred in PG&E's service area from 2012 to 2020. We aimed to capture as many historical fires as possible that were caused by PG&E equipment during high wind events (e.g., Camp, Nuns, Kincade, Zogg) while limiting the number of historical PSPS outages to minimize customer impacts. Our analysis included:

- Hourly review of past incidents
- Verification of hypothetical PSPS dates
- PSPS guidance values testing
- A robust guidance sensitivity and calibration analysis

Historical Analysis: CFPD Quantification

Based on this analysis, PG&E uses a CFP_D value of seven as the quantitative threshold guidance value to consider for PSPS on PG&E's distribution system.

To establish the CFP_D threshold of seven, we performed multiple sensitivity studies in "backcast" mode for calibration and validation. This involved running 68 different versions of the combined distribution PSPS guidance through hourly historical data throughout multiple years to calibrate PSPS guidance. This included simulating and learning from more than 2,500 virtual PSPS outages. Through this "lookback" analysis, we evaluated:

4

⁴⁹ See Resolution ESRB-8, p. 8-9.

- The potential size, scope, and frequency of PSPS outages
- Potential customer impacts
- The days PSPS outages would have occurred
- Whether utility infrastructure would have qualified for de-energization

The mFPC and CFP_D guidance that is determined from Technosylva was also evaluated using this process.

The CFP_D guidance value of seven is shown in Figure 19 with respect to recent large fires since 2012. Fires above the CFP_D7 curve tend to be wind driven fire, while non-wind driven fires tend to exist below the CFP_D7 curve. Any fires above seven that meet mFPC indicate PSPS would have been executed, had these models and guidance been in use during these historic events. The results show that deployment of this model could have prevented wildfires, such as Camp, Tubbs, Nuns, Atlas, Kincade and Zogg fires, if implemented in 2012.⁵⁰

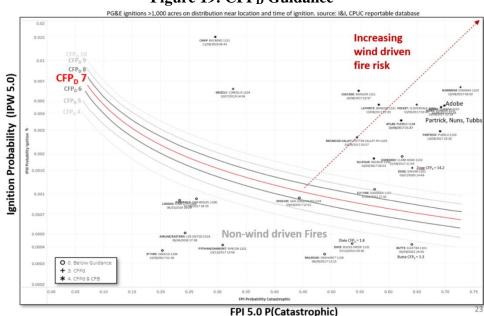


Figure 19: CFP_D Guidance

This analysis was a critical step to ensure the most catastrophic historical incidents are identified by PSPS guidance while considering the significant impacts to customers from PSPS outages across multiple dimensions (e.g., duration and frequency). This ensures that future PSPS outages will capture conditions similarly during the most catastrophic fires while also balancing impacts to customers.

Historical Analysis: Execution

To execute the analysis at this scale, we utilized cloud computing resources to run PSPS model guidance for every hour at every 2 x 2 km grid cell across the historical data set to determine the number of times and locations PSPS guidance is exceeded. Each location exceeding guidance is then grouped into events to determine the location and size of each PSPS given the weather and fuels present at that time under the parameters of the study version. This allows us to determine

⁵⁰ Note that the inclusion of a fire in this analysis does not indicate that PG&E is directly responsible for or caused a fire. Instead, the fires are included for the purpose of analyzing the impact of PG&E's current PSPS Protocols.

if synoptic-driven events (e.g., Diablo wind events) are being identified, and if historical fires attributable to PG&E equipment may have been mitigated.

Verification of PSPS Protocols

In addition to these sensitivity studies, PG&E performed extensive verification of the PSPS protocols using several internal and external datasets. The goal of these analyses was to first determine if certain weather events are being captured (e.g., Diablo and offshore wind events), and second, to determine if lines that have been implicated in historic catastrophic fires would have been identified by the guidance.

The following internal datasets were used in the analysis:

- Climatology of Diablo wind events
- Hourly high-resolution wind maps from the climatology data set
- Distribution and transmission outage history
- The weather signal database
- Exploratory and dynamic dashboards created with internal and external data

The following external datasets were used in the analysis:

- National Center for Environmental Prediction (NCEP) North American Regional Reanalysis Archive (NARR) synoptic weather maps
- Historical fire occurrence data compiled by federal agencies
- RFWs from the NWS
- High risk of potential large fires due to wind from the GACC

The paragraphs below explain how we leveraged external and internal data to verify our PSPS protocols guidance thresholds.

NARR Archive

PG&E has acquired the NARR archive data dating back to 1995 and produced over two million maps that can be utilized to study past events. These maps are also useful to study the past conditions leading up to the PSPS, such as the extent of precipitation events and heat waves. When the PSPS models are run through the climatology, each PSPS identified is compared against the NARR archive by a Meteorologist to determine the large-scale atmospheric features present for each event.

Climatology of Diablo Wind Events

PG&E also leverages the latest academic research on Diablo wind events that use surface-based observations to create a climatology of Diablo wind events. We adapted the criteria and processed it hour-by-hour through the 31-year weather climatology to determine the frequency, magnitude, and timing of Diablo winds. The output of this analysis was a 31-year calendar of Diablo wind events experienced in the PG&E service area. As it relates to PSPS directly, the strongest Diablo wind events were evaluated to verify if PSPS guidance also selects these days for potential PSPS outages. Using the days identified by PSPS guidance and the Diablo PSPS list, a high-level comparison was completed to evaluate overlap of the events.

Any events that did not meet PSPS guidance were evaluated further using additional data sources described in this section. For example, the NARR archive proved useful, as antecedent conditions such as rainfall before a PSPS and the magnitude of the PSPS could be evaluated.

PG&E's Weather Signal Database

PG&E's Meteorology Team built, and continues to maintain, a 'weather signal' database that flags each day from January 1, 1995, to present that experienced any weather-related outages on the distribution system. It also lists the main weather driver (e.g., heat, low-elevation snow, northeast wind, winter storm, etc.) for these outages. If distribution outage activity is not driven by weather, the day is classified as a "Blue Sky"⁵¹ day. This dataset combines weather and distribution outage activity that allows rapid filtering of events based on the main weather drivers. To validate PSPS guidance, we used a combination of "Northeast" wind days and "Blue-Sky" days.

The PSPS guidance was validated against all Northeast wind days in the database. This is similar, but complimentary to the Diablo PSPS analysis as it also accounts for outage activity observed on those days. Events were also compared against "Blue Sky" days to ensure that PSPS would not be recommended for a high percentage of non-weather-impact days where little to no outage activity was observed.

RFWs from the NWS

PG&E also validated PSPS guidance against RFWs from the NWS. RFWs mean warm temperatures, very low humidity, and stronger winds are expected to combine to produce an increased risk of fire danger. These RFWs were collected between 2015 – 2020 in shapefile format and used to evaluate the timing and spatial extent of historical RFWs against PSPS guidance. It should be noted that each NWS office in the PG&E service area has different RFW criteria, making direct and quantifiable comparison challenging. However, this dataset is used to evaluate whether RFWs were issued when PSPS guidance was met. Based on historical PSPS analysis, RFWs are expected to occur more frequently and cover a broader area than the area covered by PSPS outages.

High Risk of Potential Large Fires due to Wind from the GAAC

PG&E also validated PSPS guidance against historical "High Risk" days from the GACC. The GACCs issue High Risk Day alerts when fuel and weather conditions are predicted which historically have resulted in a significantly higher than normal chance for a new large fire or for significant growth on existing fires. Examples of critical weather conditions are high winds, low humidity, an unstable atmosphere, and very hot weather. Similar to the RFW analysis, this dataset was used to evaluate if High Risk days were issued when PSPS guidance was high. Blue Sky Day is defined as "The same as a non-weather impact day (no or very limited impacts due to weather)." Similar to RFWs, based on historical PSPS analysis, High Risk Days are expected to occur more frequently and cover a broader area than PSPS.

Hourly High-Resolution Wind Maps from PG&E Climatology Data Set

PG&E created hourly maps from high-resolution climatology and a web-based application to display any hour across 30 years. For each PSPS that meets PSPS guidance in the climatology, these maps were evaluated by a Meteorologist to better understand the nature of the event, wind speeds, antecedent conditions, and the spatial extent of strong winds. It's important to note forecast wind speeds are available in the same exact format, allowing Operational Meteorologists to put forecast events in perspective with historical events using the same model.

⁵¹ The definition of a Blue-Sky Day is as follows: "Blue Sky Day is defined the same as a non-weather impact day (no or very limited impacts due to weather)."

Detailed PSPS Dashboards

To evaluate the thresholds, Meteorologists and data scientists utilized the data sources described above to evaluate historical PSPS hour-by-hour to verify the locations and times that are being flagged as meeting PSPS guidance. These dashboards determine if historical fire events would have been flagged by PSPS guidance. Meteorologists evaluated these data sources hourly to verify model performance of the IPW model and suitability for operations. The PSPS guidance can be evaluated spatially using the dashboard map integration, while the size and timing of the PSPS can be evaluated using the time series integration.

Section 11.2 - Any lessons learned that will lead to future improvement for the utility $(SED\ Additional\ Information.)$

Response:

PG&E collects lessons learned input from staff during and after every PSPS EOC activation to identify best practices and biggest opportunities for improvement. PG&E did not identify any lessons learned for the January 22 -24, 2025 PSPS.

Section 12 – Other Relevant Information

Response:

Table 15 and Figure 20 show the maximum wind gust speeds recorded by weather stations in each county within PSPS scope.

Table 15: Maximum Wind Gusts Recorded January 22 – 24, 2025 in Impacted County

County	Maximum Wind Gust (mph)	Station ID	Station Name
Kern	46	PG449	Pampa Peak Towers

Figure 20: Maximum Wind Gusts Recorded January 22 – 24, 2025 in Impacted County



APPENDIX

PACIFIC GAS AND ELECTRIC COMPANY APPENDIX A SECTION 2 – DECISION MAKING PROCESS

Appendix A: DECISION MAKING PROCESS

Table A-1.1: Factors Considered in the Decision to Shut Off Power for Each Distribution Circuit De-energized During the January 22 – 24, 2025 PSPS

* Please see Table A-1.2 for the description of each column header, as well as the unit and value provided.

^{**} Note: PSPS decision making on Distribution does not occur at a per-circuit level, and instead occurs at the level of our 2 x 2 km weather and fuels model grid. These outputs are used in a GIS system to visualize the areas of concern by area, which meteorologists and Distribution Assets Health Specialists review to scope the event. The data provided here is representative of our high-resolution weather model data, which is driven by the Weather Research and Forecasting model. It is not inclusive of other model information reviewed by meteorologists that include external, public global and high-resolution weather models. This temporal and areal review of the risk, the operational timeline required to create the scope as well as any areas that were added based on subject matter expertise of meteorologists may lead to some circuits being de-energized that do not strictly exceed PSPS guidance.

		Forecast						Agency Observed									PSPS Risk v	vs. Benefit								
Circuit Name	Time Place	WS MPH	Temp	Flame Length ft 8hr	Spread		Prob Cat	DFM 10hr	DFM 100hr	LFM Chamise New		NOAA Yes No	RFW Yes No	GACC Risk Yes No	WS MPH		Temp F	RH %	WS MPH AC	WG MPH AC	Temp F AC	RH % AC	Open PSPS Tags	TX Impacts Yes No	PSPS Potential Risk Consequence	PSPS Potential Benefit
LAMONT 1104	TP-02	29	67	10.8	124.5	7.6	0.17	0.06	0.09	74	3.39	No	No	Yes	34	46	70	5	14	20	63	9	Yes	No	0.4	1,430.8
TEJON 1102	TP-01	39	61	15.1	197	5.4	0.26	0.05	0.08	64	16.94	Yes	No	Yes	30	49	66	7	17	29	64	8	Yes	No	1.5	296.4

Table A-1.2: Description, Units, and Value provided for Factors Considered in the Decision to Shut Off Power for Each Distribution Circuit De-energized During the January 22 – 24, 2025 PSPS

Forecast / Agency / Observed	Value	Name	Unit	Value Provided	Description
Forecast	WS MPH	Sustained Wind Speed	mph	max	Sustained windspeed in miles per hour at 10 meters above ground level.
Forecast	Temp 2MF	Temperature	degrees F	max	Temperature in Fahrenheit at 2 meters above ground level.
Forecast	Flame Length ft 8hr	Flame Length	ft	max	Flame length in feet on fire front for first 8 hours of fire spread simulation from Technosylva.
Forecast	Rate of Spread Chhr 8hr	Rate of Spread	chains/hr	max	Rate of fire spread in chains per hour for first 8 hours of fire spread simulation from Technosylva.
Forecast	RH 2M	Relative Humidity	%	min	Relative Humidity in percent at 2 meters above ground level.
Forecast	Prob Cat	Fire Potential Index (FPI)	probability outputs	max	Fire Potential Index (FPI) Model Output - Probability of a catastrophic fire if an ignition were to occur. FPI component of the CFP _D model.
Forecast	DFM 10hr	Dead Fuel Moisture Content 10 hrs	fuel moisture fraction	min	Dead Fuel Moisture in 10-hour fuel moisture class. Can be scaled to percentage by multiplying by 100.
Forecast	DFM 100hr	Dead Fuel Moisture Content 100 hrs	fuel moisture fraction	min	Dead Fuel Moisture in 100-hour moisture class. Can be scaled to percentage by multiplying by 100.
Forecast	LFM Chamise New	Live Fuel Moisture Content-shrub	%	min	Live Fuel Moisture Percentage of Chamise (shrub) plant species. (% of species that is comprised of water).
Forecast	CFPD	Catastrophic Fire Probability (CFP _D)	Scaled Probability	max	The product of probability of catastrophic fire (Prob Cat) and IPW - probability of ignition (Prob Ignition). This product is called the (CFP _D) Catastrophic Fire Probability distribution. Scaled by 1000 to convert to an integer value.
Agency	NOAA Yes No	National Oceanic and Atmospheric Administration	N/A	Yes/No During Event	NOAA (SPC) Fire Weather Outlook forecast.
Agency	RFW Yes No	Red Flag Warning	N/A	Yes/No During Event	Red Flag Warning from the Federal National Weather Service.
Agency	GACC Yes No	GACC	N/A	Yes/No During Event	GAAC High Risk issued by the Federal North or South Operations Predictive Services.
Observed	WS MPH	Observed Sustained Wind Speed During Event	mph	max	The maximum sustained wind speed recorded by weather stations mapped to each circuit from planned de-energization time to anticipated All-Clear time.
Observed	WG MPH	Observed Peak Wind Gust During Event	mph	max	The maximum wind gust recorded by weather stations mapped to each circuit from planned de-energization time to anticipated All-Clear time.
Observed	Тетр F	Observed Temperature During Event	degrees F	max	The maximum temperature recorded by weather stations mapped to each circuit from planned de-energization time to anticipated All-Clear time.
Observed	RH %	Observed Relative Humidity During Event	%	min	Minimum relative humidity recorded by all weather stations mapped to each circuit from planned de-energization time to anticipated All-Clear time.
Observed	WS MPH AC	Observed Sustained Wind Speed at All-Clear	mph	max	The maximum sustained wind speed recorded by weather stations mapped to each circuit at the All-Clear time.
Observed	WG MPH AC	Observed Peak Wind Gust at All Clear	mph	max	The maximum wind gust recorded by weather stations mapped to each circuit at the All-Clear time.
Observed	Тетр F AC	Observed Temperature at All-Clear	degrees F	max	The maximum temperature recorded by weather stations mapped to each circuit at the All-Clear time.
Observed	Observed RH % AC	Observed Relative Humidity at All-Clear	%	min	Minimum relative humidity recorded by all weather stations mapped to each circuit at the All-Clear time.
Observed	Open PSPS Tags	Open PSPS Qualified Tags	N/A	Yes/No During Event	PSPS-Qualified Tags include P1 (tree represents an immediate risk) and P2 (tree is damaged or diseased and could fall into nearby power lines) tree tags and Electric Corrective tags (Priority A - emergency, B - urgent, and E/F - risk-based).
Observed	Tx Impacts Yes No	Impacted by Transmission	N/A		Distribution lines that would have been de-energized due to de- energization of upstream transmission lines, regardless of whether those distribution lines would have also been de-energized due to direct distribution PSPS.
Observed	PSPS Potential Risk Consequence	PSPS Potential Risk Consequence	MAVF Score	Yes/No During Event	Measure of the adverse impact to customers due to de-energization.
Observed	PSPS Potential Benefit	PSPS Potential Benefit	MAVF Score	Yes/No During Event	Measure of the adverse impact to customers due to a catastrophic fire.

Table A-2.1: Factors Considered in the Decision to Shut Off Power for Each Transmission Circuit De-energized During the January 22 – 24, 2025 PSPS

* Please see Table A-2.2 for the description of each column header, as well as the unit and value provided.

** Note: PSPS decision making on Transmission does not occur at a per-circuit level, and instead occurs at the granularity of each transmission structure. These outputs are used in a GIS system and dashboard to visualize the areas of concern by area, which meteorologists and Transmission Asset Health Specialists review to scope the event. This includes a review of lines that have little to no impact to customers and electric grid reliability. The data provided here is representative of our high-resolution weather model data, which is driven by the Weather Research and Forecasting model. It is not inclusive of other model information reviewed by meteorologists that include external, public global and high-resolution weather models. This temporal and areal review of the risk, the operational timeline required to create the scope as well as any areas that were added based on subject matter expertise of meteorologists may lead to some circuits being de-energized that do not strictly exceed PSPS guidance.

		Forecast										Observed							PSPS Risk vs. Benefit									
Circuit Name	Time Place	WS	Temp 2MF	Flame Length ft 8hr				DFM 10hr			OA			RFW Yes No	GACC Yes No	WS	WG MPH	Temp F	RH %		WG MPH AC		RH % AC	HFRA Yes No	High Risk Veg Present Yes No	Impacts Yes	PSPS Potential Risk Consequence	PSPS Potential Benefit
CASTAIC TAP	TP-01	24	53	9.9	127.4	6.4	0.20	0.05	0.09	75	No	0.002	No	No	No	30	49	66	7	9	17	53	9	Yes	No	No	0.4	38.0
GRAPEVINE TAP	TP-01	37	56	13	184.1	6	0.20	0.05	0.09	71	No	0.26	No	No	No	30	49	66	7	9	17	53	9	Yes	No	No	0.4	51.3
ROSE TAP	TP-01	30	66	12.9	180.5	5.8	0.15	0.07	0.10	73	No	0.01	No	No	No	30	49	66	7	9	17	53	9	No	No	No	0.4	19.6
TEJON-LEBEC	TP-01	39	61	12.9	180.5	5.6	0.22	0.05	0.09	70	2.6	0.29	No	No	No	30	49	66	7	9	17	53	9	Yes	No	No	0.4	66.4

Table A-2.2: Description, Units, and Value provided for Factors Considered in the Decision to Shut Off Power for Each Transmission Circuit De-energized During the January 22 – 24, 2025 PSPS

Forecast /				X7.1					
Agency / Observed	Value	Name	Unit	Value Provided	Description				
Forecast	WS MPH	Sustained Wind Speed	mph	max	Sustained wind speed in miles per hour at 10 meters above ground level.				
Forecast	Temp 2MF	Temperature	degrees F	max	Temperature in Fahrenheit at 2 meters above ground level.				
Forecast	Flame Length ft 8hr	Flame Length	ft	max	Flame length in feet on fire front for first 8 hours of fire spread simulation from Technoslyva.				
Forecast	Rate of Spread Chhr 8hr	Rate of Spread	chains/hr	max	Rate of fire spread in chains per hour for first 8 hours of fire spread simulation from Technoslyva.				
Forecast	RH 2M	Relative Humidity	%	min	Relative Humidity in percent at 2 meters above ground level.				
Forecast	Prob Cat	Fire Potential Index (FPI)	probability outputs	max	FPI Model Output - Probability of a catastrophic fire if an ignition were to occur. FPI component of the CFP_D model.				
Forecast	DFM 10hr	Dead Fuel Moisture Content 10 hrs (%)	fuel moisture fraction	min	Dead Fuel Moisture in 10-hour fuel moisture class. Can be scaled to percentage by multiplying by 100.				
Forecast	DFM 100hr	Dead Fuel Moisture Content 100 hrs (%)	fuel moisture fraction	min	Dead Fuel Moisture in 100-hour moisture class. Can be scaled to percentage by multiplying by 100.				
Forecast	LFM Chamise New	Live Fuel Moisture Content-shrub	%	min	Live Fuel Moisture Percentage of Chamise (shrub) plant species (% of species that are comprised of water).				
Forecast	OA	Transmission Operability Assessment (OA)	Probability	max	IPW Model Output - Probability of Ignition based on the probability of outages by cause. Ignition component of the CFPD model. IPW Model - A model that provides estimates of the probability				
					of an ignition given an outage on an hourly basis.				
Forecast	СБРТ	Catastrophic Fire Potential (CFP _T)	Scaled Probability	max	The product of probability of catastrophic fire (Prob Cat) and IPW - probability of ignition (Prob Ignition). This product is called the (CFP _D) Catastrophic Fire Probability distribution model. Scaled by 1000 to covert to an integer value.				
Agency	NOAA Yes No	National Oceanic and Atmospheric Administration	N/A	Yes/No During Event	NOAA (SPC) Fire Weather Outlook forecast.				
Agency	RFW Yes No	W Yes No Red Flag Warning		Yes/No During Event	Red Flag Warning from the Federal National Weather Service.				
Agency	GACC Yes No	GACC	N/A	Yes/No During Event	High Risk issued by the Federal North or South Operations Predictive Services.				
Observed	WS MPH	Observed Sustained Wind Speed During Event	mph	max	The maximum sustained wind speed recorded by weather stations mapped to each circuit from de-energization time to All-Clear time.				
Observed	WG MPH	Observed Wind Gust During Event	mph	max	The maximum sustained wind gust recorded by weather stations mapped to each circuit from de-energization time to All-Clear time.				
Observed	Temp F	Observed Temperature During Event	degrees F	max	The maximum temperature recorded by weather stations mapped to each circuit from de-energization time to All-Clear time.				
Observed	RH %	Observed Relative Humidity During Event	%	min	Minimum relative humidity recorded by all weather stations mapped to each circuit from de-energization time to All-Clear time.				
Observed	WS MPH AC	Observed Sustained Wind Speed at All- Clear	mph	max	The maximum sustained wind speed recorded by weather stations mapped to each circuit at the All-Clear time.				
Observed	WG MPH AC	Observed Sustained Wind gust at All-Clear	mph	max	The maximum sustained wind gust recorded by weather stations mapped to each circuit at the All-Clear time.				
Observed	Temp F AC	Observed Temperature at All-Clear	degrees F	max	The maximum temperature recorded by weather stations mapped to each circuit at the All-Clear time.				
Observed	RH % AC	Observed Relative Humidity at All-Clear	%	min	Minimum relative humidity recorded by all weather stations mapped to each circuit at the All-Clear time.				
Observed	HFRA	High Fire Risk Area (HFRA)	N/A	Yes/No During Event	Labeled 'Yes' when Circuit goes through HFRA.				
Observed	High Risk Veg Present on Circuit	High Risk Vegetation Present on Circuit	N/A	Yes/No During Event	High risk vegetation present on the circuit.				

Forecast / Agency / Observed	Value	Value Name		Value Provided	Description				
Observed	TX Impacts Yes No	Impacted by Transmission	N/A	Yes/No During Event	Distribution lines that would have been de-energized due to de- energization of upstream transmission lines, regardless of whether those distribution lines would have also been de- energized due to direct distribution PSPS.				
Observed	PSPS Potential Risk Consequence	PSPS Potential Risk Consequence	MAVF Score	Yes/No During Event	Measure of the adverse impact to customers due to de- energization.				
Observed	PSPS Potential Benefit	PSPS Potential Benefit	MAVF Score	Yes/No During Event	Measure of the adverse impact to customers due to a catastrophic fire.				

PACIFIC GAS AND ELECTRIC COMPANY APPENDIX B

SECTION 3 – DE-ENERGIZED TIME, PLACE, DURATION AND CUSTOMERS

Appendix B: DE-ENERGIZED TIME, PLACE, DURATION AND CUSTOMERS

Table B-1. Circuits De-Energized During the January 22 – 24, 2025 PSPS

Circuits labeled as "non-HFTD" are located outside of the CPUC High Fire-Threat District (HFTD). These circuits or portions of circuits are impacted for one of two reasons: (1) indirect impacts from transmission lines being de-energized or (2) the non-HFTD portion of the circuit are conductive to the HFTD at some point in the path to service.

Distribution / Transmission	Circuit Name	De- Energization Date and Time (PST)	All-Clear Date and Time (PST)	Restoration Date and Time (PST)	Key Communities	HFTD Tier(s)	Total Customers	Residential Customers	Commercial / Industrial Customers	MBL Program Customers	AFN other than MBL Program Customers	Other Customers
Distribution	LAMONT 1104	1/22/2025 22:12	1/24/2025 8:17	1/24/2025 10:37	Kern	Tier 2	5	0	5	0	0	0
Distribution	TEJON 1102	1/22/2025 17:37	1/24/2025 8:17	1/24/2025 10:33	Kern	Partially Outside HFTD, Tier 2	573	473	89	26	177	11
Transmission	CASTAIC TAP	1/22/2025 17:43	1/24/2025 08:17	1/24/2025 10:08	Kern	Tier 2	1	0	0	0	0	0
Transmission	GRAPEVINE TAP	1/22/2025 17:43	1/24/2025 08:17	1/24/2025 10:08	Kern	Tier 2	1	0	0	0	0	0
Transmission	ROSE TAP	1/22/2025 17:43	1/24/2025 08:17	1/24/2025 10:08	Kern	Outside HFTD	1	0	0	0	0	0
Transmission	TEJON- LEBEC	1/22/2025 17:43	1/24/2025 08:17	1/24/2025 10:08	Kern	Tier 2	2	0	0	0	0	0
						Total	583	473	94	26	177	11

PACIFIC GAS AND ELECTRIC COMPANY APPENDIX C SECTION 6 – PUBLIC SAFETY PARTNERS CONTACTED

Appendix C: PUBLIC SAFETY PARTNERS CONTACTED

Table C-1. Public Safety Partners Contacted

Organization/Jurisdiction	Title	HFTD or HFRA Tier ¹	Date/Time Contacted (PST)		
Kern County	Board Chairman	HFRA, Tier 2	01/21/2025 15:30		
Kern County	County Administrative Officer	HFRA, Tier 2	01/21/2025 15:30		
Kern County	County Clerk	HFRA, Tier 2	01/21/2025 15:30		
Kern County	Emergency	HFRA, Tier 2	01/21/2025 15:30		
Kern County	Emergency Supervisor	HFRA, Tier 2	01/21/2025 15:30		
Kern County	Fire Chief	HFRA, Tier 2	01/21/2025 15:30		
Kern County	MHOAC	HFRA, Tier 2	01/21/2025 15:30		
Kern County	Manager	HFRA, Tier 2	01/21/2025 15:30		
Kern County	Sheriff	HFRA, Tier 2	01/21/2025 15:30		
Kern County	Supervisor	HFRA, Tier 2	01/21/2025 15:30		
Kern County Communication Facility	AT&T Mobility LLC	Tier 2	01/21/2025 15:49		
Kern County Communication Facility	AT&T Services Inc	Tier 2	01/21/2025 15:49		
Kern County Communication Facility	T-Mobile West LLC	Tier 2	01/21/2025 15:49		
Kern County Communication Facility	Verizon	Tier 2	01/21/2025 15:49		
Kern County Emergency Services Facility	California Highway Patrol	Tier 2	01/21/2025 15:49		
Kern County Emergency Services Facility	County of Kern	Tier 2	01/21/2025 15:49		
Kern County Other Facility	Crown Castle USA Inc	Tier 2	01/21/2025 15:49		
Kern County Water and Waste Water Facility	Lebec County Water District	Tier 2	01/21/2025 15:49		

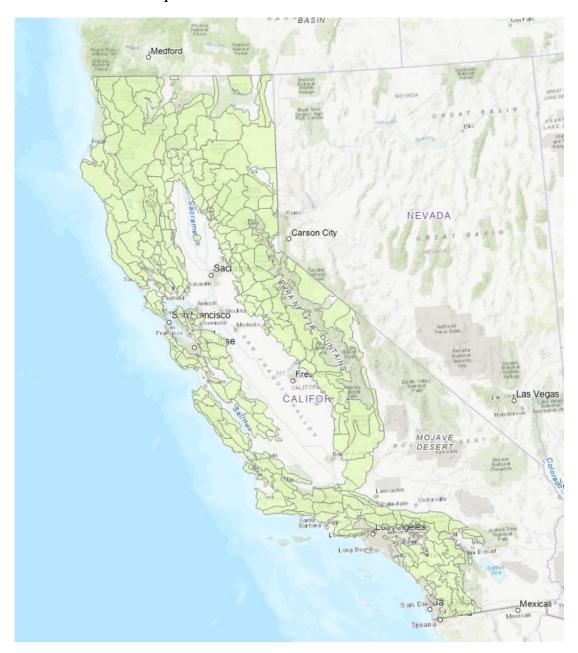
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¹ Catastrophic Fire Behavior runs both in and outside of High Fire Risk Areas (HFRA). The PG&E Meteorology Team evaluates non-HFRA areas for catastrophic wildfire risk in unusual circumstances.

PACIFIC GAS AND ELECTRIC COMPANY APPENDIX D SECTION 8 – ALL CLEAR ZONE MAP

Appendix D: ALL CLEAR ZONE MAP

Figure D-1. All Clear Zone Map



PACIFIC GAS AND ELECTRIC COMPANY APPENDIX E SECTION 9 – COMMUNITY RESOURCE CENTER LOCATIONS

Appendix E: LIST OF PG&E COMMUNITY RESOURCE CENTERS

Table E-1. Community Resource Centers Provided by PG&E

The table below provided details of the one CRC that PG&E mobilized during the January 22 – 24, 2025 PSPS, including specific locations, dates and times opened and closed, total attendance for each location, and amenities provided.

#					Operat	ing Hour	s (PST)	Total	Indoor /			
	#	County	Site Name	Address	Day 1 Day 2 Day 3		Visitors		Amenities Provided			
					Jan-22	Jan-23	Jan-24	VISITOIS	Outdoor			
	1	Kern	Lebec Post Office		08:00	08:00	08:00			Wi Ei ADA Bostmooms Bottled Water Daviso		
				2132 Lebec Road	_	_	_	429	Outdoor	Wi-Fi, ADA Restrooms, Bottled Water, Device		
					22:00	22:00	11:45			Charging, Snacks, Seating, Ice and Heating.*		

^{*}Heating was added due to low temperatures, and ice was added due to extended outages.

VERIFICATION

I, undersigned, say:

I am an officer of PACIFIC GAS AND ELECTRIC COMPANY, a corporation, and am authorized to make this verification for that reason.

I have read the foregoing "PG&E Public Safety Power Shutoff Report to the CPUC" for the January 22-24, 2025 PSPS and I am informed and believe the matters stated therein to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Oakland, California this 7th day of February 2025.

MARK QUINLAN

SENIOR VICE PRESIDENT

Manhofunten

WILDFIRE, EMERGENCY & OPERATIONS