

December 23, 2024

**VIA ELECTRONIC MAIL**

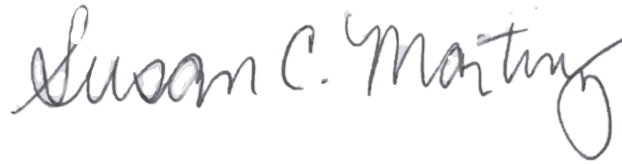
Leslie Palmer  
Director, Safety and Enforcement Division  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

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 December 9 – 10, 2024 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.

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

Sincerely,



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Susan C. Martinez  
Director of Liaison, Regulatory Operations and Engagement

Enclosures

cc: Anthony Noll, SED  
[ESRB\\_ComplianceFilings@cpuc.ca.gov](mailto:ESRB_ComplianceFilings@cpuc.ca.gov)  
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**Pacific Gas and Electric Company (PG&E)  
Public Safety Power Shutoff (PSPS) Report to the  
California Public Utilities Commission (CPUC)  
December 9 – 10, 2024 De-energization**

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## **PG&E Public Safety Power Shutoff (PSPS) Report to the CPUC December 9 – 10, 2024 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.

On December 6, 2024, PG&E's Meteorology Team identified potential fire weather in forecast models and notified the acting Emergency Operations Center (EOC) Commander. On December 7, we activated our EOC for a PSPS and began notifying Public Safety Partners. During December 8, we further refined the PSPS scope based on updated meteorological forecasts, 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 three Time Places (TPs),<sup>1</sup> as shown in Figure 1, and ultimately PG&E decided to move forward with de-energizing customers, due to unfavorable weather conditions.

On Monday, December 9 at 20:20 PST, PG&E began de-energizing its assets and customers to mitigate catastrophic wildfire risk in elevated terrain in the Tehachapi Mountains south and east of Bakersfield due to Santa Ana winds. Wind gusts of nearly 60 mph were recorded during the period of concern.

Once winds subsided on December 10 at 15:25 PST, Weather All-Clear was issued for all circuits. During this PSPS, we ultimately de-energized 571 customers<sup>2</sup> in two TPs across one county.

During this PSPS, PG&E mitigated and avoided the de-energization of approximately 473 customers in the final scope with the use of sectionalization. PG&E notified those customers

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<sup>1</sup> 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.

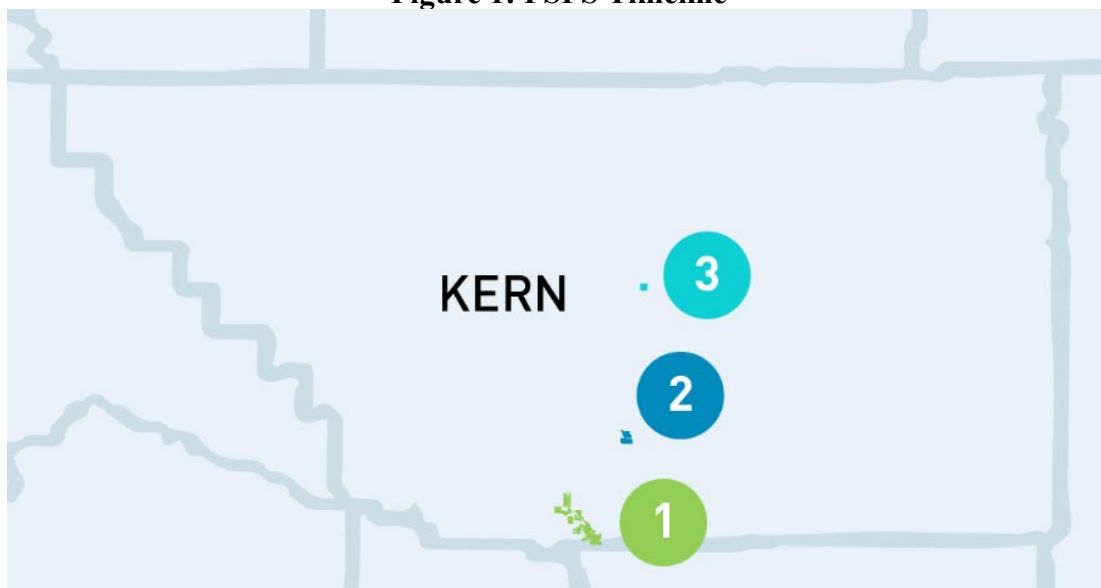
<sup>2</sup> Customers refers to active service points (meters).

who required de-energization and contacted more than 10 community representatives to ensure that communities could prepare before the PSPS.

PG&E opened one CRC within the impacted county, which hosted 180 visitors from December 9 through December 10. Additionally, we partnered with local organizations to provide resources and support to our Access and Function Needs (AFN)<sup>3</sup> customers. See Section 6.5 for more details.

Customers were re-energized safely and as quickly as possible. Within 24 hours of Weather All-Clear, 100% of customers' power had been restored. The average restoration time for this PSPS was 3.3 hours.

**Figure 1: PSPS Timeline**



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<sup>3</sup> 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 are low income, homeless, or transportation disadvantaged, including but not limited to those who are dependent on public transit or those who are pregnant.

**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.

**Table 1: Customers Notified and De-energized<sup>4</sup>**

Total Customers			MBL Program Customers	Counties	Tribes	Circuits			Damage/ Hazard Count	CFI De- energized
Notified	De- energized	Canceled	De- energized	De- energized	De- energized	Transmission De-energized	Unique Distribution Circuits in Any Version of Scope	Distribution Circuits De- energized		
587 <sup>5</sup>	571 <sup>6</sup>	15	27	1	0	0	3	2	0	28

<sup>4</sup> 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.

<sup>5</sup> Of the 587 customers notified, one received a notice that they may be de-energized, but did not receive a cancellation notification and was also not counted as a de-energized customer. This customer ended service prior to de-energization, and thus was not counted as an impacted customer. This is not an instance of a failed cancellation or false positive notification.

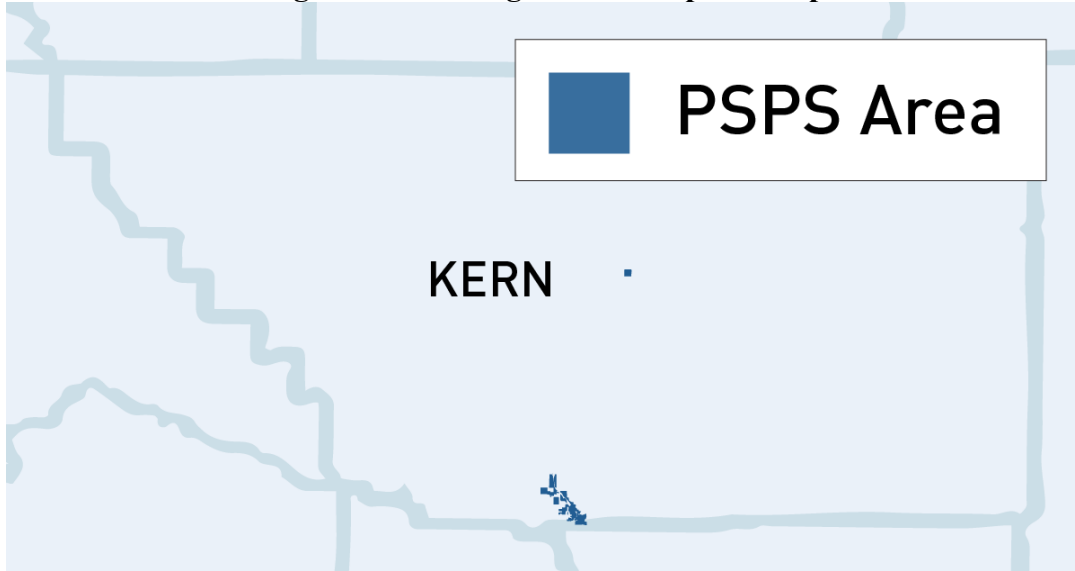
<sup>6</sup> Of the 571 customers de-energized, all PG&E customers received notifications before de-energization. See Section 5.5 for more information.

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

**Response:**

During the December 9 – 10, 2024 PSPPS, we de-energized 571 customers in two TPs. The final de-energization footprint is shown in Figure 2.

**Figure 2: De-energization Footprint Map**



## **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 December 9 – 10, 2024 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.*)**

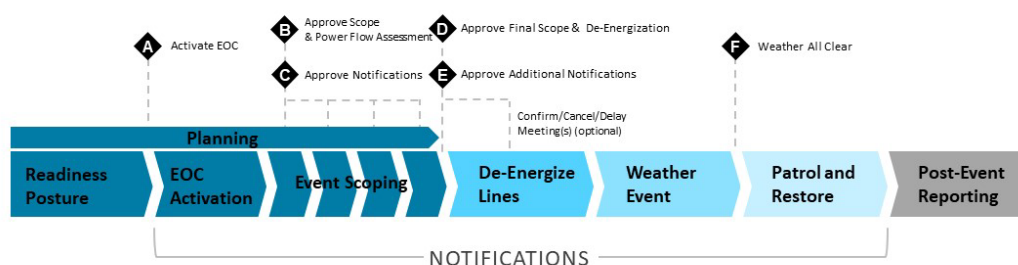
### **Response:**

This section provides an overview of the criteria and threshold evaluation process that were used in the decision to de-energize customers during the December 9 – 10, 2024 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 December 9 – 10, 2024 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.

**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:



- Ignition Probability Weather (IPW): 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

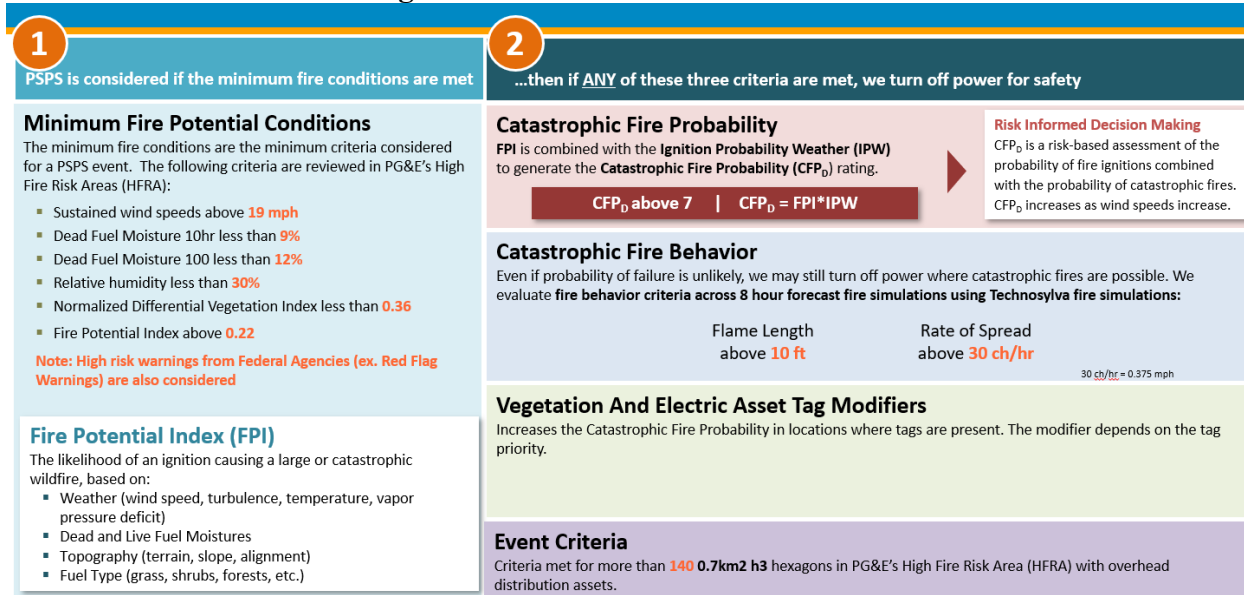
PG&E partners with Technosylva, an external expert in the wildfire modeling field to test and deploy cloud-based wildfire spread model capabilities. This helps us to better understand where we might need to turn off power.

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 us 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 de-energization. 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

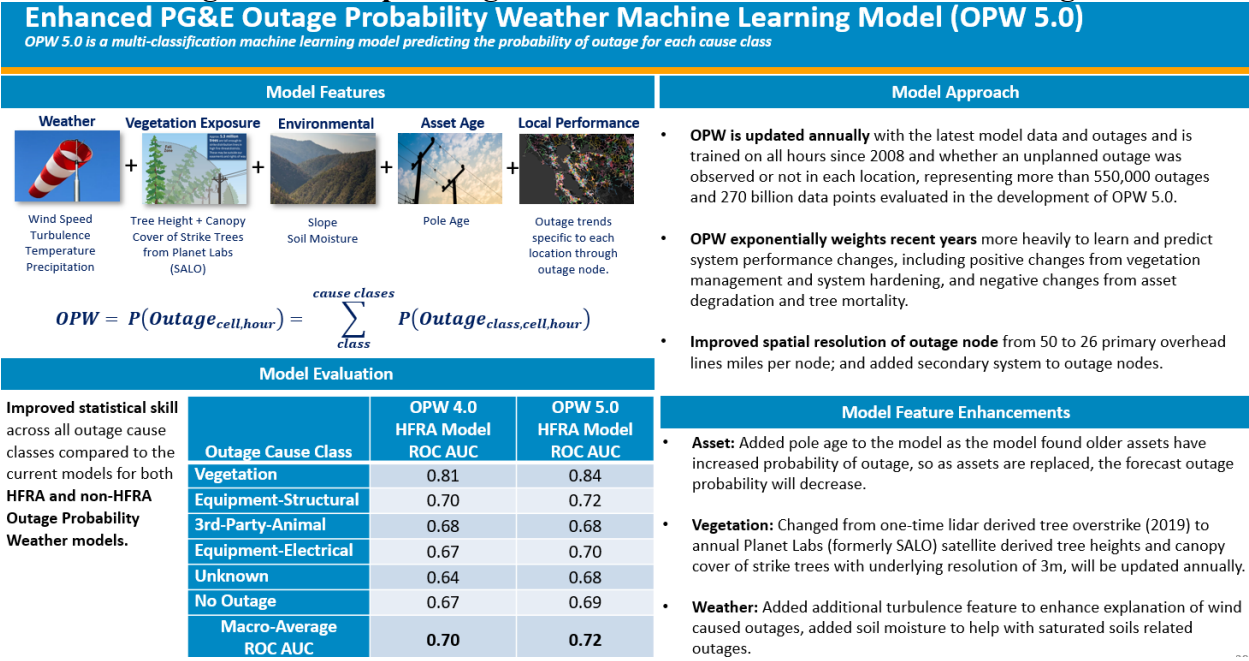
If all minimum fire conditions are met, we conduct an in-depth review of fire risk using three separate measures. If the criteria for any of these measures are met, we may need to turn off power for safety. We evaluate all of the factors below together, rather than isolating any specific factor to assess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

- **Catastrophic Fire Probability (CFPD):** This model combines the probability of fire ignitions due to weather impacting the electric system with the probability that a fire will be catastrophic if it starts. It is the combination of the FPI and the IPW. 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.
  - **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.
- **Tree Considerations:** 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**



- **Catastrophic Fire Behavior (CFB):** 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.

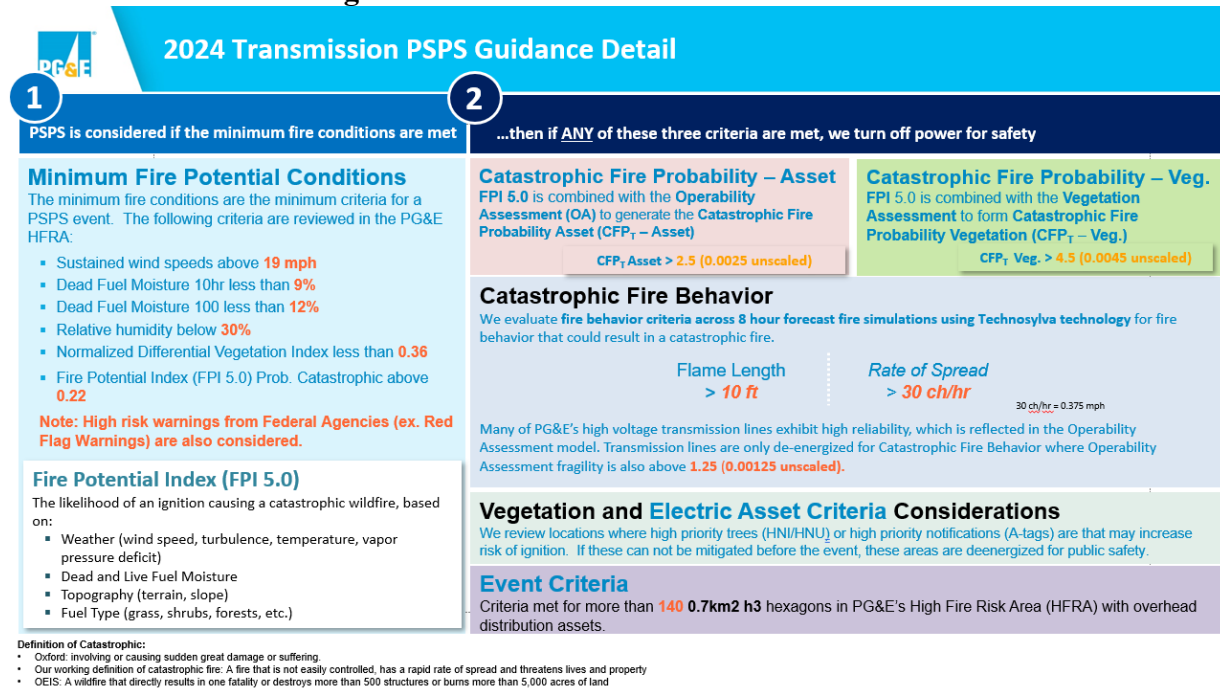
### **Step 2: In-Depth Review of Fire Risk**

Once PG&E identifies the initial scope, we work with the California Independent Service 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.

- Catastrophic Fire Probability – Asset (CFP<sub>T</sub> – Asset): 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 CFPD 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<sub>T</sub> – 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 CFPT – Veg.

- CFB: 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.

**Figure 6: 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 Red Flag Warning (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 de-energization, 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 Friday, December 6, 2024, weather models indicated offshore winds developing across the service territory, including a Santa Ana wind event for the Tehachapi mountains, developing on December 9. On December 6, PG&E's Meteorology Team, Emergency Planning and Response Team, and EOC Commander met to discuss the potential PSPS.

Based on the emerging risk of a PSPS, we entered EOC readiness posture at 10:00 PST on December 7 and activated the EOC at 13:00 PST.

The first PSPS scope was developed in the morning of Saturday, December 7, reflecting the risk of dry winds in areas that have received little precipitation in the Tehachapi Mountains of Kern County.

The weather forecast and PSPS models were closely monitored to adjust the scope leading up to the PSPS. The PSPS scope was adjusted on the evening of Saturday, December 7 and while not changed geographically, was updated to include timing adjustments on December 8.

During the morning hours of December 7, federal forecast agencies began to highlight the upcoming weather conditions:

- NWS Oxnard issued a Fire Weather Watch for the Los Angeles County mountains and valleys beginning 10:00 PST Monday morning through 16:00 PST Wednesday afternoon. This was later upgraded to a Red Flag Warning.
- South Ops Predictive Services included High Risk due to wind for portions of their coverage area, including SC09 (Western Mountains) which overlapped with the southernmost portions of the PG&E service territory in Kern County.

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.

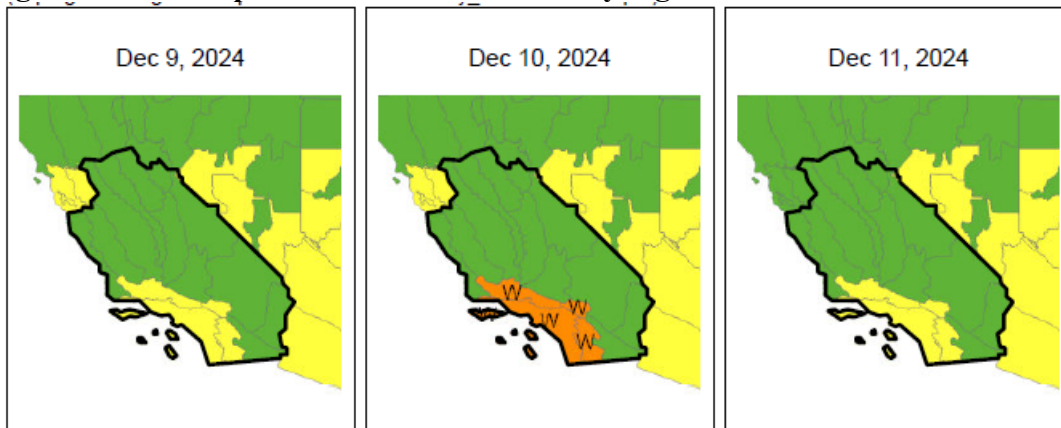
#### External PSPS Decision Inputs

Meteorological analyses establish that high winds in California create a significant fire threat and exacerbate fire spread. The NWS issues a Red Flag Warning 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 December 9, 2024, and December 10, 2024, our analysis of fire risk justifying a PSPS was validated by several sources and warnings:

- South Ops Predictive Services issued their 7-Day Significant Fire Potential Outlook showing High Risk for one Predictive Service Area in the PG&E Territory, which covered portions of Kern County (Figure 7).
- RFWs from the NWS were issued from The Oxnard Office for portions of the PG&E Service Territory; while these did not cover the PG&E PSPS Scope, it confirmed PG&E meteorology belief that fuels in the southern Portion of the territory were capable of burning (Figure 8).

**Figure 7: South Ops Predictive Services 7-Day Significant Fire Potential Outlook**



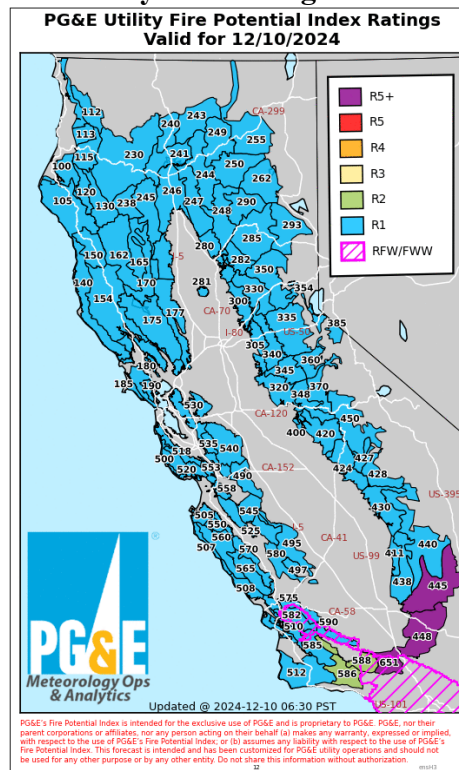


**Figure 8: NWS Red Flag Warning Coverage from the Oxnard Weather Office**

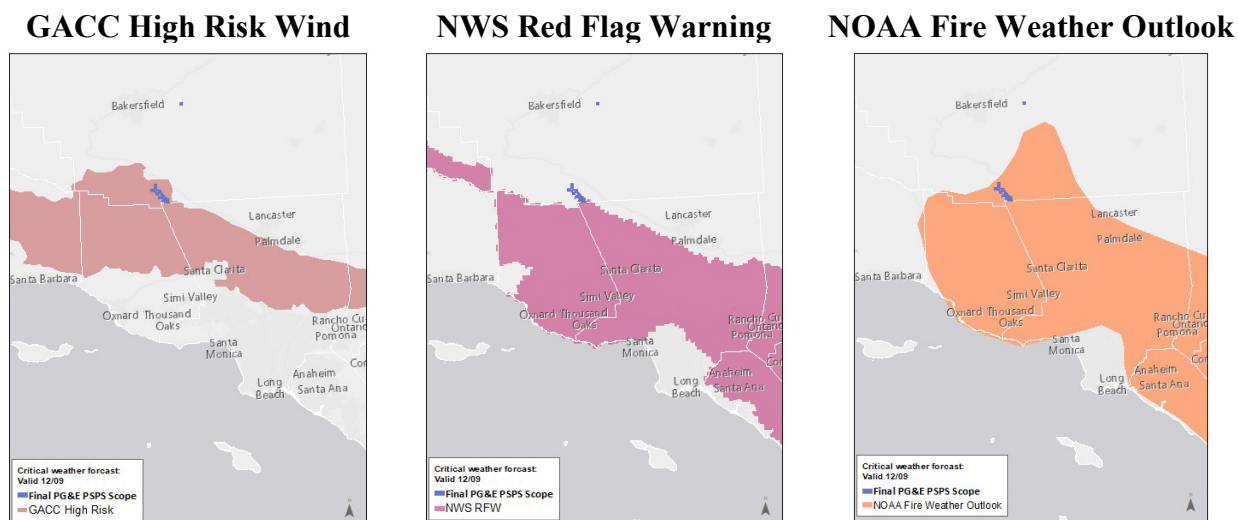


We also review forecasted wind speeds in the potential PSPS-impacted counties to evaluate the need for a PSPS. Figure 9 also shows the Utility Fire Potential Index (FPI) Ratings for Fire Index Areas (FIAs) in PG&E's service area for December 9 – 10, 2024. We determine the scope for PSPS outages within 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.

**Figure 9: PG&E Utility FPI Ratings for December 10, 2024**



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



**Section 2.4 - An explanation of how the utility determined that the benefit of de-energization outweighed potential public safety risks, and analysis of the risks of de-energization 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 December 9 – 10, 2024 PSPS, PG&E used the PSPS Risk Model using 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 three distribution circuits 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 OIL.<sup>7</sup> 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 factored into a risk calculation. Utilizing this framework, we incorporate PSPS forecast

<sup>7</sup> D. 21-06-014.

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 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.<sup>8</sup> 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:

- Technosylva Wildfire Simulation Data: 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.
- Forecasted Circuits: The final list of the distribution circuits and transmission lines identified to be in-scope for a potential PSPS.
- Customer Minutes: Forecasted outage duration the customers will face by the potential PSPS.
- Customers Impacted: Forecasted number of customers anticipated to be impacted by the potential PSPS.
- Customer Category and Critical Customer Adjustment Factor: The type of customer (e.g., MBL Program, etc.) is incorporated into the analysis through the use of a “critical

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<sup>8</sup> 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 de-energization 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: 2024 PSPS Risk-Benefit Consequence Modelling Considerations**

Consequence Type	Wildfire Consequence Considerations	PSPS Consequence Considerations
<b>Safety</b>	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. <sup>9</sup>
<b>Reliability</b>	N/A	Calculated directly from the potential number of customers impacted and outage duration based on customer minutes interrupted.
<b>Financial</b>	Calculated based on maximum building impacts derived from Technosylva wildfire simulation models and a cost per structure burned previously evaluated in 2020 RAMP Report. <sup>10</sup>	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. <sup>11</sup>

### 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) structure 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)

<sup>9</sup> 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.

<sup>10</sup> See A.20-06-012.

<sup>11</sup> The assumptions used in these calculations, including the proxy cost per customer per PSPS, are subject to be updated and are not intended to prejudice 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 CPUC, such as the Risk-Based Decision-Making Rulemaking [R.20.07.013] and the Microgrid and Resiliency Strategies.

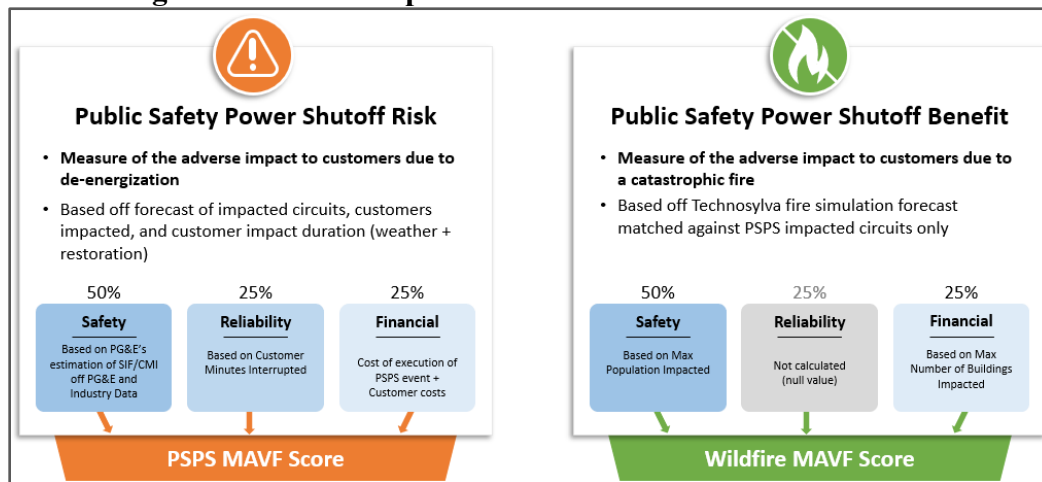
## Potential PSPS Risk

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:

- **PSPS Safety Consequence:** EF as an output of Customer Minutes interrupted
- **PSPS Electric Reliability Consequence:** Customer Minutes Interrupted × Critical Customer Adjustment Factor
- **PSPS Financial Consequence:** 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**



**Figure 12: PSPS Potential Benefit Versus PSPS Potential Risk Consequence**

PSPS Potential Risk Consequence	5.2	Aggregated to event-level
PSPS Potential Benefit (Wildfire Mitigation)	131	
Potential Benefit : Potential Risk	25	
Recommended Approach	Indicates potential PSPS benefit outweighs risk	
Risk Ratio Per Circuit (>1, PSPS Benefit Outweighs Risk)	Dx Circuits: 3 (of 3) Tx Circuits: 0 (of 0)	
As defined in PLAN_D-02		

### Key Factors

- **PSPS Consequence**
  - Safety consequence factors in planned and unplanned widespread outage events across the US.
  - Reliability consequence based on customer minutes interrupted
  - Financial consequence based on execution and fixed customer cost per event
  - Assumes maximum duration for each customer per circuit
- **PSPS Benefit (Wildfire Mitigation)**
  - Safety consequence based on population impacted from fire spread simulation
  - Reliability consequence not considered
  - Financial consequence based on buildings impacted from fire spread simulation
  - Assumes an ignition on each circuit based on the maximum consequence modeled by TechnoSylva

$\frac{\text{PSPS Potential Benefit (wildfire risk)}}{\text{PSPS Potential Risk}} > 1$	Indicates potential PSPS benefit outweighs risk
$\frac{\text{PSPS Potential Benefit (wildfire risk)}}{\text{PSPS Potential Risk}} < 1$	Indicates potential risk may outweigh potential benefit

**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 de-energizing, 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 December 9 – 10, 2024 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.
- Pre-patrols of potentially impacted transmission facilities were also ongoing in the days leading up to the time of anticipated de-energization. While pre-patrols can help identify and correct asset tags on impacted transmission lines, even transmission lines in fully healthy condition may still pose a wildfire risk. Thus, pre-patrol of potentially impacted transmission facilities was not considered a sufficient alternative to PSPS.
- 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, backup-generation, and alternate grid solutions to reduce and mitigate the number of customers de-energized. However, no such opportunities were available for this PSPS as the location of the outages did not offer any opportunities for islanding.
- 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 December 9 – 10, 2024 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\_20241209.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 571 customers were de-energized during the PSPS. Of the customers de-energized, 469<sup>12</sup> were residential, 91 were commercial/industrial, 27 were MBL Program customers, 173 were AFN other than MBL, and 11 were customers in the “Other”<sup>13</sup> category. No PG&E defined transmission-level<sup>14</sup> customers or entities were impacted or de-energized. Appendix B lists de-energized circuits and the relevant information relating to each circuit.

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<sup>12</sup> MBL Program and AFN customers are included within the count of residential customers affected.

<sup>13</sup> ‘Other’ includes customers that do not fall under the residential or commercial/industrial categories such as governmental agencies, traffic lights, agricultural facilities, and prisons.

<sup>14</sup> 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 60 miles per hour. These are shown in Table 17 and Figure 20 in Section 12.

During patrols of the de-energized circuits prior to restoring power, PG&E did not identify 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.<sup>15</sup> Tribes were not in scope for the December 9 – 10, 2024 PSPS, therefore, Tribal communications were not provided.

PG&E followed the Notification Plan included in our [PG&E's 2024 Pre-Season Report, Appendix C: Notification Plan](#), 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 a PSPS by e-mail or phone. In addition, PG&E proactively reached out to four telecommunications service providers<sup>16</sup> via email or phone as weather changes or new information regarding the PSPS became available.
- In accordance with the Phase 3 PSPS Guidelines,<sup>17</sup> 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](https://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 [pge.com/pspsupdates](https://pge.com/pspsupdates) 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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<sup>15</sup> D.19-05-042.

<sup>16</sup> AT&T Corporation, Crown Castle International, T-Mobile-Sprint and Verizon Wireless.

<sup>17</sup> D.21-06-034.

Identified Vulnerable (SIV)<sup>18</sup> 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 PSPS, Southern California Edison (SCE) identified six shared customers (non-residential) with PG&E on the Tejon 1102 circuit that was in scope for de-energization. SCE and PG&E collaborated closely to ensure situational awareness of PG&E’s PSPS so 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.<sup>19</sup>

**Table 3: Notification Descriptions**

Type of Notification	Recipients	Description
<b>PRIORITY NOTIFICATION: 48-72 hours in advance of anticipated de-energization</b>	Public Safety Partners and CBOs <sup>20</sup>	<p>On December 7, 2024, PG&amp;E’s Meteorology Team noted a potential PSPS and updated the weather forecast on <a href="#">pge.com/weather</a> to “elevated” in certain parts of the service area. At this time, local PG&amp;E representatives called each County Office of Emergency Services (OES) in PG&amp;E’s electrical service area and cities to inform them that PG&amp;E is monitoring an increased potential of PSPS outages.</p> <p>Following PG&amp;E’s activation of its EOC, the following was completed:</p> <ul style="list-style-type: none"> <li>• PG&amp;E submitted a PSPS Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&amp;E’s EOC has been activated and that PG&amp;E is monitoring for potential PSPS.</li> <li>• PG&amp;E sent notifications to other Public Safety Partners<sup>21</sup> via call, text, and e-mail; these notifications included the following information: <ul style="list-style-type: none"> <li>○ Estimated window of the de-energization time</li> <li>○ When weather is anticipated to pass.</li> <li>○ Estimated Time of Restoration (ETOR).</li> </ul> </li> </ul>

<sup>18</sup> Self-Identified Vulnerable (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.

<sup>19</sup> D.19-05-042.

<sup>20</sup> Phase 3 D.21-06-034, Appendix A, page A9, Section G. MBL 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.

<sup>21</sup> Other Public Safety Partners refers to first/emergency responders at the local, state, and federal level, water, wastewater, and communication service providers, affected CCAs, publicly owned utilities/electrical cooperatives, the CPUC, the California Governor’s Office of Emergency Services, and the California Department of Forestry and Fire Protection.

Type of Notification	Recipients	Description
		<ul style="list-style-type: none"> <li>○ Links to the PSPS Portal where event-specific maps and information are available.</li> <li>● Local PG&amp;E representatives called potentially impacted County OES to inform them that PG&amp;E is monitoring an increased potential of PSPS.</li> </ul>
<b>WATCH NOTIFICATION:</b> <b>24-48 hours in advance of anticipated de-energization</b>	Public Safety Partners, CBOs, and All Customers (including MBL Program customers and SIV Program customers)	<p>During this time, the following was completed:</p> <ul style="list-style-type: none"> <li>● PG&amp;E submitted a PSPS Notification Form to Cal OES.</li> <li>● PG&amp;E sent notifications to other Public Safety Partners and all customers via call, text message and e-mail; these notifications included the following information: <ul style="list-style-type: none"> <li>○ Estimated window of the de-energization time.</li> <li>○ When the adverse weather is anticipated to pass.</li> <li>○ ETOR.</li> <li>○ For Public Safety Partners only: Links to the PSPS Portal.</li> <li>○ 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.</li> </ul> </li> <li>● PG&amp;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.</li> <li>● PG&amp;E also sent Cancellation Notifications to Public Safety Partners and customers within two hours of being removed from scope; this was to inform them that power would not be shut off.</li> </ul> <p>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&amp;E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English.</p>
<b>WARNING NOTIFICATION:</b> <b>1-4 hours in advance of anticipated de-energization, if possible</b>	Public Safety Partners, CBOs, and All Customers (including MBL Program customers, SIV customers)	<p>During this time, the following was completed:</p> <ul style="list-style-type: none"> <li>● PG&amp;E submitted a PSPS Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&amp;E has made the decision to de-energize.</li> <li>● PG&amp;E sent notifications to other Public Safety Partners, and customers; these notifications included the same key PSPS timing information and resource links as the “Watch Notification.”</li> </ul>

Type of Notification	Recipients	Description
		<ul style="list-style-type: none"> <li>PG&amp;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.</li> <li>PG&amp;E also sent Cancellation Notifications to Public Safety Partners and customers within two hours of being removed from scope; this was to inform them that power would be shut off.</li> </ul> <p>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&amp;E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English.</p>
<b>POWER OFF NOTIFICATION: When de-energization is initiated</b>	Public Safety Partners, CBOs, and All Customers (including MBL Program customers and SIV Program customers)	<p>When shut off was initiated, the following was completed:</p> <ul style="list-style-type: none"> <li>PG&amp;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.</li> <li>Agency Representatives of PG&amp;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 cities to inform them that customers within their jurisdiction were beginning to be de-energized.</li> <li>PG&amp;E sent notifications to other Public Safety Partners and customers via call, text messages, and e-mail, which included: <ul style="list-style-type: none"> <li>Impacted addresses (for customers only).</li> <li>De-energization time.</li> <li>When the adverse weather is anticipated to pass.</li> <li>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.</li> </ul> </li> </ul> <p>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&amp;E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English.</p>
<b>WEATHER “ALL-CLEAR”/ETOR UPDATE</b>	Public Safety Partners, CBOs, and All	<p>After the weather event had passed and the area was deemed safe to begin patrols and restoration, PG&amp;E completed the following:</p>

Type of Notification	Recipients	Description
<b>NOTIFICATION: Immediately before re-energization begins</b>	Customers (including MBL Program customers and SIV Program customers)	<ul style="list-style-type: none"> <li>Submitted a PSPS State Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&amp;E is initiating re-energization patrols.</li> <li>Sent notifications to other Public Safety Partners, and customers via call, text message and e-mail; these notifications included the ETOR.</li> <li>Sent “PSPS update” notifications to customers if their ETOR changed; two ways that an ETOR may change include:               <ul style="list-style-type: none"> <li>New field or meteorology conditions.</li> <li>Damage was found during patrols and repair is needed.</li> </ul> </li> </ul> <p>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&amp;E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English.</p>
<b>RESTORATION NOTIFICATION: When re-energization is complete</b>	Public Safety Partners, CBOs, and All Customers (including MBL Program customers and SIV Program customers)	<p>Once customers, including MBL Program customers and SIV Program customers, were restored, they received 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&amp;E accounts received in-language (translated) notifications.</p> <p>Once all customers were restored, PG&amp;E submitted the final PSPS State Notification Form to Cal OES, sent an e-mail 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 e-mail. Public Safety Partner notifications were provided in English.</p>

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.

- Proactively issued seven local news releases or written information directly to news outlets about the PSPS. This included:
  - Three to integrated multicultural news outlets.
  - Four to local or national news outlets.
- Responded to one media inquiry from a media outlet that contacted PG&E's 24-hour media line for field media representatives.
- 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 December 10, 2024, we identified nine unique print, online and broadcast stories. This included:
  - Eight local or national news outlets.
  - One integrated multicultural news outlet.

### PG&E Website

During this PSPS, PG&E placed an Informational Alert on the [pge.com](https://www.pge.com) 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 [pgealerts.alerts.pge.com/pmps-updates](https://pgealerts.alerts.pge.com/pmps-updates). The emergency website saw a total of 60,772 visits and 126,437 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 December 10, 2024, with 25,807 visits and 53,457 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](https://www.pge.com) and to [pgealerts.alerts.pge.com](https://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 PSPS.
- 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 the 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 Independent Living Centers (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](https://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/outage-tools/get-psps-alerts/](https://pgealerts.alerts.pge.com/outage-tools/get-psps-alerts/) and Figure 13 below.

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

## Get Public Safety Power Shutoff (PSPS) alerts

Get a phone call or SMS text in the event a power shutoff is needed to prevent a wildfire.

For my account

For another address (e.g., your work, your child's school, a relative's home)

Service Address

Start typing an address...

Report an Issue Find meter ID

Can't find your address? [Report it](#) or call [1-800-743-5002](tel:1-800-743-5002).

To unsubscribe from automated call address alerts, call [1-800-896-9654](tel:1-800-896-9654) using the phone number you enrolled.

To unsubscribe from SMS text address alerts, text UNENROLL to 97633.



**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,<sup>22</sup> to local governments, Public Safety Partners and all customers prior to de-energization, initiation, and restoration.

**Table 4: Customer Notification Timeline Summary**

Event Order	Minimum Timeline <sup>23</sup>	Notification Sent to:	Approximate Time Sent (PST)	Message	Notes	Who made the Notification
<b>Pre-De-energization (Prior)</b>	72-48 hours	Local Governments and CCAs*	12/07/2024 14:32	Priority		PG&E
		Public Safety Partners**	12/7/2024 15:08	Priority		PG&E
		Public Safety Partners**	12/7/2024 16:00	Priority		SCE
	48-24 hours	Local Governments and CCAs*	12/8/2024 11:31	Watch		PG&E
		Public Safety Partners**	12/8/2024 11:36	Watch		PG&E
		All Customers***	12/8/2024 11:35	Watch		PG&E
		All Customers***	12/8/2024 11:22	Watch	See Table 8	SCE
	24-12 hours <sup>24</sup>	Local Governments and CCAs*	12/9/2024 9:25	Watch		PG&E
		Public Safety Partners**	12/9/2024 9:44	Watch		PG&E
		All Customers***	12/9/2024 9:42	Watch		PG&E
		All Customers***	12/9/2024 9:45	Watch		SCE
	4-1 hours	Local Governments and CCAs*	12/9/2024 16:07	Warning		PG&E
		Public Safety Partners**	12/9/2024 16:31	Watch		PG&E

<sup>22</sup> D.19-05-042.

<sup>23</sup> D.19-05-042, Appendix A, Timing of Notification.

<sup>24</sup> While not a CPUC requirement, PG&E provides an additional 24-12-hour notification to Tribal/Local Governments, Public Safety Partners and Customers.



Event Order	Minimum Timeline <sup>23</sup>	Notification Sent to:	Approximate Time Sent (PST)	Message	Notes	Who made the Notification
		All Customers***	12/9/2024 16:29	Warning		PG&E
		All Customers***	12/9/2024 16:13	Warning		SCE
<b>Initiation (During)</b>	When De-energization is initiated (Power Off)	Public Safety Partners**	12/9/2024 20:15	Power Off		PG&E
		Public Safety Partners**	12/9/2024 21:01	Power Off		PG&E
		All Customers***	12/9/2024 20:15	Power Off		PG&E
		All Customers***	12/9/2024 21:01	Power Off		PG&E
		All Customers***	12/9/2024 21:32	Power Off		SCE
	Immediately before re-energization (All-Clear)	Local Governments and CCAs*	12/10/2024 17:40	Inspecting /Weather All-Clear	First and Last All-Clear Notification sent.	PG&E
		Public Safety Partners**	12/10/2024 16:03	Inspecting /Weather All-Clear	First All-Clear Notification sent.	PG&E
		Public Safety Partners**	12/10/2024 16:18	Inspecting /Weather All-Clear	Last All-Clear Notification sent.	PG&E
		All Customers***	12/10/2024 16:16	Inspecting /Weather All-Clear		SCE
		All Customers***	12/10/2024 16:03	Inspecting /Weather All-Clear	First All-Clear Notification sent.	PG&E
		All Customers***	12/10/2024 16:18	Inspecting /Weather All-Clear	Last All-Clear Notification sent.	PG&E
		Public Safety Partners**	12/10/2024 17:35	Inspecting /Weather All-Clear	First ETOR Update Notification sent.	PG&E
		Public Safety Partners**	12/10/2024 18:35	Inspecting /Weather All-Clear	Last ETOR Update	PG&E

Event Order	Minimum Timeline <sup>23</sup>	Notification Sent to:	Approximate Time Sent (PST)	Message	Notes	Who made the Notification
					Notification sent.	
		All Customers***	12/10/2024 17:35	Inspecting /Weather All-Clear	First ETOR Update Notification sent.	PG&E
		All Customers***	12/10/2024 18:35	Inspecting /Weather All-Clear	Last ETOR Update Notification sent.	PG&E
<b>Restoration (After)</b>	After re-energization was completed	Local Governments and CCAs*	12/10/2024 20:09	Restore		PG&E
		Public Safety Partners**	12/10/2024 17:01	Restore	First initial Restoration Notification sent.	PG&E
		Public Safety Partners**	12/10/2024 19:16	Restore	Last initial Restoration Notification sent.	PG&E
		All Customers***	12/10/2024 17:01	Restore	First Restoration Notification sent.	PG&E
		All Customers***	12/10/2024 19:16	Restore	Last Restoration Notification sent.	PG&E
		All Customers***	12/10/2024 20:09	Restore		SCE
<b>Cancellation</b>	Within 2-hours of decision to cancel	Public Safety Partners**	12/10/2024 10:59	Cancel		PG&E
		All Customers***	12/10/2024 10:59	Cancel		PG&E

\*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.

**Table 5: Notifications to Customers where Positive or Affirmative Notification was Attempted<sup>25</sup>**

Designation	Total Number of customers <sup>26</sup>	Notification Attempts Made <sup>27</sup>	Timing of Attempts <sup>28</sup> (PST)	Who made the Notification Attempt	Successful Positive Notification <sup>29</sup>
MBL <sup>30</sup>	27	27 Watch Notifications	12/8/2024 11:36	PG&E	24 Watch Notifications
		27 Warning Notifications	12/9/2024 10:14		24 Warning Notifications
		54 Overall Notifications	12/8/2024 11:36		48 Overall Notifications
MBL behind a master meter <sup>31</sup>	0	0 Watch Notifications	Customer type not in scope.	PG&E	0 Watch Notifications

<sup>25</sup> Counts of Notification Attempts Made will not reflect the actual total of customers notified as both MBL and SIV Program customers can appear in both subset groups.

<sup>26</sup> Total number of customers notified where notification was attempted. Count includes customers that may have been removed from scope or received Cancellation Notifications prior to de-energization, but still received Watch and/or Warning notifications.

<sup>27</sup> Count of Warning Notifications includes doorbell rings and Live Agent phone calls.

<sup>28</sup> Initial start time notification was sent.

<sup>29</sup> PG&E considers successful positive notifications as those in which the notification was successfully delivered to the customer (i.e., no bounce back) and the customer acknowledges receipt of the notification.

<sup>30</sup> Residential tenants of master-metered customers can also qualify for Medical Baseline quantities. The Medical Baseline category for the purposes of Table 5 does not include MBL Program customers who are master meter tenants.

<sup>31</sup> PG&E has additional processes in place to ensure MBL 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.

Designation	Total Number of customers <sup>26</sup>	Notification Attempts Made <sup>27</sup>	Timing of Attempts <sup>28</sup> (PST)	Who made the Notification Attempt	Successful Positive Notification <sup>29</sup>
SIV	13	0 Warning Notifications	Customer type not in scope.	PG&E	0 Warning Notifications
		0 Overall Notifications	Customer type not in scope.		0 Overall Notifications
		13 Watch Notifications	12/8/2024 11:36		11 Watch Notifications
SIV	13	13 Warning Notifications	12/9/2024 9:46	PG&E	11 Warning Notifications
		26 Overall Notifications	12/8/2024 11:36		22 Overall Notifications

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 customers<sup>32</sup> 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.<sup>33</sup>

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 de-energization.

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.

<sup>32</sup> Including MBL Program customers who are master-metered tenants (e.g., renters or tenants in mobile home park).

<sup>33</sup> 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."

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.

Table 6 and Table 7 include metrics associated with the notifications to de-energized MBL Program customers.

**Table 6: Outcomes of Notifications to De-energized Medical Baseline Program Customers**

Count	Type of Notifications to De-energized MBL Customers <sup>34</sup>	Description
27	<b>Total De-energized MBL Program Customers</b>	The number of customers de-energized who participate in PG&E's MBL Program
27	<b>Total Notifications Attempted/Sent</b>	The total sum of automated notifications attempted via call, text, and e-mail, in-person doorbell ring visit attempts and/or Live Agent phone calls.
0	<i>Total Notifications Not Attempted/Sent</i>	<i>Total MBL Program customers de-energized that PG&amp;E did not attempt to notify.</i>
27	<b>Total Notifications Delivered</b>	The total sum of automated notifications sent via call, text, and e-mail.
0	<i>Total Notifications Not Delivered</i>	<i>Total MBL Program customers de-energized whose notification was not delivered.</i>
21	<b>Total Notifications Initially Acknowledged</b>	The total sum of automated notifications sent via call, text, and email where notification was acknowledged.
48	<b>Total In-Person Visits/Doorbell Rings and Live Agent Phone Calls</b>	Total attempted doorbell ring for impacted MBL Program customers where PG&E made contact with the customer (either in person or via phone call in advance of visit) or left a door hanger. <sup>35</sup> This includes call attempts made by Live Agent representatives to MBL Program customers that had not yet confirmed receipt of their automated notification or answered the door during PG&E's in-person visit. Refer to Table 7 for the detailed breakdown of this category.
25	<b>Total Notifications Received</b>	Customers who acknowledged their notification by taking one of the following actions: answered an automated or Live Agent phone call, responded to a text message, opened an e-mail, or greeted an in-person doorbell ring (excludes voicemails left, text message delivered only and not confirmed, door hanger left).

<sup>34</sup> Based on SPID.

<sup>35</sup> Customers may have confirmed receipt of their notifications in multiple channels (e.g., automated notification and/or doorbell ring); therefore, the counts of total attempted and successful notifications are not mutually exclusive.

Count	Type of Notifications to De-energized MBL Customers <sup>34</sup>	Description
2	Total Notifications Not Received	Total MBL Program customers who did not confirm receipt/acknowledge their automated notifications, Live Agent phone calls or in-person doorbell ring. Customers who did not answer a doorbell ring were left a door hanger.

**Table 7: Count and Type of Additional Notifications to De-energized Medical Baseline Program Customers**

Count	Type of Additional Notifications to Impacted Medical Baseline Customers <sup>36</sup>	Description
8	Total In-Person Visits/Doorbell Rings	Doorbell ring attempts to impacted MBL Program customers where PG&E made contact with the customer (either in person or via phone call in advance of visit) or left a door hanger. <sup>37</sup>
40	Live Agent Phone Calls	Calls made by Live Agent representatives to MBL Program customers that had not yet confirmed receipt of their automated notification or answered the door during PG&E's in-person visit.

**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\_20241209.pdf*” for a copy of the notification templates, the timing of the notifications and methods of notifications that PG&E sent during the December 9 – 10, 2024 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 municipal utility 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 get PSPS information in translated languages. For more information on notifications provided to customers in customer-set language preferences, see Table 12.

<sup>36</sup> Based on SPID.

<sup>37</sup> Customers may have confirmed receipt of their notifications in multiple channels (e.g., automated notification and/or doorbell ring); therefore, the counts of total attempted and successful notifications are not mutually exclusive.

**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 in accordance with the PSPS Phase 1, Phase 3 and 2019 PSPS OII guidelines, weather and other factors permitting.

**Table 8: Notification Failure Causes**

<b>Notifications Sent to</b>	<b>Notification Failure Description</b>	<b>Number of Entities or Customer Account</b>	<b>Explanation of Failure</b>
<b>Public Safety Partners excluding CFI<sup>38</sup></b>	<b>Entities who did not receive 48-to 72-hour priority notification</b>	0	No failures.
	<b>Entities who did not receive 1–4-hour imminent notification</b>	0	No failures.
	<b>Entities who did not receive any notifications before de-energization</b>	0	No failures.
	<b>Entities who were not notified immediately before re-energization</b>	0	No failures.
	<b>Entities who did not receive cancellation notification within two hours of the decision to cancel</b>	0	No failures.
<b>CFI<sup>39</sup></b>	<b>Facilities who did not receive 48-to 72-hour priority notification</b>	0	No failures.
	<b>Facilities who did not receive 1–4-hour imminent notification</b>	0	No failures.
	<b>Facilities who did not receive any notifications before de-energization</b>	0	No failures.
	<b>Facilities who were not notified at de-energization initiation</b>	0	No failures.
	<b>Facilities who were not notified immediately before re-energization</b>	0	No failures.

<sup>38</sup> Only includes cities, counties, and CCAs.

<sup>39</sup> Includes Public Safety Partners who are CFI customers.

Notifications Sent to	Notification Failure Description	Number of Entities or Customer Account	Explanation of Failure
	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	5	These SCE shared customers were impacted by PG&E's PSPS and missed the 24-48 hour notification window. See Section 5.6 for more information.
	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.



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

**Response:**

As noted in Table 8, SCE failed to launch five notifications due to internal miscommunication within SCE. Per the JIOU Shared Customer Procedure,<sup>40</sup> PG&E requested SCE to launch 48-24-hour notifications to shared customers. After initially providing PG&E with notification launch timestamps, SCE later identified that these five notifications were not launched. PG&E was notified of the missed 48-24-hour notifications during the 4-1-hour notification window.

SCE plans to review and update their internal processes to address the root cause of the communication challenge and ensure this does not occur during future PSPS events. Additional corrective actions will be included in the 2024 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:**

PG&E did not identify any cases of false positives or false negative communications for this PSPS.

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<sup>40</sup> JIOU Shared Customers Procedure, effective 9/1/2024.

## **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 de-energization, 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,<sup>41</sup> 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 on December 7, 2024, at 13:05 PST.

PG&E also provides communication service providers with a dedicated PG&E contact in the EOC known as the Critical Infrastructure Lead (CIL). The CIL shares PSPS updates and answers specific questions. During a PSPS, the CIL can be reached 24/7 by e-mail or phone at PG&E's Business Customer Service Center.

As part of our PSPS Pre-Season outreach,<sup>42</sup> 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).<sup>43</sup>

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<sup>41</sup> Tribes were not in scope for the December 9 – 10, 2024 PSPS.

<sup>42</sup> See 2024 PSPS Pre-Season Report, pp 70-71.

<sup>43</sup> 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 Section 5.2. 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 9.

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 9: PSPS Portal Time & Date for Map Sharing**

Date	Time PDF and GIS Maps Shared (PST)
12/07/2024	14:23
12/08/2024	10:18
12/09/2024	08:52
12/10/2024	10:35

**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 Re-energization Patrols (Stage 4) and All PSPS Lines Re-energized (Stage 5). See Table 10 below.

**Table 10: PSPS Notifications Submitted to Cal OES**

Date	Time PDF and GIS Maps Shared (PST)
12/7/2024	14:00
12/8/2024	06:44
12/8/2024	14:59
12/9/2024	06:52
12/9/2024	09:48
12/9/2024	14:35
12/9/2024	20:15
12/10/2024	06:34
12/10/2024	14:54
12/10/2024	15:50

Date	Time PDF and GIS Maps Shared (PST)
12/10/2024	19:46

- Sent e-mails to the CPUC at least once for each of the five PSPS stages listed above. See Table 11 below.

**Table 11: PSPS Notifications Submitted to CPUC**

Date	Time PDF and GIS Maps Shared (PST)
12/7/2024	13:05
12/9/2024	16:04
12/9/2024	19:44
12/10/2024	16:24
12/10/2024	19:33

- 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.<sup>44</sup>
- Conducted ongoing coordination of 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.

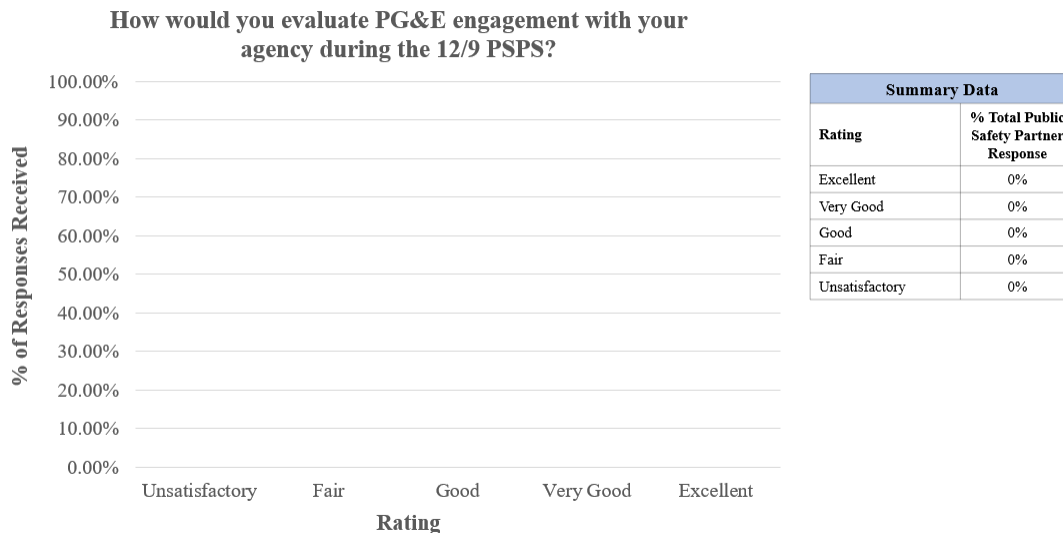
PG&E considers the advanced outreach and notification to local and state Public Safety Partners during this EOC activation successful. This is based on the number and various types of outreach conducted (see list above) and the success rate of automated agency notifications.

Leading up to de-energization, we sent 100% of our automated notifications to local governments within the required timeframes. Figure 14 below shows the post-PSPS survey results where Public Safety Partners were asked to “evaluate PG&E engagement with your agency during the outage.” Note that we did not receive any responses to the survey for this

<sup>44</sup> May vary in cadence & type based on County OES.

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**



**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,<sup>45</sup> 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 notifications<sup>46</sup> to 221 paratransit agencies for the December 9 – 10, 2024 PSPS. All notifications included a link to the PSPS emergency website updates page, [pge.com/pspsupdates](https://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 around 500 “information-based” CBOs during the PSPS, sharing courtesy notification updates, fact sheets, and other relevant information for them to share with their constituents to expand our reach of communications, including infographic videos with relevant

<sup>45</sup> D.21-06-034.

<sup>46</sup> For this PSPS, paratransit agencies received the Watch, Warning, Cancellation, and Restoration Notification. A list of zip codes was provided four times.

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:

- Disability Disaster Access and Resource Program (DDAR):<sup>47</sup> 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 December 9 – 10, 2024 PSPS.
  - One local ILC provided aid to 254 customers who rely on power for medical or independent living needs. Direct assistance resources were not provided during this activation. PG&E is evaluating intervenor comments regarding how the ILCs aided customers reliant on power and will update the 2025 AFN Plan accordingly.
  - One battery was previously allocated in the affected county. Batteries were not 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):<sup>48</sup> 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, 14 customers in scope were supported by batteries received through the PBP (delivered in 2020, 2021, 2022, 2023, and year to date 2024). Since July 2020, a total of approximately 31,196 battery units have been delivered through the PBP across the entire PG&E service area.
- Food Bank Partnerships: PG&E did not partner with any food banks to provide food replacement during this PSPS due to low customer impact.
- Meals on Wheels Partnerships: PG&E did not partner with Meals on Wheels during this PSPS due to low customer impact.
- 211 Referral Services: PG&E has a long-standing relationship with 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. The California network of 211 was activated to provide support, but did not receive calls requesting support 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 existing Transportation Partnerships in Kern County. For this

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<sup>47</sup> 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 2025 AFN Plan.

<sup>48</sup> For more information about the PBP Program, refer to PG&E's 2025 AFN Plan.

PSPS, we deferred AFN transportation requests to our DDAR and CA 211 Network Providers, 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 15 non-English languages. See language preferences for this PSPS in Table 12 below.

**Table 12: Customer Notifications Based on Language Preference**

Language	Total Notifications <sup>49</sup>	Percent
English	15,651	98%
Spanish	229	2%
<b>Total</b>	<b>15,880</b>	<b>100%</b>

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. Table 13 includes call center-related metrics associated with this PSPS.

**Table 13: Call Center Support Services<sup>50</sup>**

Total Calls Handled	PSPS Calls Handled	Average Response Time for PSPS-related Calls (seconds)	Number of Calls Handled by Call Center Translation Services	Number of Languages Supported by Call Center Translation Services
49,651	473	5	938	240+

PG&E continued support and engagement with multicultural media organizations and in-language 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 in 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](http://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 El Popular.<sup>51</sup> See Figure 15 below.

<sup>49</sup> Total notifications do not include doorbell rings and Live Agent phone calls.

<sup>50</sup> Metrics are provided from December 7, 2024, through December 10, 2024.

<sup>51</sup> [El Popular Update](#) in Spanish.

Figure 15: El Popular Update in Spanish



**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](mailto: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 14 lists the generators available for CFI customers before and during the PSPS.

**Table 14: Generators Available for Critical Facilities and Infrastructure Customers**

Generator Type	Number of Units	Individual Size (MW)	Run Time (Hrs.) <sup>52</sup>	Description
Diesel Generator	2	0.03	37.60	2 units on reserve in Sacramento.
Diesel Generator	2	0.07	31.00	2 units on reserve in San Leandro.
Diesel Generator	1	0.07	31.00	1 unit on reserve in Sacramento.
Diesel Generator	6	0.10	25.30	6 units on reserve in Sacramento.

<sup>52</sup> Estimated based on a 75% load. Barring mechanical failure and refueling the temporary generators have the ability to operate continuously throughout a typical PSPS.



Generator Type	Number of Units	Individual Size (MW)	Run Time (Hrs.) <sup>52</sup>	Description
Diesel Generator	1	0.13	25.00	1 unit on reserve in San Leandro.
Diesel Generator	6	0.20	22.90	6 units on reserve in San Leandro.
Diesel Generator	1	0.28	26.00	1 unit on reserve in Sacramento.
Diesel Generator	3	0.50	24.10	3 units on reserve in Sacramento.
Diesel Generator	4	0.57	24.10	4 units on reserve in San Leandro.
Diesel Generator	4	1.00	35.00	3 units pre-staged at ICU Hospital; 1 unit on reserve in Sacramento.
Diesel Generator	4	1.14	24.00	4 units on reserve in San Leandro.
Diesel Generator	7	1.50	10.00	7 units on reserve in Benicia.
Diesel Generator	8	2.00	27.70	7 units on reserve in San Leandro; 1 unit on reserve in Sacramento.

**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 14 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:**

Temporary generation was not utilized during the December 9 – 10, 2024 PSPS.

**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 back-tie.<sup>53</sup>

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 Tribal, local, state, and federal level, water, wastewater, and communication service providers, affected community choice aggregators, publicly-owned utilities/electrical cooperatives, the CPUC, the California Governor's Office of Emergency Services and the CAL FIRE.<sup>54</sup>

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.

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<sup>53</sup> 50,000 customer minutes is approximately equivalent to 100 customers for about 8 hours.

<sup>54</sup> 50,000 customer minutes is approximately equivalent to 100 customers for about 8 hours.

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

**Response:**

For this PSPS, temporary generation deployments were not necessary for stand-alone facilities or indoor CRCs.

## **Section 7 – Complaints & Claims**

**Section 7.1 - The number and nature of complaints received as the result of the de-energization 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 15 provides the number and nature of complaints received from customers and Public Safety Partners, submitted to both the CPUC and PG&E, for the December 9 – 10, 2024 PSPS.<sup>55</sup> Any complaints and claims received after December 10, 2024, for this PSPS will be included in the 2024 PSPS Post-Season Report.

PG&E received did not receive claims for the December 9 – 10, 2024 PSPS.

**Table 15: Number and Nature of Complaints due to the December 9 – 10, 2024 PSPS**

<b>Nature of Complaints</b>	<b>Number of Complaints</b>
<b>Communications/Notifications</b> 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).	4
<b>PSPS Frequency/Duration</b> 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
<b>Safety/Health Concern</b> Including, but not limited to complaints regarding difficulties experienced by AFN/MBL Program 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.	0
<b>General PSPS Dissatisfaction/Other</b> 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.	12
<b>Outreach/Assistance</b> Including, but not limited to complaints regarding CRCs, community crew vehicles, backup power, hotel vouchers, and other assistance provided by utility to mitigate impact of PSPS.	1

<sup>55</sup> 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.

## **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-Clear and deployed approximately 15 personnel and two helicopters to patrol the lines in advance of restoration. Patrols were conducted on approximately 45 miles of distribution circuits 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 16.

**Table 16: Weather All-Clear Times**

All-Clear Zones	Weather All-Clear Date and Time (PST)
445, 448B, 651A, 651B	12/10/2024 15:25

### **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 December 9 – 10, 2024 PSPS, PG&E opened one CRC. The site was visited by 180 people. The CRC location, assistance available, operating days and hours, and attendance are 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 privacy screens were also available at indoor locations.

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

During this PSPS, visitors requested and received:<sup>56</sup>

- 224 snacks
- 192 bottled waters
- 172 device chargers
- 204 blankets

One visitor was provided with food bank information. Six visitors stayed onsite while 174 visitors did not remain onsite and were provided “Grab and Go” bags.

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 de-energization and restoration on December 9 and December 10, 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.

There were no other deviations from CRC requirements during this PSPS.

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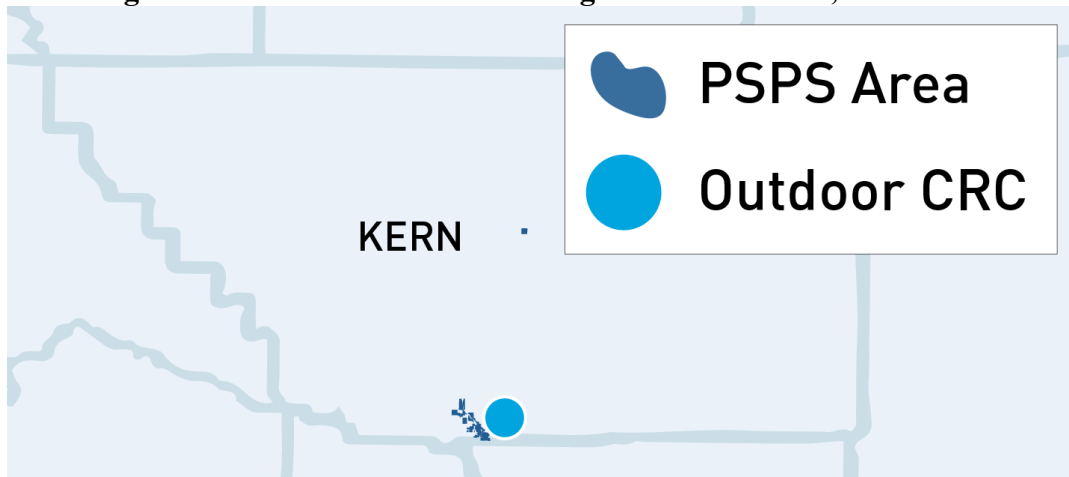
<sup>56</sup> PG&E does not provide hotel vouchers at CRC locations. For more information on vouchers, see Section 6.5.

**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. Due to the scope within the impacted county, PG&E opened one CRC in Lebec. Based on the CRC survey conducted for this PSPS, most respondents traveled approximately eight miles to the CRC location. During a PSPS event, 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.

**Figure 16: Location of CRCs During December 9 – 10, 2024 PSPS**



## **Section 10 – Mitigations to Reduce Impact**

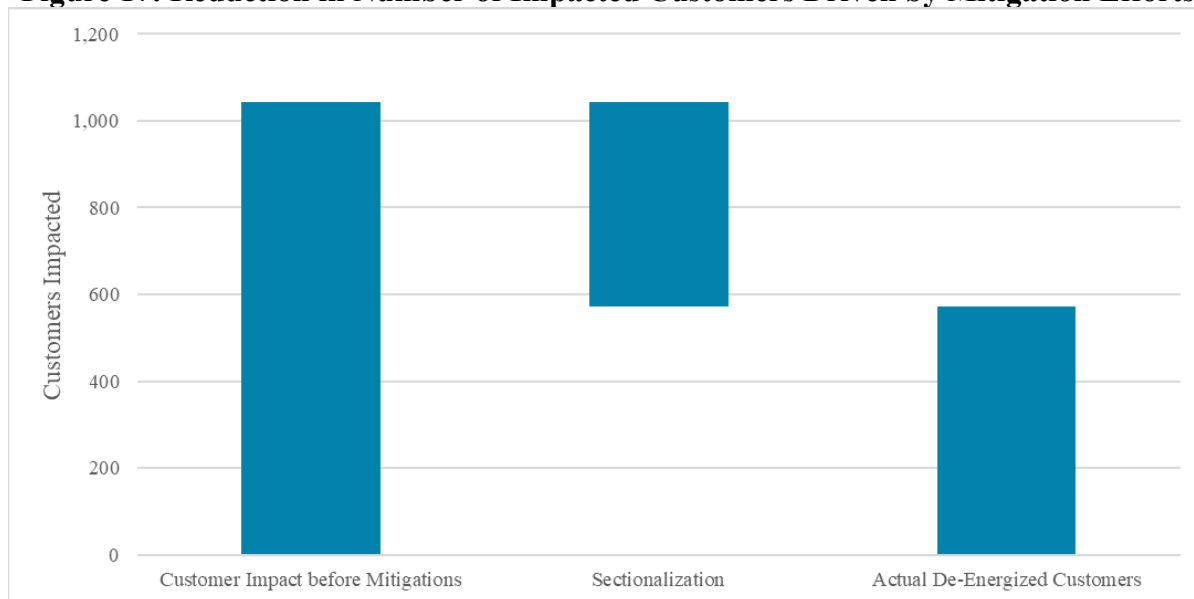
**Section 10.1 - Mitigation actions and impacts (both waterfall graph and map) including: sectionalization devices, temporary generation, microgrids, permanent backup generation, transmission switching, covered conductor, and any other grid hardening that mitigated the impact of the event (D.21-06-014,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

### **Response:**

#### **Mitigations to Reduce Impact**

PG&E employed sectionalization to avoid de-energizing approximately 473 customers. Figure 17 depicts the impact the 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 December 9 – 10, 2024 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](http://www.pge.com/cmep).

Community microgrids were not utilized during the December 9 – 10, 2024 PSPS.

### Transmission Line Segmentation

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 line segmentation was not utilized during the December 9 – 10, 2024 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.

Distribution switching was not utilized during the December 9 – 10, 2024 PSPS as there were no opportunities available. This was primarily due to the small scope of the PSPS.

### 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 473 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 December 9 – 10, 2024 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 December 9 – 10, 2024 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.

Temporary distribution microgrids were not in scope for the December 9 – 10, 2024 PSPS.

### Backup Power Support:

For this PSPS, PG&E did not deploy temporary generation as there weren't any identified opportunities to serve our customers within the de-energization scope.

### 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 de-energized 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.<sup>57</sup> 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 December 9 – 10, 2024 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 and 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: CFP<sub>D</sub> Quantification**

Based on this analysis, PG&E uses a CFP<sub>D</sub> value of seven as the quantitative threshold guidance value to consider for PSPS on PG&E’s distribution system.

To establish the CFP<sub>D</sub> 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

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<sup>57</sup> See Resolution ESRB-8, p. 8-9.

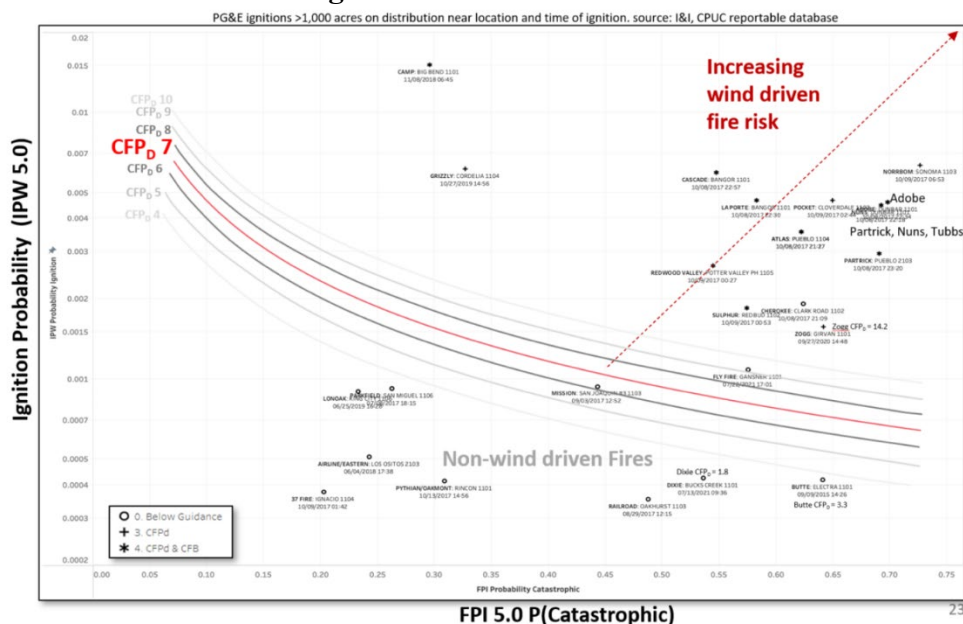
years to calibrate PSPS guidance. This included simulating and learning from more than 2,500 virtual PSPS outages. Through this “lookback” analysis, we evaluated:

- 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<sub>D</sub> guidance that is determined from Technosylva was also evaluated using this process.

The CFP<sub>D</sub> guidance value of seven is shown in Figure 19 with respect to recent large fires since 2012. Fires above the CFP<sub>D</sub>7 curve tend to be wind driven fire, while non-wind driven fires tend to exist below the CFP<sub>D</sub>7 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.<sup>58</sup>

**Figure 19: CFP<sub>D</sub> 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

<sup>58</sup> 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.

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 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"<sup>59</sup> 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

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<sup>59</sup> 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)."

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.

#### 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 opportunities for improvement. PG&E did not identify any lessons learned from the December 9 – 10, 2024 PSPS.

## **Section 12 – Other Relevant Information**

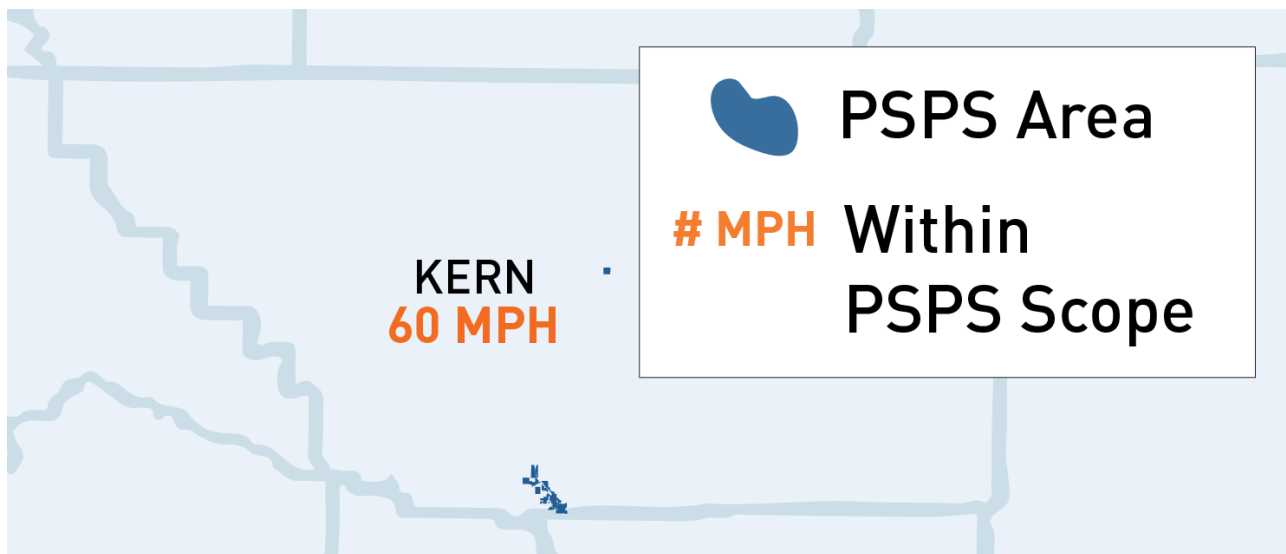
### **Response:**

Table 17 and Figure 20 show the maximum wind gust speeds recorded by weather stations in each county within PSPS scope.

**Table 17: Maximum Wind Gusts Recorded December 9 – 10, 2024 in Impacted Counties**

County	Maximum Wind Gust (mph)	Station ID	Station Name
Kern	60	116SE	SCE Conte Lena Rd

**Figure 20: Maximum Wind Gusts Recorded December 9 – 10, 2024 in Impacted Counties**





## **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 December 9 – 10, 2024 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.

Circuit Name	Time Place	Forecast										Agency			Observed										PSPS Risk vs. Benefit	
		ws_mph	temp_2m_f	flame length_ft_8hr	rate_of_spread_chhr_8hr	rh_2m	prob_cat	dfm_10hr	dfm_100hr	lfm_chamise_new	cfpd	NOAA	RFW	GACC High Risk	ws_mph	wg_mph	temp_f	RH %	ws_mph_AC	wg_mph_AC	temp_f_AC	RH_%_AC	open_pspstags	Tx impacts yes_no	PSPS Potential Risk Consequence	PSPS Potential Benefit
LAMONT 1104	TP03	16	55	8.1	80.9	23.1	0.04	0.09	0.13	70	0.04	No	No	No	35	59	62	13	13	21	60	21	Yes	No	0.88	8.69
TEJON 1102	TP01	30	56	11.3	144.3	13.9	0.22	0.06	0.09	63	11.99	Yes	No	Yes	37	54	64	5	13	20	58	6	Yes	No	3.40	31.13

**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 December 9 – 10, 2024 PSPS**

Forecast / Agency / Observed	Value	Name	Unit	Value Provided	Description
Forecast	ws_mph	Sustained wind speeds	mph	max	Sustained windspeed in miles per hour at 10 meters above ground level.
Forecast	temp_2m_f	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 <sub>D</sub> 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 <sub>D</sub> )	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 <sub>D</sub> ) Catastrophic Fire Probability distribution. Scaled by 1000 to convert to an integer value.
Agency	NOAA	National Oceanic and Atmospheric Administration	N/A	Yes/No	NOAA (SPC) Fire Weather Outlook forecast.
Agency	RFW	Red Flag Warning	N/A	Yes/No	Red Flag Warning from the Federal National Weather Service.
Agency	GACC_HighRisk	GACC High Risk	N/A	Yes/No	High Risk issued by the Federal North or South Operations Predictive Services.
Observed	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	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	Observed temp_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	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	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	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	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	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_pspstags	Open PSPS Qualified Tags	N/A	Yes/No	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	Yes/No	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	Measure of the adverse impact to customers due to de-energization.
Observed	PSPS Potential Benefit	PSPS Potential Benefit	MAVF Score	Yes/No	Measure of the adverse impact to customers due to a catastrophic fire.

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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 December 9 – 10, 2024 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.*

*Circuits with an asterisk (\*) were sectionalized during the event to further reduce customer impact. The de-energization date and time represents the time the first customer was de-energized on the circuit and the restoration time represents the date and time of the last customer restored on a circuit by circuit. Circuits with (\*\*) indicate that restoration time was delayed due to reclassification and/or damages.*

Distribution	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	TEJON 1102	12/9/2024 20:00	12/10/2024 15:25	12/10/2024 18:59	Kern	Partially Outside HFTD, Tier 2	566	469	86	27	173	11
Distribution	LAMONT 1104	12/9/2024 20:46	12/10/2024 15:25	12/10/2024 16:53	Kern	Tier 2	5	0	5	0	0	0
Total							571	469	91	27	173	11

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APPENDIX C

SECTION 6 – PUBLIC SAFETY PARTNERS CONTACTED

## **Appendix C: PUBLIC SAFETY PARTNERS CONTACTED**

*Table C-1. Public Safety Partners Contacted*

<b>Organization/Jurisdiction</b>	<b>Title</b>	<b>HFTD or HFRA Tier<sup>1</sup></b>	<b>Date/Time Contacted (PST)</b>
Kern County	Board Chairman	HFRA, Tier 2	12/07/2024 14:33
Kern County	County Administrative Officer	HFRA, Tier 2	12/07/2024 14:33
Kern County	County Clerk	HFRA, Tier 2	12/07/2024 14:33
Kern County	Emergency	HFRA, Tier 2	12/07/2024 14:33
Kern County	Emergency Supervisor	HFRA, Tier 2	12/07/2024 14:33
Kern County	Fire Chief	HFRA, Tier 2	12/07/2024 14:33
Kern County	MHOAC	HFRA, Tier 2	12/07/2024 14:33
Kern County	Manager	HFRA, Tier 2	12/07/2024 14:33
Kern County	Sheriff	HFRA, Tier 2	12/07/2024 14:33
Kern County	Supervisor	HFRA, Tier 2	12/07/2024 14:33
Kern County Communication Facility	AT&T Mobility LLC	Tier 2	12/07/2024 15:09
Kern County Communication Facility	AT&T Services Inc	Tier 2	12/07/2024 15:09
Kern County Communication Facility	T-Mobile West LLC	Tier 2	12/07/2024 15:09
Kern County Communication Facility	Verizon	Tier 2	12/07/2024 15:09
Kern County Emergency Services Facility	California Highway Patrol	Tier 2	12/07/2024 15:09
Kern County Emergency Services Facility	County of Kern	Tier 2	12/07/2024 15:09
Kern County Other Facility	Crown Castle USA Inc	Tier 2	12/07/2024 15:09
Kern County Water And Waste Water Facility	Lebec County Water District	Tier 2	12/07/2024 15:09

<sup>1</sup> 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.



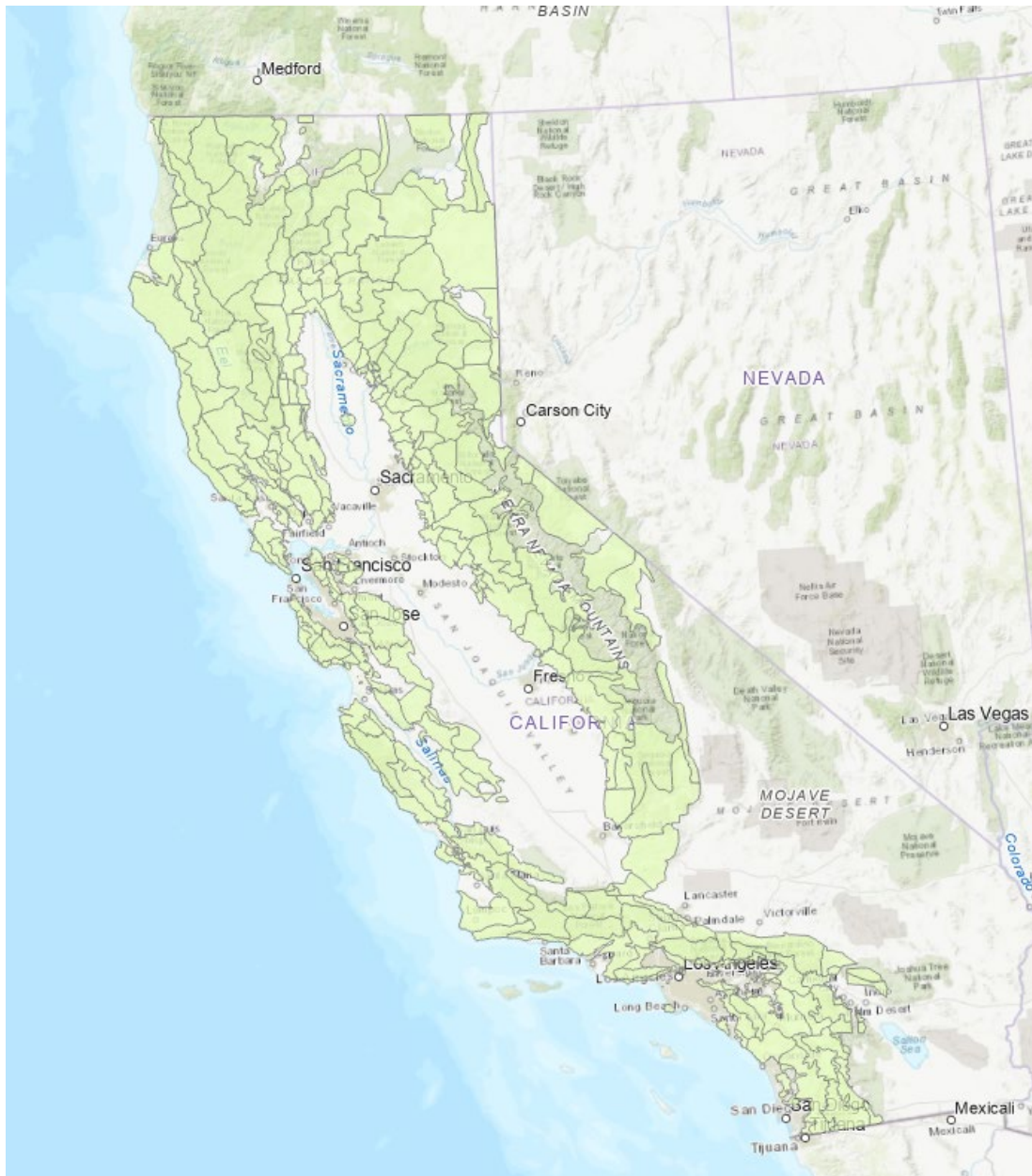
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APPENDIX D

SECTION 8 – ALL CLEAR ZONE MAP

## **Appendix D: ALL CLEAR ZONE MAP**

***Figure D-1. All Clear Zone Map***



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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 December 9 – 10, 2024 PSPS, including specific locations, dates and times opened and closed, total attendance for each location, and amenities provided.*

#	County	Site Name	Address	Operating Hours (PST)		Total Visitors	Indoor / Outdoor	Amenities Provided
				Day 1 Dec 9	Day 2 Dec 10			
1	Kern	Lebec Post Office	2132 Lebec Road	17:00 – 22:00	8:00 – 20:00	180	Outdoor	Wi-Fi, ADA Restroom, Bottled Water, Device Charger, Snacks and Seating.

## **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 December 9 – 10, 2024 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 23<sup>rd</sup> day of December 2024.

A handwritten signature in black ink, appearing to read "Mark Quinlan", written over a horizontal line.

MARK QUINLAN  
SENIOR VICE PRESIDENT  
WILDFIRE, EMERGENCY & OPERATIONS