Pacific Gas and Electric Company®

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August 23, 2024

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 a compliance report for the proactive de-energization that was initiated on July 2, 2024 and fully restored for those who could receive power on July 4, 2024. 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,

Susan C. Martinez

Susan C. Martinez
Director of Liaison, Regulatory

Operations and Engagement

Enclosures

cc: Anthony Noll, SED
ESRB_ComplianceFilings@cpuc.ca.gov
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Pacific Gas and Electric Company
Public Safety Power Shutoff (PSPS) Report to the CPUC
July 2 – 3, 2024 De-energization

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PG&E Public Safety Power Shutoff (PSPS) Report to the CPUC
July 2 – 3, 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, potentially damage our equipment and cause a wildfire. As a result, we may need to turn off power during severe weather to help prevent wildfires. This is called a Public Safety Power Shutoff (PSPS). 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 used as a last resort. We know that turning off the power disrupts lives, and do not take this decision lightly.

On June 28, 2024, PG&E's Meteorology Team identified potential fire weather in forecast models and notified the acting Emergency Operations Center (EOC) Commander. On June 29, we activated our EOC for a potential PSPS and began notifying Public Safety Partners. On Sunday, June 30, based on updated meteorological forecasts, we notified Public Safety Partners and customers in the areas expected to be impacted, readied the grid, and prepared Community Resource Centers (CRCs) and other customer support resources.

We closely monitored weather conditions across 12 Time Places (TPs),[1] as shown in Figure 1, and ultimately PG&E decided to move forward with plans to de-energize customers due to continued unfavorable weather conditions that met the thresholds for a PSPS.

On July 2, at 00:29 PDT, PG&E began de-energizing its assets and customers to mitigate catastrophic wildfire risk across portions of the western Sacramento Valley, North Bay elevated terrain, and the Feather River Canyon. Wind gusts began exceeding 40 mph during this period.

On July 2, at 11:07 PDT, an opportunity was identified to issue a temporary "All-Clear" for de-energized customers who had been without power since the night before allowing them to cool their homes and charge devices. This was implemented with the expectation that a portion of these customers would be de-energized again for continued safety. The Weather "All-Clear" was given for all circuits in All-Clear zones at this time. Later in the evening of July 2, we notified all customers still in-scope of the potential additional de-energization based on potential catastrophic wildfire risk overnight. See Section 5.2 for more information.

On July 2, at 23:46 PDT, PG&E de-energized its assets and customers again to mitigate catastrophic wildfire risk across portions of the western Sacramento Valley, North Bay elevated terrain, and the Feature River Canyon, based on the same scope used for the earlier de-energizations. Wind gusts once again exceeded 40 mph during this period.

[1] A Time-Place (TP) is a portion of the PG&E grid that is electrically and geographically coherent and is forecast to experience consistent timing for severe fire weather. TPs 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.

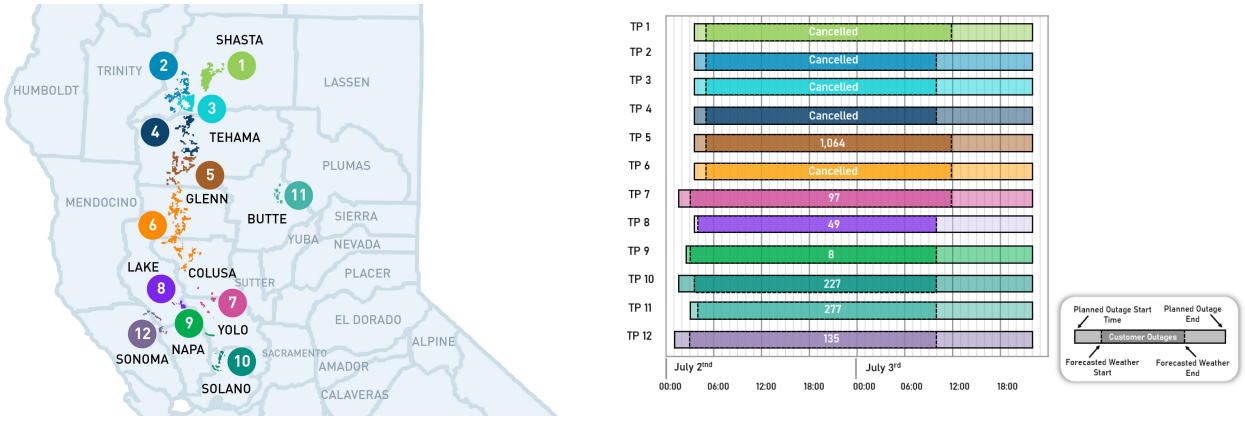
On July 3, at 12:43 PDT, PG&E began to issue the final "All-Clear" to de-energized customers as the periods of critical fire weather had passed and it was safe to re-energize. We re-energized customers as fast as was safely possible. Within 24 hours of both de-energizations, 100% of customers' power had been restored. The average restoration time for this PSPS was 4.4 hours.

During this PSPS, we ultimately de-energized 1,843 customers in seven TPs across eight counties.[2] The remaining five TPs originally being monitored were removed from scope due to weather. PG&E sent notifications for those customers who required de-energization and contacted more than 146 community representatives via text message, email, and phone calls to ensure that communities could prepare for PSPS.

PG&E opened eight CRCs within the impacted counties which hosted approximately 1,400 visits over three days. Additionally, we partnered with local organizations to provide more than 63 hotel stays and provided food support for more than 240 customers in need.

Using sectionalizing devices and back-up power support, PG&E mitigated and avoided the de-energization of approximately 15,509 customers in the final scope.

Figure 1: PSPS Timeline



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

Section 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 de-energized.

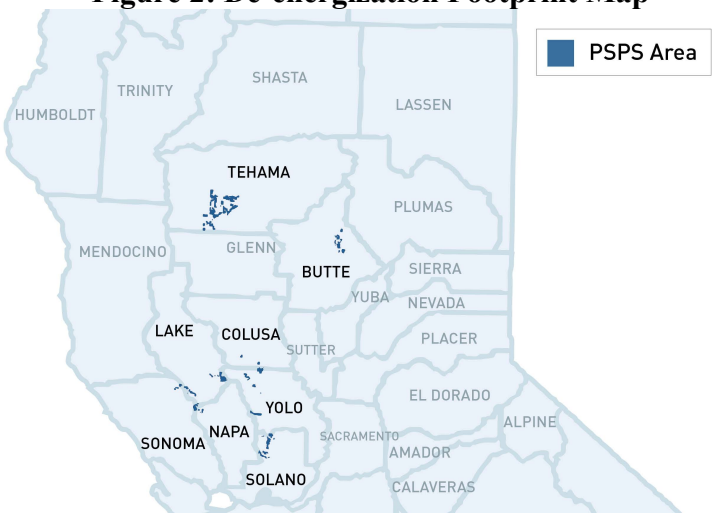
Table 1: Customers Notified and De-energized

Total Customers[3]			MBL Customers	Counties	Tribes	Circuits			Damage / Hazard Count	Critical Facilities and Infrastructure De-energized
Notified	De-energized	Cancelled	De-energized	De-energized	De-energized	Transmission De-energized	Unique Distribution Circuits in Any Version of Scope	Distribution Circuits De-energized		
12,291	1,843	10,448	168	8	1	0	34	15	0	78

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

Response:
During the July 2 – 3, 2024 PSPS, we de-energized 1,843 customers in seven TPs. The final de-energization footprint is shown in Figure 2.

Figure 2: De-energization Footprint Map



[3] The "Total Number of Customers," based on SPIDs, does not include streetlights.

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.)*

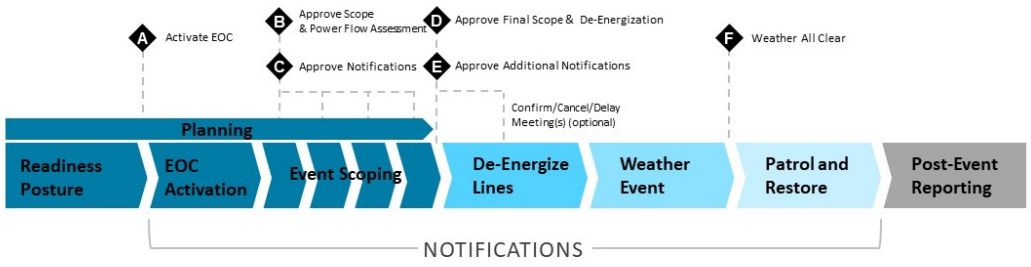
Response:
See Appendix A for a list of factors considered in the decision to de-energize each of the circuits in scope for the July 2 – 3, 2024 PSPS.

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 for the July 2 – 3, 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 these protocols during the July 2 – 3, 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 the following thresholds are met: 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 is forecasted and potential de-energization.

We identify the 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 historical potential for ignitions from each analyzed weather event.

- Fire Potential Index (FPI): Assists with fire model development and calibration.
- Technosylva: Provides fire spread modeling via data inputs.
- PSPS models: Provides guidance for operation decision-making.

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 three decades of historical weather data in and around California.

External forecast information from the National Weather Service (NWS) (e.g., Red Flag Warnings), the North and South Ops Predictive Services branches of the Northern California and Southern California Geographic Coordination Centers (North GACC) (e.g., High Risk Wind Trigger), 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

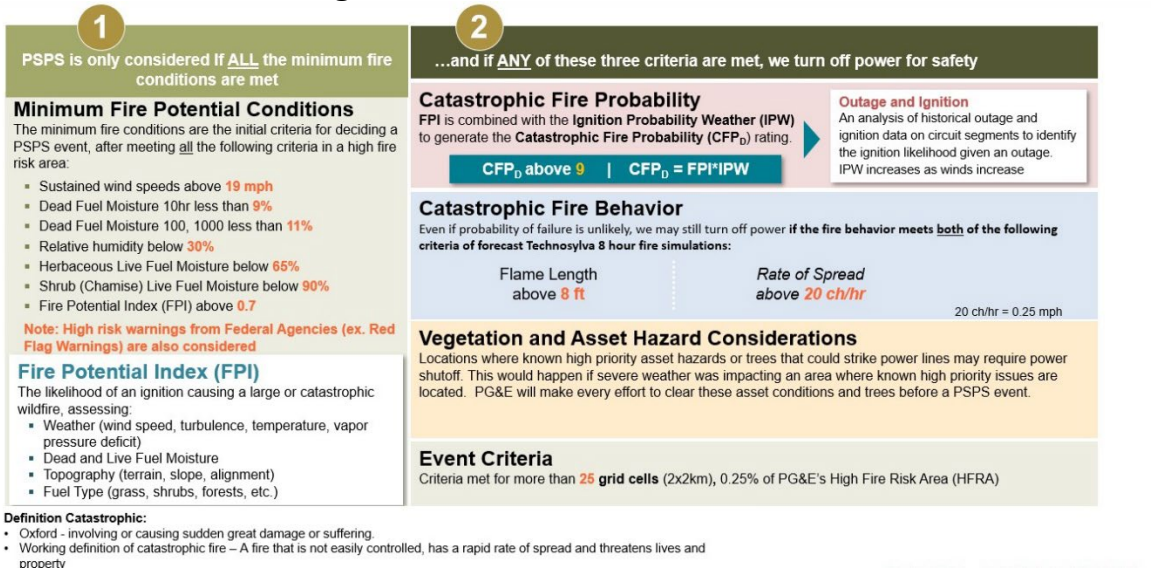
PG&E partners with Technosylva, an external expert in the wildfire modeling field to test and deploy cloud-based wildfire spread model capabilities. This helps us better understand where we might need to turn off power for safety.

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

PSPS Protocols for Distribution

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 here were developed using 10 years of PG&E's high-resolution climate data to help understand wildfire risk and the potential customer impacts of PSPS. We evaluate within a small geographic area (four 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 all mFPC are true in the High Fire Risk Areas (HFRA).

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: 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 Fire Potential Index Model (FPI) and the Ignition Probability Weather Model (IPW). The CFP_D 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 machine learning model that uses 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 a given 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 2021 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 IPW Model. This helps our meteorology teams more accurately analyze risk posed by trees and how that translates to increased ignition probability. See Figures 5 and 6 below explaining IPW modeling and PG&E's IPW combined with FPI to form PG&E's PSPS protocol, Catastrophic Fire Probability Distribution. 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

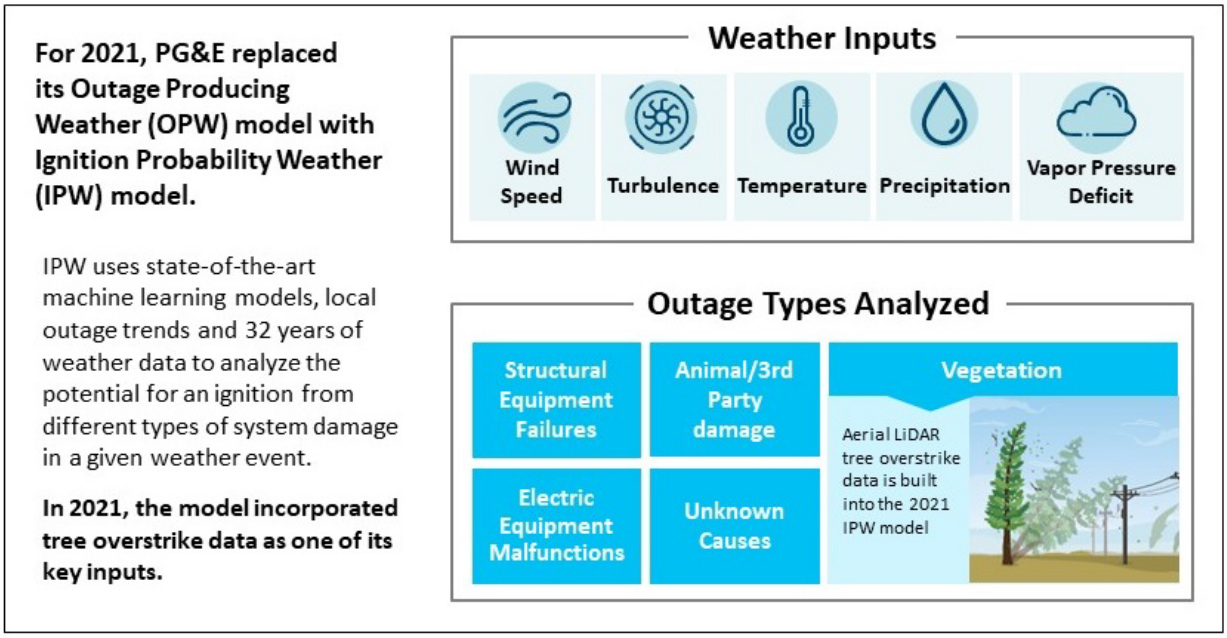
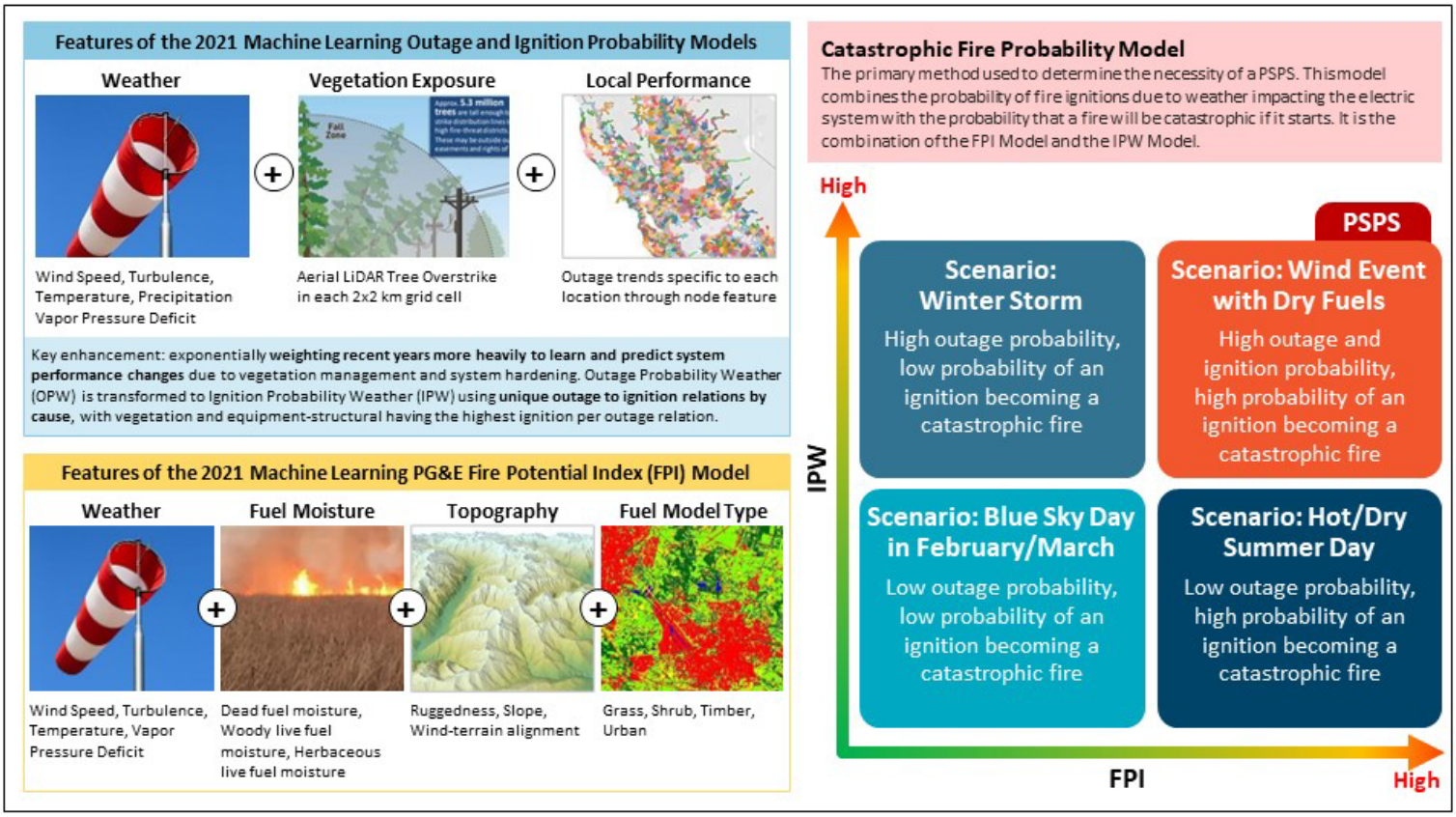


Figure 6: PG&E IPW Model and CFP_D Framework



- Catastrophic Fire Behavior (CFB): We also consider environmental conditions of significant wildfires, like dead and dying trees or drought conditions when determining to de-energize customers. This allows us to capture potential ignition events that are rarer and more difficult to forecast, such as animal contact and external debris impacting electrical lines. These locations are only considered once the mFPC are met. This is based on fire spread simulations using dynamic weather and fuel data for the event.
    - 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, which is the distance measured from the average flame tip to the middle of the base of the fire. We use probable fire line intensity to evaluate the potential need to turn off power.
- 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 forecast to experience minimum fire conditions and there are known issues with equipment or vegetation that have not yet been addressed, we may need to turn off power.

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, 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 then look at the below criteria to determine whether a transmission line must be turned off.

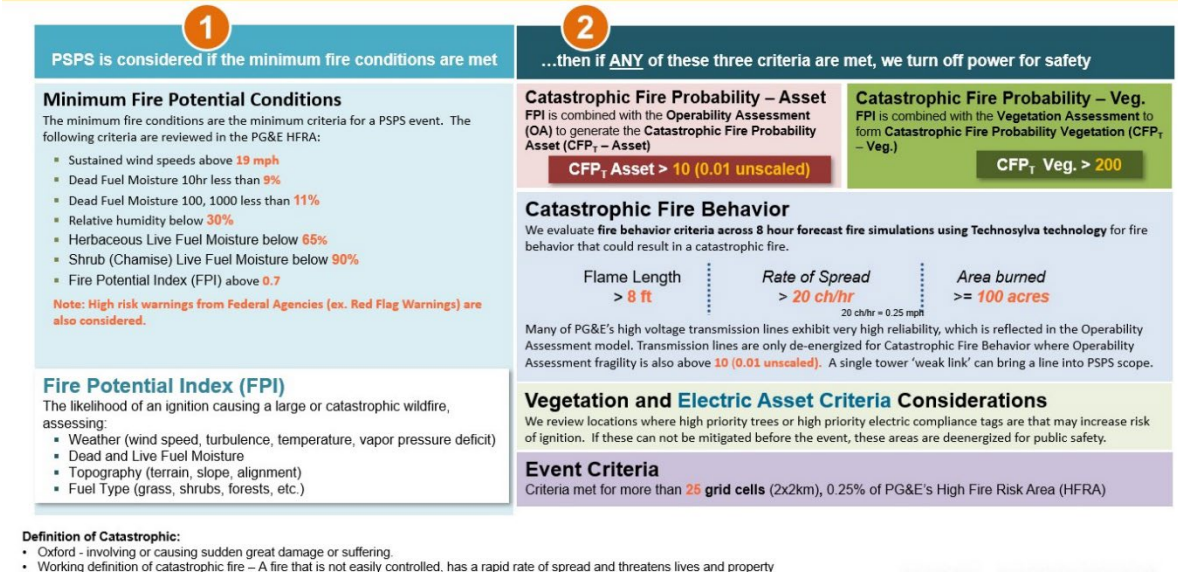
Step 2: In-Depth Review of Fire Risk

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_T – Asset): We use machine learning 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 Catastrophic Fire Probability model for asset failures. The OA Model combines historical wind speeds for each structure, historical outage activity, Bayesian updating, and the condition of assets based on inspection programs to help understand the wind-related failure probability of each structure. The OA Model can be driven with forecast wind speeds to output the probability of failure at the structure level.
- Catastrophic Fire Probability – Vegetation (CFP_T – Veg): The transmission-specific vegetation risk model was derived by a collaborative effort between PG&E vegetation management and external contractors such as NV5 and Formation Environmental. This model leverages aerial LiDAR data to map the location and attributes of trees near transmission lines. The transmission vegetation risk model is based on several factors such as overstrike, the amount of unobstructed fall paths to a wire, the slope between tree and conductor, and tree exposure. The transmission vegetation risk model is combined with the FPI Model in space and time to form CFP_T – Veg.
- 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 7 provides a quantitative summary of our PSPS Protocols for Transmission.

Figure 7: PSPS – Protocols for Transmission



Step 3: Determining the Outage Area

Transmission lines meeting the criteria above then 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.

<u>After Determining the Outage Area for Distribution and Transmission</u>

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. We then share this analysis internally during key decision-making points 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.

<u>Decision-Making and Analysis to Validate if PSPS is Necessary</u>

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 for the event, called the Meteorologist-in-Charge (MIC), summarizes these forecasts and discussions for the PG&E Officer-in-Charge (OIC), who ultimately makes the decision whether to de-energize the grid.

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 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 event timing, strength, and potential locations impacted; our meteorologists 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 is provided in Appendix A. Below, we outline a detailed description of the qualitative factors that were provided by our Meteorologists when determining to de-energize customers.

<u>PG&E Meteorology Review</u>
On Friday, June 28, 2024, some weather forecast models began to show the potential for a dry, northerly wind event developing early the following week on July 2. On Friday, June 28,

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 on Saturday, June 29 at 13:00 PDT and then activated the EOC on Saturday, June 29 at 18:00 PDT.

The first PSPS scope was developed Saturday, June 29 and reflected the risk of dry winds mostly along the western Sacramento Valley.

The weather forecast and PSPS models were closely monitored to adjust the scope leading up to the PSPS and the scope of the PSPS was adjusted on Sunday, June 30, 2024 to include elevated North Bay terrain and the Feather River Canyon.

During the day on June 28, federal forecast agencies began to highlight the upcoming weather event. NWS Sacramento issued a Fire Weather Watch for the Sacramento Valley and surrounding foothills below 1000 ft for Monday night through Tuesday evening. This was eventually converted into a Red Flag Warning on June 29 with the timeframe extended to run through Wednesday evening. The National Weather Service Bay Area issued a Red Flag Warning on June 29 which covered elevated Bay Area terrain, including the North Bay elevated terrain for Monday evening into Tuesday evening. This warning was later extended through July 6. The Eureka NWS office issued a Red Flag Warning adjacent to the Bay Area warning in Lake County on July 2, which was eventually extended to the evening of July 3.

North Ops Predictive Services included High Risk in their forecast due to wind starting July 1 for the Mid Coast to Mendocino (NC02), Diablo-Santa Cruz Mountains (NC03B), Sacramento Valley and adjacent foothills (NC05) Predictive Service Areas for July 2 and July 3.

On the evening of July 1, some TPs, including TPs 05, 07, 08, 09, 10, 11, 12 showed conditions approaching, and eventually exceeding, PSPS guidance. Numerous decision meetings were conducted to support the decision to de-energize.

This weather event occurred in two waves, with increased winds occurring during the overnight period, July 1 – 2, with a lull in the wind during the day on July 2. As detailed in Appendix A, winds or RH in some TPs tracked below PG&E's PSPS threshold and were not de-energized as part of the PSPS.

On the morning of July 2, conditions in the de-energized TPs improved due to the forecasted lull in critical fire weather conditions during the day. All-clear meetings were conducted between 10:39 PDT and 12:06 PDT for these TPs, knowing that they may need to be de-energized again later in the day if conditions changed.

On the evening of July 2, TPs 05, 07, 08, 10, 11, 12 saw conditions deteriorate, approaching or meeting the thresholds for a PSPS. Numerous decisions meetings were conducted to support the decision to de-energize again.

On the morning of July 3, conditions improved across the area of concern and numerous decision meetings were conducted between 10:25 PDT and 12:35 PDT to support the decision to all-clear some TPs and cancel others.

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 the 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. This ultimately leads to changes in PSPS scope as weather forecast models are updated and the scope is refined.

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 PSPS is unfolding as expected. In many instances, models trend stronger or weaker with each model iteration leading up to a PSPS.

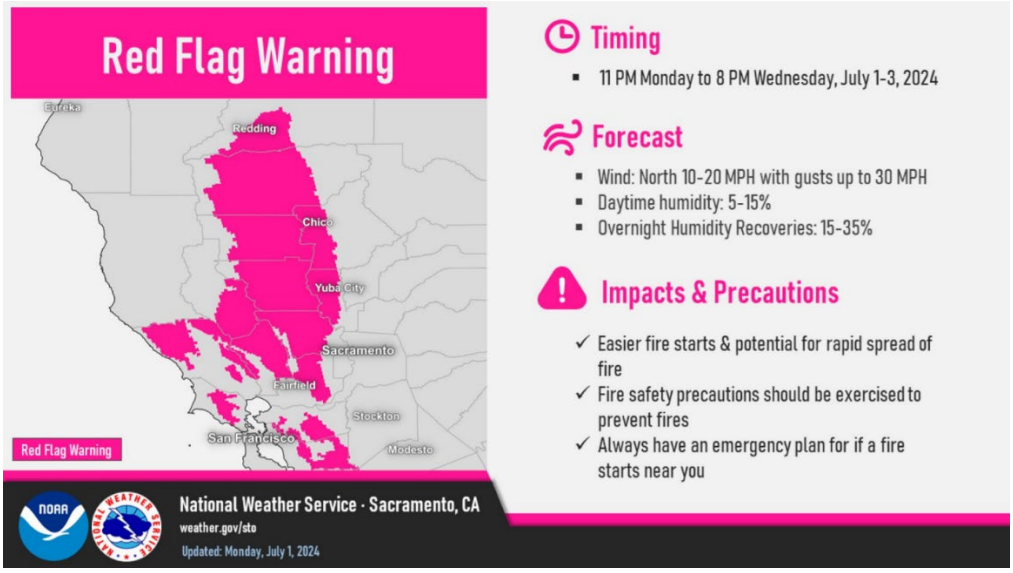
External PSPS Decision Inputs

Meteorological analyses establish that high winds in California create significant fire threat and exacerbate fire spread. The NWS issues a Red Flag Warning to indicate critical fire weather conditions under which any fire that develops will likely spread rapidly; 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 July 2 and July 3, our analysis of fire risk justifying a PSPS was validated by numerous sources and warnings:

- North Ops Predictive Services issued their 7-day Significant Fire Potential Outlook showing High Risk for one Predictive Service Area, which covered the Sacramento Valley and adjacent terrain.
- Red Flag Warnings from the National Weather Service (NWS) were issued from three local NWS offices: Sacramento, Bay Area, and Eureka (Figure 8).

Figure 8: National Weather Service Red Flag Warning Coverage from the Sacramento Weather Office.



We also review forecasted wind speeds in the potential PSPS-impacted counties to evaluate the need for a PSPS. Figure 9 shows the Utility Fire Potential Index (FPI) Ratings for Fire Index Areas (FIAs) in PG&E's service area between July 2 – 3, 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 Fire Potential Index Ratings for July 2 – 3, 2024

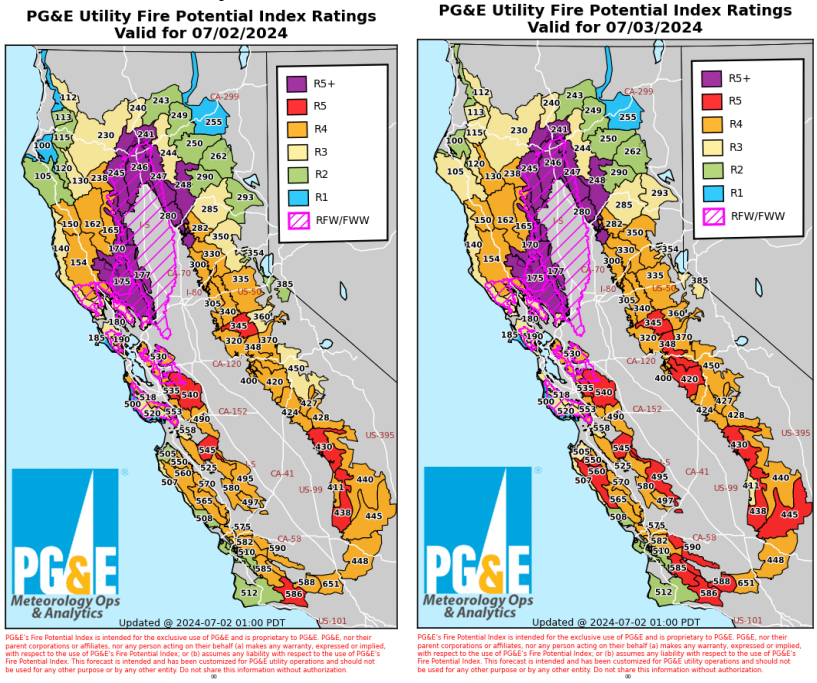
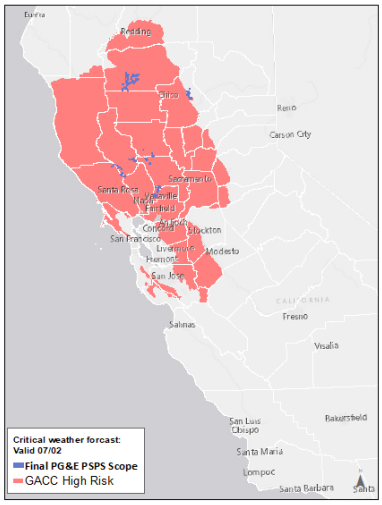
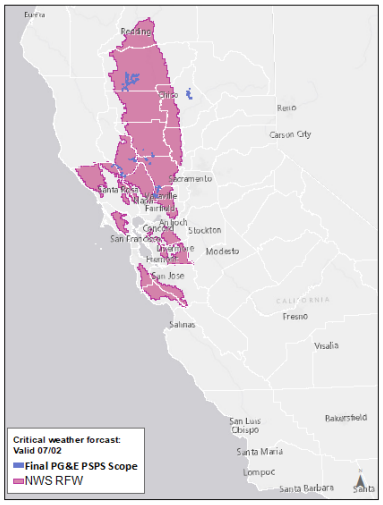


Figure 10: Comparison of Federal Agency Sever Fire Weather Warning Footprints to Final PSPS Scope

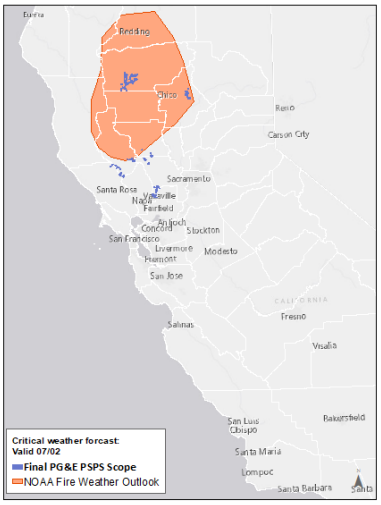
GACC High Risk Wind



NWS Red Flag Warning



NOAA Fire Weather Outlook



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 July 2 – 3, 2024 PSPS, PG&E used the PSPS Risk Model using the latest scope prior to the first potential de-energization, shown in Figure 11. This initially supported a PSPS based on the forecasted impact information and indicated that each of the 35 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 OII.[4] 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 and the current industry-standard 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 information into our PSPS Risk-Benefit Tool, which is further described under the "Risk Assessment" section below.

[4] Decision (D.) 21-06-014

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, however, that the Wildfire Risk Score is based on an 8-hour simulation from Technosylva and while useful, in some cases this can significantly understates the risk. Thus, the MIC may still recommend to de-energize circuits where the Risk-Benefit tool shows higher PSPS risk than Wildfire risk.

Risk Assessment

As referenced above, PG&E's PSPS Risk-Benefit Tool utilizes the state-wide standard MAVF framework that captures the safety, reliability, and financial impact of identified potential risk events, as outlined in our Enterprise Risk Register.[5] 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 (ex. MBL program, etc.) is incorporated into the analysis through the use of a "critical 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.

[5] This tool was developed in collaboration with PG&E's Risk Management and Safety team and Joint IOU PSPS Working Group ahead of the 2021 PSPS season, with alignment on the industry-standard methodology described in PG&E's Risk Assessment and Mitigation Phase (RAMP) and General Rate Case workpapers. Please see PG&E response to CPUC Energy Division Data Request GRC-2023-Ph1-DR_ED_001_Q01Supp01.

Once the data above is 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 12 .

Table 2: PSPS Risk-Benefit Consequence Modeling Considerations

Consequence Type	Wildfire Consequence Considerations	PSPS Consequence Considerations
Safety	Calculated based on maximum population impacts derived from Technosylva wildfire simulation models and a fatality ratio based on National Fire Protection Association (NFPA) data.	Calculated from an estimate of Equivalent Fatalities (EF) per Million Customer Minutes Interrupted (MMCI). The EF/MMCI ratio is estimated from previous PG&E PSPS outages and other large external outage events.[6]
Reliability	N/A	Calculated directly from the potential number of customers impacted and outage duration based on customer minutes interrupted.
Financial	Calculated based on maximum building impacts derived from Technosylva wildfire simulation models and a cost per structure burned previously evaluated in 2020 RAMP Report.[7]	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.[8]

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)

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: Equivalent Fatalities (EF) as an output of Customer Minutes interrupted

[6] 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.

[7] See A.20-06-012.

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

- PSPS 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

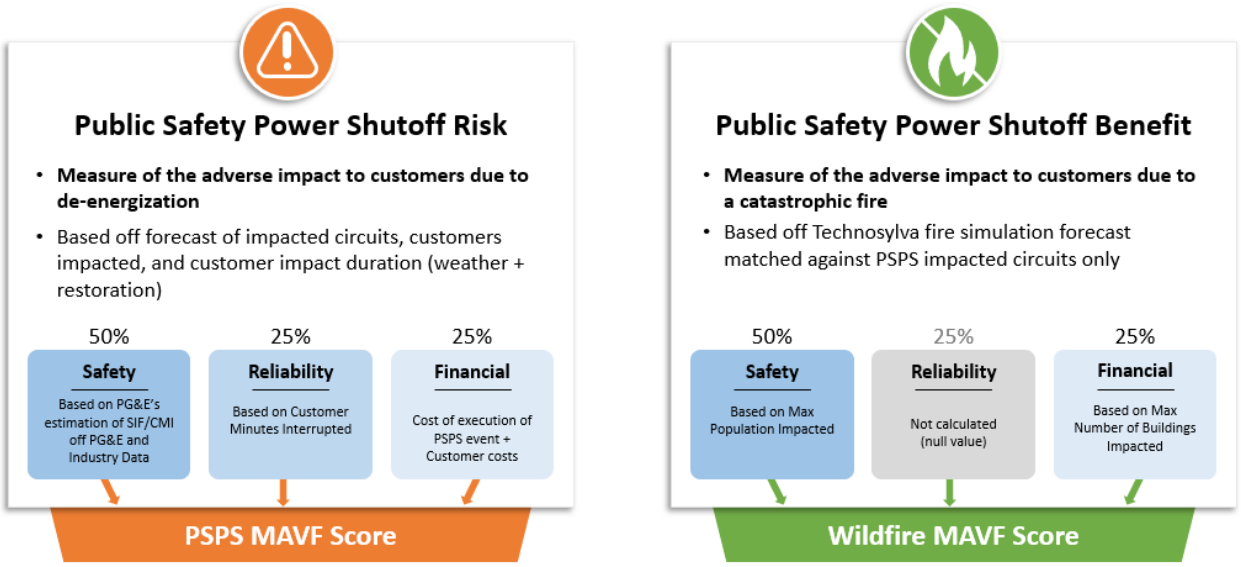


Figure 12: PSPS Potential Benefit Versus PSPS Potential Risk Consequence

PSPS Potential Risk Consequence	31
PSPS Potential Benefit (Wildfire Mitigation)	23,545
Potential Benefit : Potential Risk	771
Recommended Approach	Indicates potential PSPS benefit outweighs risk
Risk Ratio Per Circuit (>1, PSPS Benefit Outweighs Risk) As defined in PLAN_D-04	Dx Circuits: 35 (of 35) Tx Circuits: 0 (of 0)

Aggregated to event-level

$\frac{PSPS\ Potential\ Benefit\ (wildfire\ risk)}{PSPS\ Potential\ Risk} > 1$ — Indicates potential PSPS benefit outweighs risk

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

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

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 a 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 July 2 – 3, 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.
- We 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.
- We enabled Enhanced Powerline Safety Setting (EPSS) and disabled automatic reclosing in Tier 2/Tier 3 High Fire Threat District (HFTD) areas and HFRA. This reduces the ignition risk from attempts to re-energize circuits via automatic reclosing.
- We 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.
- We prepared to reduce the public safety impacts of de-energization by reviewing the total count of impacted customers and the impact of potential de-energization upon MBL program customers, critical facilities, and the back-up generation capabilities of critical facilities that pose societal impact risks if de-energized (e.g., critical infrastructure).
- We reviewed opportunities for islanding, sectionalization, temporary generation, backup-generation, and alternate grid solutions to reduce and mitigate the number of customers de-energized.
- We prepared to reduce the public safety impacts of de-energization by providing local CRCs to support customers in those impacted communities.
- Supporting 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.
- Extensive use of Advanced Notifications and outreach tools to notify impacted customers of the expected de-energization.
- We increased our restoration efforts with the use of our resources including helicopters and fixed wing aircraft to conduct line safety patrols after the Weather "All-Clear", accessible equipment for patrols and needed repairs, and restoring service to safe lines subject to operational safety.

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 July 2 – 3, 2024 in seven TPs located in eight counties including: Butte, Colusa, Lake, Napa, Solano, Sonoma, Tehama, and Yolo. PG&E began de-energizing customers on July 2, 2024 at 00:29 PDT and restored the final customer on July 3, 2024 at 17:56 PDT. For additional information regarding the time, place and duration of the PSPS, please see Figure 1 and Appendix B.

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_EVENT_20240702.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 1,843 customers were de-energized during the PSPS. Of the customers de-energized, all were distribution customers, including 1,539[9] residential, 256 commercial/industrial, 168 MBL program customers, 574 Access and Functional Need Customers (AFN) other than MBL, and 47 customers in the "Other"[10] category. Appendix B lists de-energized circuits and the relevant information relating to each circuit. Delayed restoration time due to reclassification and/or damages are further noted for each circuit.

[9] MBL program and AFN customers are included within the count of residential customers affected.
[10] 'Other' includes customers that do not fall under the residential or commercial/industrial categories such as governmental agencies, traffic lights, agricultural facilities, and prisons.

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:
Between July 2 – 3, 2024, weather stations near the PSPS areas recorded wind gusts as high as 51 miles per hour as shown in Figure 20 of Section 12. During patrols of the de-energized circuits prior to restoring power, PG&E did not locate 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, while 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 4.2 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 4.2 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 Tribal/Local Governments, Public Safety Partners, CBOs (including paratransit agencies) and impacted customers in accordance with the CPUC PSPS Phase 1 Guidelines.[11]

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

- PG&E worked closely with telecommunications service providers throughout the PSPS to effectively coordinate, share information, and manage the 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 could reach the CIL 24/7 during the PSPS by e-mail or phone. In addition, PG&E proactively reached out to 13 telecommunications service providers[12] via email or phone as weather changes or new information regarding the PSPS became available.
- In accordance with the Phase 3 PSPS Guidelines,[13] PG&E provided proactive notifications and impacted zip code information to paratransit agencies that served known transit- or paratransit-dependent persons that may have needed access to a CRC during the PSPS. All notifications to paratransit agencies included a link to the PSPS emergency website updates page, pge.com/pspsupdates and a section called "Additional Resources" with a link to a map showing areas potentially affected by the shutoff. This site also directs users to other webpages, including the CRC page, which provides CRC information such as locations, hours, and services available (see Section 9). The PSPS emergency website updates page also feature two prominent buttons at the top of the page, providing customers the ability to look up an address to determine if it could be impacted, as well as to the map showing areas potentially affected by the shutoff.
- Every PSPS notification directs recipients to pge.com/pspsupdates, which includes a link to CRC information. This website prominently highlights the dedicated CRC page, which provides CRC locations, hours of operation, services available at each site, information regarding how to find local CRCs and via the PSPS outage map, and where to access electricity during the hours when CRCs are closed.

[11] D.19-05-042.

[12] American Tower Corporation, AT&T, Charter Communication Holding Company LLC, Citizens Telecommunications of California Inc., Crown Castle International, Frontier Communications Corporation DIP, GTE Mobile Net of California LP, Happy Valley Telephone Co., Mediacom California LLC, Metro PCS Inc., TDS Telecom, T-Mobile West Corporation, Verizon Wireless

[13] D.21-06-034.

- PG&E considers multi-family building account holders/building managers in the Access and Functional Needs (AFN) community as part of our All Customers (including MBL program customers and Self-Identified Vulnerable [SIV][14] 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 January 1, 2024, and March 31, 2024.

Table 3 provides a description of the notifications PG&E sent to Tribal/Local Governments Public Safety Partners, and all customers in accordance with the minimum timelines set forth by the CPUC PSPS Phase 1 Guidelines.[15]

Table 3: Notification Descriptions

Type of Notification	Recipients	Description

PRIORITY NOTIFICATION: 48-72 hours in advance of anticipated de-energization	Public Safety Partners and CBOs[16]	On June 29, 2024, PG&E's Meteorology Team noted a potential PSPS and updated the weather forecast on pge.com/weather to "elevated" in certain parts of the service area. At this time, local PG&E representatives called each County Office of Emergency Services (OES) in PG&E's electrical service area and select Tribes and cities to inform them that PG&E is monitoring an increased potential of PSPS outages.
		
		Following PG&E's activation of its EOC, the following was completed:
		• PG&E submitted a PSPS Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&E's EOC has been activated and that PG&E is monitoring for potential PSPS.
		• PG&E sent notifications to other Public Safety Partners via call, text and e-mail; these notifications included the following information:
		  ○ Estimated window of the de-energization time.
		  ○ When weather is anticipated to pass.
		  ○ Estimated Time of Restoration (ETOR).
		  ○ Links to the PSPS Portal where event-specific maps and information are available.

[14] Self Identified Vulnerable (SIV) 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.

[15] D.19-05-042.

[16] 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 community resource center during a proactive de-energization event. 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
		• Local PG&E representatives called potentially impacted County OES and select Tribes to inform them that PG&E is monitoring an increased potential of PSPS.

WATCH NOTIFICATION: 24-48 hours in advance of anticipated de-energization	Public Safety Partners, CBOs, and All Customers (including MBL program customers and SIV customers),	During this time, the following was completed:
		• PG&E submitted a PSPS Notification Form to Cal OES.
		• PG&E sent notifications to other Public Safety Partners, and all customers via call, text message and e-mail; these notifications included the following information:
		  ○ Estimated window of the de-energization time.
		  ○ When the adverse weather is anticipated to pass.
		  ○ ETOR.
		  ○ For Public Safety Partners only: Links to the PSPS Portal.
		  ○ For Customers only: Potentially impacted addresses, links to PSPS Updates webpage with CRC information, and resources for AFN customers, including but not limited to information on the MBL program, language support, and the Portable Battery Program.
		• PG&E sent notifications to MBL program customers, including tenants of master metered accounts, and SIV customers every hour until the customer confirmed receipt of the notification.
		• PG&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.
		Customer notifications were provided in English, with information on how to get PSPS information in translated languages. Customers with their language preference selected in their PG&E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English.

WARNING NOTIFICATION: 1-4 hours in advance of anticipated de-energization, if possible	Public Safety Partners, CBOs, and All Customers (including MBL program customers, SIV customers)	During this time, the following was completed: • PG&E submitted a PSPS Notification Form to Cal OES and sent an e-mail to the CPUC notifying them that PG&E has made the decision to de-energize. • PG&E sent notifications to other Public Safety Partners, and customers; these notifications included the same key PSPS timing information and resource links as the "Watch Notification." • PG&E sent notifications to MBL program customers, including tenants of master metered accounts, and SIV

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

Type of Notification	Recipients	Description

		• Sent notifications to other Public Safety Partners, and customers via call, text message and e-mail; these notifications included the ETOR.
		• Sent "PSPS update" notifications to customers if their ETOR changed; two ways that an ETOR may change include:
		  ○ New field or meteorology conditions.
		  ○ Damage was found during patrols and repair is needed.
		Customer notifications were provided in English, with information on how to get PSPS information in translated languages. Customers with their language preference selected in their PG&E accounts received in-language (translated) notifications. Public Safety Partner notifications were provided in English.

RESTORATION NOTIFICATION: When re-energization is complete	Public Safety Partners, CBOs, and All Customers (including MBL program customers and SIV customers)	Once customers, including MBL program customers and SIV 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 get PSPS information in translated languages. Customers with their language preference selected in their PG&E accounts received in-language (translated) notifications. Once all customers were restored, PG&E submitted the final PSPS State Notification Form to Cal OES, sent an 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.

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

Media Engagement

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

- Issued two local news releases containing information and updated details about the PSPS and wind events.
- Provided information that resulted in approximately 191 unique print, online, and broadcast stories.
- Provided regular, ongoing news releases to more than 67 California news outlets and reporters, as well as several syndicated national outlets. Also, our Integrated Multicultural Communications team reached out to 32 multi-cultural news outlets.

- Coordinated directly with 188 multicultural media organizations with coverage in the impacted areas to issue event updates on their in-language platforms (e.g., radio, TV, social media) in over 16 languages, including languages spoken by communities that occupy significant roles in California's agricultural economy (e.g., Mixteco).
- Participated in five in-language media interviews to provide situational updates and preparedness messages for the PSPS.

PG&E Website

During this PSPS, PG&E placed an Informational Alert on the 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/updates. The emergency website saw a total of 551,794 visits and 1,252,344 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 Tuesday, July 2, 2024, with approximately 230,000 visits and 540,000 page views.

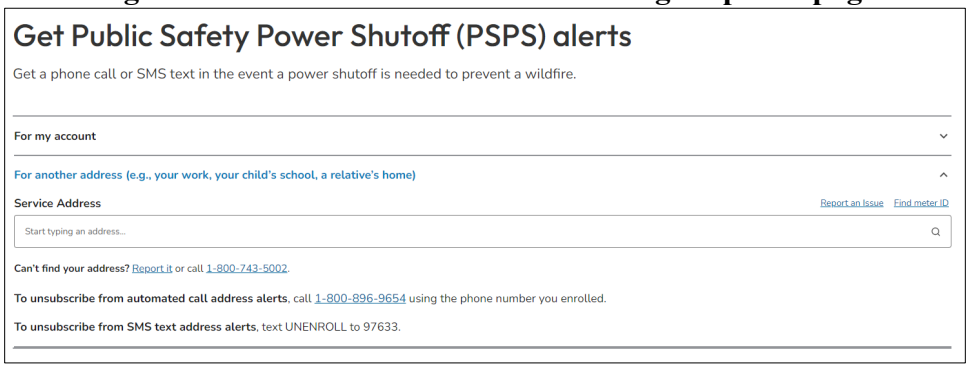
We remain committed to the continuous improvement of our websites to better meet the diverse needs of its customers. As we launch new features and functionality to pge.com and to pgealerts.alerts.pge.com/, we ensure compliance with updated WCAG 2.1AA standards. We also seek to improve the customer experience 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 PSPS, including location (e.g., list of impacted Tribes, 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 made available as soon as sites were confirmed, including locations listed by county, resources available at each center, type of CRC (e.g., indoor, outdoor), COVID-19 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, locations of ILCs, resources for customers with accessibility, financial, language, and aging needs, backup power safety tips, MBL program information, and more.
- Webpage, available in 15 non-English languages, that describes our language support services for customers during a PSPS at pge.com/pspslanguagehelp.
- Survey to provide input about the website and PSPS communications.
- Address look-up tool that a customer and the public could use to identify specific potential PSPS impacts.
- Address-level alerts, available in 15 non-English languages, that allow non-PG&E-account holders to receive notifications via a phone call or SMS text for any address where they do not receive a bill (e.g., workplace, child's school, renters, mobile home parks, etc.). This is also a valuable communication tool for renters and tenants of

master metered accounts, such as mobile home parks. See pgealerts.alerts.pge.com/outages/psps-address-alert and Figure 13 below.

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



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

Response:
Table 4 describes notifications and the time the notification was sent in accordance with the minimum timelines set forth by the CPUC PSPS Phase 1 Guidelines[17], to Tribal/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[18]	Notification Sent to:	Approximate Time Sent (PDT)	Message	Notes	Who made the Notification
Pre-De-energization (Prior)	72-48 hours	Tribal/Local Governments and CCAs*	06/29/2024 9:06PM	Priority		PG&E
		Public Safety Partners**	6/29/2024 8:51 PM	Priority		PG&E
	48-24 hours	Tribal/Local Governments and CCAs*	6/30/2024 4:56 PM	Watch		PG&E
		Public Safety Partners**	6/30/2024 5:04 PM	Watch		PG&E
		All Customers***	6/30/2024 4:59 PM	Watch		PG&E
	24-12 hours	Tribal/Local Governments and CCAs*	7/01/2024 12:47 PM	Watch		PG&E

[17] D.19-05-042.
[18] Decision 19-05-042, Appendix A, Timing of Notification.

Event Order	Minimum Timeline[18]	Notification Sent to:	Approximate Time Sent (PDT)	Message	Notes	Who made the Notification
		Tribal/Local Governments and CCAs*	7/01/2024 9:01 PM	Watch		PG&E
		Public Safety Partners**	7/1/2024 12:19 PM	Watch		PG&E
		All Customers***	7/1/2024 12:17 PM	Watch		PG&E
		Public Safety Partners**	7/1/2024 9:09 PM	Watch		PG&E
		All Customers***	7/1/2024 9:07 PM	Watch		PG&E
	4-1 hours	Tribal/Local Governments and CCAs*	7/2/2024 12:06 AM	Warning		PG&E
		Tribal/Local Governments and CCAs	7/2/2024 1:30 AM	Warning		PG&E
		Public Safety Partners**	7/1/2024 11:59 PM	Warning		PG&E
		All Customers***	7/1/2024 11:58 PM	Warning		PG&E
		Public Safety Partners**	7/2/2024 12:02 AM	Warning		PG&E
		All Customers***	7/2/2024 12:01 AM	Warning		PG&E
		Tribal/Local Governments and CCAs*	7/2/2024 1:19 PM	Delay		PG&E
		Public Safety Partners**	7/2/2024 1:20 PM	Delay		PG&E
		All Customers***	7/2/2024 1:20 PM	Delay		PG&E
Initiation (During)	When De-energization is initiated (Power Off)	Public Safety Partners**	7/2/2024 4:15 AM	Power Off		PG&E
		Public Safety Partners**	7/2/2024 4:46 AM	Power Off		PG&E
		Public Safety Partners**	7/2/2024 4:53 AM	Power Off		PG&E
		Public Safety Partners**	7/2/2024 5:03 AM	Power Off		PG&E
		Public Safety Partners**	7/2/2024 5:22 AM	Power Off		PG&E
		Public Safety Partners**	7/2/2024 5:42 AM	Power Off		PG&E

Event Order	Minimum Timeline[18]	Notification Sent to:	Approximate Time Sent (PDT)	Message	Notes	Who made the Notification
		Public Safety Partners**	7/2/2024 6:04 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 12:00 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 12:16 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 12:31 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 12:45 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 1:16 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 1:31 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 1:45 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 2:01 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 2:16 AM	Power Off		PG&E
		Public Safety Partners**	7/3/2024 6:31 AM	Power Off		PG&E
		All Customers***	7/2/2024 4:15 AM	Power Off		PG&E
		All Customers***	7/2/2024 4:46 AM	Power Off		PG&E
		All Customers***	7/2/2024 4:53 AM	Power Off		PG&E
		All Customers***	7/2/2024 5:03 AM	Power Off		PG&E
		All Customers***	7/2/2024 5:22 AM	Power Off		PG&E
		All Customers***	7/2/2024 5:42 AM	Power Off		PG&E
		All Customers***	7/2/2024 6:04 AM	Power Off		PG&E
		All Customers***	7/3/2024 12:00 AM	Power Off		PG&E
		All Customers***	7/3/2024 12:16 AM	Power Off		PG&E
		All Customers***	7/3/2024 12:31 AM	Power Off		PG&E
		All Customers***	7/3/2024 12:45 AM	Power Off		PG&E
		All Customers***	7/3/2024 1:16 AM	Power Off		PG&E

Event Order	Minimum Timeline[18]	Notification Sent to:	Approximate Time Sent (PDT)	Message	Notes	Who made the Notification
		All Customers***	7/3/2024 1:31 AM	Power Off		PG&E
		All Customers***	7/3/2024 1:45 AM	Power Off		PG&E
		All Customers***	7/3/2024 2:01 AM	Power Off		PG&E
		All Customers***	7/3/2024 2:16 AM	Power Off		PG&E
		All Customers***	7/3/2024 6:31 AM	Power Off		PG&E
	Immediately before re-energization (All-Clear)	Tribal/Local Governments and CCAs*	7/2/2024 4:07 PM	Inspecting/ Weather All-Clear	First All-Clear Notification Sent	PG&E
		Tribal/Local Governments and CCAs*	7/2/2024 4:22 PM	Inspecting/ Weather All-Clear	First All-Clear Notification Sent	PG&E
		Tribal/Local Governments and CCAs*	7/3/2024 3:12 PM	Inspecting/ Weather All-Clear	Last All-Clear Notification Sent	PG&E
		Public Safety Partners**	7/2/2024 12:18 PM	Inspecting/ Weather All-Clear	First All-Clear Notification Sent	PG&E
		Public Safety Partners**	7/3/2024 1:36 PM	Inspecting/ Weather All-Clear	Last All-Clear Notification Sent	PG&E
		All Customers***	7/2/2024 12:18 PM	Inspecting/ Weather All-Clear	First All-Clear Notification Sent	PG&E
		All Customers***	7/3/2024 1:36 PM	Inspecting/ Weather All-Clear	Last All-Clear Notification Sent	PG&E
		Public Safety Partners**	7/2/2024 1:51 PM	ETOR Update	First ETOR Update Notification Sent	PG&E
		Public Safety Partners**	7/3/2024 5:35 PM	ETOR Update	Last ETOR Update Notification Sent	PG&E

Event Order	Minimum Timeline[18]	Notification Sent to:	Approximate Time Sent (PDT)	Message	Notes	Who made the Notification
		All Customers***	7/2/2024 1:51 PM	ETOR Update	First ETOR Update Notification Sent	PG&E
		All Customers***	7/3/2024 5:35 PM	ETOR Update	Last ETOR Update Notification Sent	PG&E
Restoration (After)	After re-energization	Tribal/Local Governments and CCAs*	7/3/2024 8:50 PM	Restore		PG&E
		Public Safety Partners**	7/2/2024 1:45 PM	Restore	First initial Restoration Notification sent.	PG&E
		Public Safety Partners**	7/3/2024 7:22 PM	Restore	Last initial Restoration Notification sent.	PG&E
		All Customers***	7/2/2024 1:45 PM	Restore	First Restoration Notification sent.	PG&E
		All Customers***	7/3/2024 7:22 PM	Restore	Last Restoration Notification sent.	PG&E
Cancellation	Cancellation within 2-hours of decision to cancel	Tribal/Local Governments and CCAs*	7/03/2024 2:58 PM	Cancel	Only Tribal/Local Governments and CCAs removed from scope received cancel notification. The decision to descope these customers was 7/3/2024 2:29 PM.	PG&E
		Public Safety Partners**	7/3/2024 3:13 PM	Cancel	Only Public Safety	PG&E

Event Order	Minimum Timeline[18]	Notification Sent to:	Approximate Time Sent (PDT)	Message	Notes	Who made the Notification
					Partners removed from scope received the cancel notification. The decision to descope these customers was 7/3/2024 2:29 PM.	
		All Customers***	7/3/2024 3:13 PM	Cancel	Only Customers removed from scope received the cancel notification. The decision to descope these customers was 7/3/2024 2:29 PM.	PG&E
Ad Hoc Notification	N/A	Delayed Customers	7/2/2024 9:52 PM	Ad Hoc	Only customers delayed received this ad hoc notification.	PG&E
		Previously De-Energized Customers	7/2/2024 10:22 PM	Ad Hoc	Only customers previously de-energized received this ad hoc notification.	PG&E

*A subset of Public Safety Partners, including Tribes, 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 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 notifications were 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 customers.

Table 5: Notifications to Customers where Positive or Affirmative Notification was Attempted[19]

Designation	Total Number of customers[20]	Notification Attempts Made[21]	Timing of Attempts[22]	Who made the Notification Attempt	Successful Positive Notification[23]
MBL [24]	1,143 [25]	1,142 Watch Notifications	06/30/2024 5:00 PM PDT	PG&E	1,100 Watch Notifications
		1,142 Warning Notifications	07/01/2024 10:36 AM PDT		767 Warning Notifications
		2,284 Overall Notifications	06/30/2024 5:00 PM PDT		1,867 Overall Notifications

[19] Counts of Notification Attempts Made will not reflect the actual total of customers notified as both MBL and SIV customers can appear in both subset groups.
[20] 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.
[21] Count of Warning Notifications includes doorbell rings and Live Agent phone calls.
[22] Initial start time notification was sent.
[23] 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.
[24] 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.
[25] The "Total Number of Customers," based on SPIDs, does not include streetlights.

Designation	Total Number of customers[20]	Notification Attempts Made[21]	Timing of Attempts[22]	Who made the Notification Attempt	Successful Positive Notification[23]
MBL behind a master meter [26]	0	0 Watch Notifications	N/A	PG&E	0 Watch Notifications
		0 Warning Notifications	N/A		0 Warning Notifications
		0 Overall Notifications	N/A		0 Overall Notifications
SIV	328	327 Watch Notifications	06/30/2024 5:02 PM PDT	PG&E	304 Watch Notifications
		327 Warning Notifications	07/01/2024 10:16AM PDT		212 Warning Notifications
		654 Overall Notifications	06/30/2024 5:02 PM PDT		516 Overall Notifications

For this PSPS, MBL program customers and SIV 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[27] and SIV 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[28].

PG&E also made Live Agent phone calls in parallel to the automated notifications and doorbell rings, as needed, 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 customers who had not confirmed receipt of their notifications with appropriate county and Tribal emergency managers

[26] 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.
[27] Including MBL program customers who are master-metered tenants (e.g., renters or tenants in mobile home park).
[28] For MBL program customers and SIV 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."

twice daily via the PSPS Portal. PG&E proactively notified agencies that the data was available on the PSPS Portal and encouraged them to inform these customers of the resources available to them. PG&E is unable to track and report on notifications made by Public Safety Partners, as notification systems and/or platforms used by Public Safety Partners are out of PG&E's purview; PG&E encourages Public Safety Partners to include PSPS messages on all of their platforms. PG&E describes its engagement with Public Safety Partners in Section 6.

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 (based on SPID)	Description
168	**Total De-energized MBL Program Customers**	The number of customers de-energized who participate in PG&E's MBL Program
168	**Total Notifications Attempted / Sent**	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	*Total Notifications Not Attempted / Sent*	*Total MBL program customers de-energized that PG&E did not attempt to notify.*
168	**Total Notifications Delivered**	The total sum of automated notifications sent via call, text, and e-mail.
0	*Total Notifications Not Delivered*	*Total MBL program customers de-energized whose notification was not delivered.*
144	**Total Notifications Initially Acknowledged**	The total sum of automated notifications sent via call, text and email where notification was acknowledged.
54	**Total In-Person Visits/Doorbell Rings and Live Agent Phone Calls**	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.[29] 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.
165	**Total Notifications Received**	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

[29] 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 (based on SPID)	Description
		message delivered only and not confirmed, door hanger left).
3	*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 (based on SPID)	Description
26	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.[30]
28	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.

[30] 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.
[31] ASL notifications were not provided during the July 2 – 3 PSPS as this enhancement was not scheduled to be activated prior to the July 2 – 3, 2024 PSPS.

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_2024_PSPS _Notification Scripts_20240702.pdf*"[31] for a copy of the notification templates, the timing of the notifications and methods of notifications that PG&E utilized during the July 2 – 3, 2024, PSPS. Additional information on the timing of notifications sent during this PSPS can be found in Table 4.

PG&E provides county, city, tribal, CCAs, Public Safety Partner, transmission-level customers, 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. Although PG&E offers notifications in 15 non-English languages (Spanish, Chinese [Mandarin and Cantonese], Vietnamese, Korean, Tagalog, Russian, Portuguese, Arabic, Farsi, Punjabi, Japanese, Khmer, Hmong, Thai and Hindi), only three non-English languages (Spanish, Chinese [Mandarin and Cantonese] and Vietnamese) were requested for this PSPS. For more information on notifications provided to customers in the customer-set language preferences, see Table 12.

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 PSPS Phase 1 Decision, 2019 PSPS OIR, and additional notification guidelines in Phase 3, weather and other factors permitting.

In accordance with the Phase 3 Decision of the PSPS OIR, we make every attempt to provide cancellation notifications within two hours of the decision to cancel those customers. These notifications are distributed when customers are removed from scope due to rapidly changing forecasted or observed weather conditions.

Due to rapidly changing weather conditions, 412 net new customers were brought into scope late between the 24-48 hour (Watch) and 1-4 hour (Warning) notification timing. All of these customers received a Warning Notification. Thirty-nine of these customers received a delayed Warning Notification after the 1-4 hour notification requirement as reported in Table 8 below.

During this event, three customers were unable to receive notifications as no valid contact information was provided by the customer to PG&E. These customers are not included in Table 8 below. Following the event, PG&E will send these three customers postcards and encourage them to update their contact information for future notifications.

Table 8: Notification Failure Causes

Notifications Sent to	Notification Failure Description	Number of Entities or Customer Account	Explanation of Failure
Public Safety Partners excluding Critical Facilities and Infrastructure[32]	**Entities who did not receive 48-to 72-hour priority notification**	0	No failures.
	Entities who did not receive 1–4-hour imminent notification	8	A manual error in transferring data files that resulted in missed 1-4 hour notifications for eight Public Safety Partners. PG&E will ensure that those responsible for preparing these notification files have an awareness of the potential technological errors that may occur during this process.
	Entities who did not receive any notifications before de-energization	0	No failures.

[32] Only includes Tribes, cities, counties, and CCAs.

Notifications Sent to	Notification Failure Description	Number of Entities or Customer Account	Explanation of Failure
	Entities who were not notified immediately before re-energization	0	No failures.
	Entities who did not receive cancellation notification within two hours of the decision to cancel	0	No failures.
Critical Facilities and Infrastructure[33]	**Facilities who did not receive 48-to 72-hour priority notification**	0	No failures.
	Facilities who did not receive 1–4-hour imminent notification	13	See Table 8B for explanation.
	Facilities who did not receive any notifications before de-energization	0	No failures.
	Facilities who were not notified at de-energization initiation	46	See Table 8D for explanation.
	Facilities who were not notified immediately before re-energization	9	See Table 8E for explanation.
	Facilities who were not notified when re-energization is complete	9	See Table 8F for explanation.
	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**	1	See Table 8A for explanation.
	Customers who did not receive 1–4-hour imminent notifications	45	See Table 8B for explanation.
	Customers who did not receive any notifications before de-energization	1	See Table 8C for explanation.
	Customers who were not notified at de-energization initiation	699	See Table 8D for explanation.
	Customers who were not notified immediately before re-energization	30	See Table 8E for explanation.

[33] Includes Public Safety Partners who are critical facilities and infrastructure customers.

Notifications Sent to	Notification Failure Description	Number of Entities or Customer Account	Explanation of Failure
	Customers who were not notified when re-energization is complete	15	See Table 8F for explanation.
	Customers who did not receive cancellation notification within two hours of the decision to cancel	0	No failures.

Table 8A: Explanation of Failures for Critical Facility and Infrastructure Customers and All Other Affected Customers who did not Receive 24-48 Hour Advance Notifications

Count of Critical Facilities	Count of All Other Affected Customers	Explanation
0	1 (no MBL)	This customer was not notified prior to de-energization because the customer was not mapped due to a transformer mis-assignment. A mapping correction is being processed to fix the error.

Table 8B: Explanation of Failures for Critical Facility and Infrastructure Customers and All Other Affected Customers who did not Receive 1-4 Hour Imminent Notifications

Count of Critical Facilities	Count of All Other Affected Customers	Explanation
12	44 (4 MBL)	Due to scope and timing changes, staging and execution of Warning notification batches were incorrectly timed which caused some delayed Warning notifications to customers. See Section 11.2 for more information.
1	0	This customer was not in the PSPS scope or notification file as the customer's data was not associated with the circuit. A mapping correction is being processed to fix the error.
0	1 (no MBL)	This customer was not notified prior to de-energization because the customer was not mapped due to a transformer mis-assignment. A mapping correction is being processed to fix the error.

Table 8C: Explanation of Failures for Critical Facility and Infrastructure Customers and All Other Affected Customers who did not Receive Any Notifications Before De-Energization

Count of Critical Facilities	Count of All Other Affected Customers	Explanation
0	1 (no MBL)	This customer was not notified prior to de-energization because the customer was not mapped due to a transformer mis-assignment. A mapping correction is being processed to fix the error.

Table 8D: Explanation of Failures for Critical Facility and Infrastructure Customers and All Other Affected Customers who were not notified at de-energization initiation

Count of Critical Facilities	Count of All Other Affected Customers	Explanation
6	169 (13 MBL)[34]	These customers received a delayed Power Off notification.[35] A root cause is still being investigated and we will report our findings in the 2024 PSPS Post-Season Report.
1	0	This customer was not in the PSPS scope or notification file as the customer's data was not associated with the circuit. A mapping correction is being processed to fix the error.
1	2 (no MBL)	Our internal data platform incorrectly categorized this facility as not in service. A mapping correction is being processed to fix the error.
38	544 (38 MBL)[36]	These customers did not receive a Power Off notification. A root cause is still being investigated and we will report our findings in the 2024 PSPS Post-Season Report.

[34]Explanation for customers who did not receive a Power Off notification during the first wave of de-energization, may differ for customers who did not receive Power Off notification for the second wave of de-energization. As a result, non-critical customer counts will not equal the total count of unique non-critical customers for missed Power Off notifications.
[35] PG&E defines a "delayed" Power Off notification as a notification delivered more than two hours after the de-energization start based on average processing time.
[36] Explanation for customers who did not receive a Power Off notification during the first wave of de-energization, may differ for customers who did not receive Power Off notification for the second wave of de-energization. As a result, non-critical customer counts will not equal the total count of unique non-critical customers for missed Power Off notifications.

Table 8E: Explanation of Failures for Critical Facility and Infrastructure Customers and All Other Affected Customers who were not notified immediately before re-energization

Count of Critical Facilities	Count of All Other Affected Customers	Explanation
7	22 (1 MBL)	These customers received an Inspect (All-Clear) notification after being restored. A root cause is still being investigated and we will report our findings in the 2024 PSPS Post-Season Report.
1	0	This customer was not in the PSPS scope or notification file as the customer's data was not associated with the circuit. A mapping correction is being processed to fix the error.
1	2 (no MBL)	Our internal data platform incorrectly categorized this facility as not in service. A mapping correction is being processed to fix the error.
0	6 (no MBL)	These customers did not receive Inspect (All-Clear) notification. A root cause is still being investigated and we will report our findings in the 2024 PSPS Post-Season Report.

Table 8F: Explanation of Failures for Critical Facility and Infrastructure Customers and All Other Affected Customers who were not notified when re-energization is complete.

Count of Critical Facilities	Count of All Other Affected Customers	Explanation
1	0	This customer was not in the PSPS scope or notification file as the customer's data was not associated with the circuit. A mapping correction is being processed to fix the error.
1	2 (no MBL)	Our internal data platform incorrectly categorized this facility as not in service. A mapping correction is being processed to fix the error.
7	13 (no MBL)	A root cause is still being investigated and we will report our findings in the 2024 PSPS Post-Season Report.

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

Response:
We have reviewed the notifications failures for this PSPS and have identified or are in the process of identifying corrective actions as discussed in Table 8.

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 false communications for the July 2 – 3, 2024 PSPS.

Section 6 – Local and State Public Safety Partner Engagement

Section 6.1 - List the organization names of public safety partners including, but not limited to, local governments, tribal representatives, first responders and emergency management , and critical facilities and infrastructure the utility contacted prior to 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 Tribal representatives, local governments, first responders and emergency management, and critical facilities notified with the date and time of the initial notification, and whether the areas affected by the de-energization are classified as Zone 1, HFTD Tier 2, HFTD Tier 3, or HFRA.

As stated in our 2023 Safety Outage Decision Making Guide, we use a 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. PG&E's circuits can run miles long and span across multiple jurisdictions. Some Public Safety Partners outside of HFRA and HFTD were included in the potential impacted scope in order to de-energize areas within HFRA and HFTD safely.

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 June 29, 2024 at 18:59 PDT.

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

As a part of our PSPS Pre-Season outreach,[37] 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).[38]

[37] See 2024 PSPS Pre-Season Report, pp 70-71.
[38] D.19-05-042.

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

Response:
In preparation for a potential PSPS, PG&E sent automated notifications with links to the PSPS Portal, which provides PDF maps and GIS data to Public Safety Partners at the times outlined in Table 9. 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 (PDT)
06/29/2024	20:32
06/30/2024	15:35
07/01/2024	11:34
07/01/2024	20:32
07/03/2024	14:47

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 local (i.e., Tribes, cities, counties) and state (CPUC, Cal OES, CAL FIRE) Public Safety Partners:

- Submitted the PSPS Notification Form to Cal OES twice a day (07:00 PDT and 15:00 PDT), 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
06/29/2024	21:14 PDT
06/30/2024	07:05 PDT
06/30/2024	14:58 PDT
07/01/2024	11:12 PDT
07/01/2024	12:42 PDT
07/01/2024	22:05 PDT
07/02/2024	00:44 PDT
07/02/2024	02:13 PDT
07/02/2024	03:15 PDT

07/02/2024	04:31 PDT
07/02/2024	05:34 PDT
07/02/2024	07:44 PDT
07/02/2024	12:57 PDT
07/02/2024	14:52 PDT
07/03/2024	00:32 PDT
07/03/2024	01:29 PDT
07/03/2024	02:02 PDT
07/03/2024	06:41 PDT
07/03/2024	11:27 PDT
07/03/2024	14:57 PDT
07/03/2024	20:03 PDT

- 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 Cal CPUC

Date	Time PDF and GIS Maps Shared
06/29/2024	18:59 PDT
07/01/2024	09:55 PDT
07/01/2024	18:36 PDT
07/01/2024	22:14 PDT
07/02/2024	00:28 PDT
07/02/2024	15:06 PDT
07/03/2024	01:08 PDT
07/03/2024	01:55 PDT
07/03/2024	13:37 PDT
07/03/2024	17:53 PDT
07/03/2024	20:00 PDT
07/04/2024	12:28 PDT

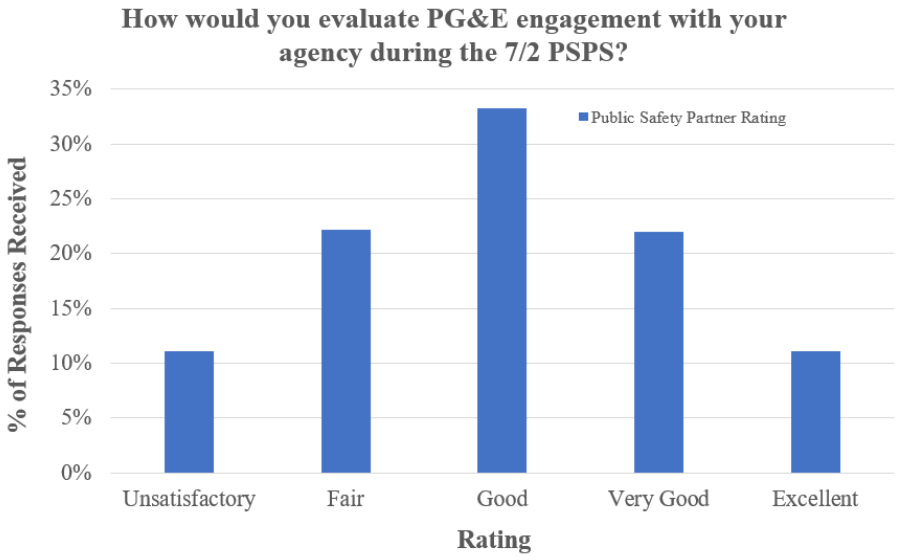
- Hosted daily State Executive Briefings with invitees including Cal OES, CPUC, CAL FIRE, Governor's Office, U.S. Forest Service, and other state agencies, to provide the latest PSPS information and answer questions. A deck with key PSPS information was provided to participants.
- Hosted the daily Systemwide Cooperators Call, where all Public Safety Partners in the service area were invited to join for situational awareness.
- Hosted Tribal Cooperators Calls with potentially impacted Tribes to provide the latest PSPS information and answer questions.
- Hosted Operational Areas Cooperators Communication Calls to provide situational awareness updates and answer questions.[39]
- Conducted ongoing coordination with Tribal and 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.

[39] May vary in cadence & type based on County OES.

- Provided links to the PSPS Portal that included planning and event-specific maps, situation reports, critical facility lists and MBL program customer lists at each notification and when scope changed. Note that the Situation Report was provided twice a day and at scope changes prior to de-energization and hourly once restoration began.
- Sent automated and live call notifications to agency partners before, during and after de-energization.
- Offered local and state agencies to be embedded in PG&E's EOC, as well as offered PG&E Agency Representatives to be embedded virtually in local EOCs.
- A dedicated State Operations Center Agency Representative provided ongoing support to Cal OES to ensure all questions were addressed.

PG&E considers the advanced outreach and notification to local and state Public Safety Partners during this EOC activation successful but with minor improvements needed. This is based on the number and various types of outreach conducted (above) and the feedback received from Public Safety Partners through the post-PSPS survey and the success rate of automated agency notifications. Leading up to potential de-energization, we sent 94% of our automated notifications to Tribal and local governments within the required timeframes. Figure 14 below shows the post-PSPS survey results when Public Safety Partners were asked to "evaluate PG&E engagement with your agency during the outage." Note that we received nine responses to the survey. 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



Summary Data	
Rating	**% Total Public Safety Partner Response**
Excellent	11.1%
Very Good	22.2%
Good	33.3%
Fair	22.2%
Unsatisfactory	11.1%

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 during the July 2 –3, 2024 PSPS.

Engagement with Paratransit Agencies
In accordance with the Phase 3 Guidelines,[40] 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[41] to 134 paratransit agencies about the July 2 – 3, 2024 PSPS. All notifications included a link to the PSPS emergency website updates page, pge.com/pspsupdates and a section called "Additional Resources" with a link to a map showing areas potentially affected by a shutoff. For more information on ADA-compliant CRC locations, see Section 9.

Community Engagement
- To expand communications and outreach, we engaged with over 510 "information-based" CBOs during the PSPS, sharing courtesy notification updates, fact sheets, and other relevant information that they could share with their constituents, including infographic videos with relevant PSPS updates in 16 languages and American Sign Language (ASL) that the organizations could use to educate their consumers.
- Each day of the PSPS, PG&E hosts daily cooperators calls to provide a situational update about the latest scope of the PSPS and an overview of the services available to customers. CBO resource partners were invited to the daily cooperator calls hosted with the CBO resource partners supporting the PSPS to provide an open forum to answer questions, offer suggestions regarding how to 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)[42]: We continue to collaborate with the California Foundation for Independent Living Centers (CFILC) to implement the DDAR Program for the potential PSPS. Through DDAR, we have supported AFN customers with the delivery of backup portable batteries (since July 2020) to qualifying customers who need power during a PSPS. Through DDAR, PG&E provided the following resources for the July 2 – 3, 2024, PSPS.
    - Five local (ILCs) provided aid to 156 customers who rely on power for medical or independent living needs. PG&E is evaluating intervenor comments regarding how the ILCs aided customers reliant on power and will update the 2024 AFN Plan accordingly.

[40] D.21-06-034.
[41] For this PSPS, paratransit agencies received the Watch, Cancellation, and Restoration Notification. A list of zip codes was provided.
[42] For more information on the types of aid ILCs provided and how the delivery of aid was coordinated among DDAR, ILCs and the customers, refer to PG&E's 2024 AFN Plan.

    - 979 batteries were previously distributed in affected counties and no batteries were requested or 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 2024 AFN Plan accordingly.
- Portable Battery Program (PBP)[43]: Our PBP provides free portable battery systems for customers who live in Tiers 2 and 3 High Fire-Threat Districts (HFTDs) and are enrolled in the MBL Program. For this PSPS, 567 customers in scope were supported by batteries received through the PBP (delivered in 2020, 2021, 2022, 2023, and 2024 year to date). Since July 2020, a total of approximately 23,500 battery units have been delivered through the PBP across the entire PG&E service area.
- Food Bank Partnerships: We continued to fund local food banks to provide food replacement to families during the PSPS and three days following service restoration. For this PSPS, we partnered with nine local food banks[44] that serve 10 of the 10 impacted counties to provide boxes of food replacement for families. We provided fact sheets with details about food bank partnerships at PSPS CRCs.
- Meals on Wheels Partnerships: We continued our partnership with Meals on Wheels to provide additional support and services to customers in need during PSPS outages. For this PSPS, we partnered with 13 Meals on Wheels Organizations[45] that would be able to provide services to customers in scope for the de-energization in seven counties.
- Haven of Hope on Wheels: PG&E has a partnership with Haven of Hope on Wheels in Butte County to provide portable laundry and shower services. They were not deployed to provide services for this PSPS.
- 211 Referral Services: As of August 13, 2021, PG&E has a partnership with the California network of 211s through our charitable grant program to connect customers with resources before, during, and after PSPS outages. For this PSPS, PG&E worked with 211 to assist 85 customers with resources.[46]
- Accessible Transportation Partnerships: PG&E partners with Accessible Transportation organizations to provide customers with transportation to and from PG&E CRCs. For this PSPS, we successfully partnered with one organization[47] to provide assistance in one county.

[43] For more information about the PBP Program, refer to PG&E's 2024 AFN Plan.
[44] The list of local food banks PG&E partnered for this PSPS include; Community Action Agency of Butte County, Clear Lake Gleamers Food Bank, Redwood Empire Food Bank, Community Action of Napa Valley Food Bank, Dignity Health Connected Living, Food Bank of Contra Costa & Solano, Redwood Empire Food Bank, Community Action Agency of Butte County, Yolo Food Bank
[45] The Meals on Wheels Organizations that PG&E Partnered with for this PSPS include; Passages, Chico Meals on Wheels, Clearlake Senior Center, Lakeport Senior Center, Liveoak Senior Center, Middletown Senior Center, Community Action Agency of Napa Valley, Dignity Health Connected Living, Meals on Wheels Solano County, Coastal Seniors, Council on Aging- Sonoma County, Petaluma People Services, Tehama County Community Action Agency.
[46] Additional information on 211s is not available within the PSPS Post-Event Report timeline. More information will be available in the 2024 AFN Plan.
[47] The Accessible Transportation Organizations PG&E partnered with for this PSPS was Dignity Health Connected Living

Communications to Customers with Limited English Proficiency

PG&E provided translated customer support through its customer notifications, website, call center, social media, 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 get PSPS information in 15 non-English languages. See language preference for this PSPS in Table 12 below.

Table 12: Customer Notifications Based on Language Preference

Language	Total Notifications[48]	Percent
English	634,729	99.06%
Spanish	5,454	0.85%
Chinese (Mandarin & Cantonese)	502	0.08%
Vietnamese	52	0.01%
Total	**640,737**	**100%**

Customers with limited English proficiency have access to translation phone numbers on our PSPS website, the website highlights 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[49]

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
75,492	2,185	14	2,182	240

PG&E continued support and engagement with multi-cultural 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 32 multicultural media organizations and 17 CBOs providing outreach about available language options. 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 American Sign Language (ASL), for their use and distribution. We also shared our new PSPS Language Resources page (www.pge.com/pspslanguagehelp) in 16 languages with organizations to share with their constituents. Highlights from our coordination with multicultural media organizations and CBOs during this PSPS include a KUVS-Univision news segment in Spanish with PG&E's Evelyn Escalera. See Figure 15 below.[50]

[48] Total notifications do not include doorbell rings and Live Agent phone calls.
[49] Metrics are provided from June 29, 2024 through July 3, 2024.
[50] KUVS-Univision PG&E news segment with Evelyn Escalera.

Figure 15: KUVS-Unvision news coverage 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.

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 critical facility and infrastructure 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.)[51]	Description
Diesel Generator	2	0.032	31	2 units on reserve in Sacramento
Diesel Generator	4	0.100	27	3 units on reserve in Sacramento
Diesel Generator	1	0.125	24	1 unit on reserve in San Leandro
Diesel Generator	5	0.200	24	4 units on reserve in San Leandro; 1 unit reserved in Sacramento
Diesel Generator	1	0.275	22	1 unit on reserve in Sacramento
Diesel Generator	1	0.570	24	1 unit on reserve in San Leandro

[51] 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.)[51]	Description
Diesel Generator	8	1.00	31	3 units pre-staged at one ICU Hospital; 5 on reserve at Sacramento
Diesel Generator	5	1.140	22	5 on reserve in San Leandro
Diesel Generator	12	2.0	35	9 units on reserve in San Leandro; 3 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:
During and immediately before the PSPS, five backup generators were activated to energize the critical facility and infrastructure customers that did not have an existing mitigation in place.

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

Response:
As a general policy, PG&E does not offer backup generation to individual facilities. However, PG&E's policy allows for granting 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: 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[52].

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.

[52] 50,000 customer minutes is approximately equivalent to 100 customers for about 8 hours.

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 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 California Department of Forestry and Fire Protection.[53]

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

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

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

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

Response:
During this PSPS, PG&E utilized its rental fleet of temporary generators to mitigate the impacts of PSPS on its customers. During this PSPS, this fleet was used to support five stand-alone facilities serving public safety, and two indoor CRCs.

Critical facility and infrastructure customers that received backup generation are listed in Table 15.

[53] The term "emergency response providers" includes federal, state, and local governmental and non-governmental public safety, fire, law enforcement, emergency response, emergency medical services providers (including hospital emergency facilities), and related personnel, agencies, and authorities.

Table 15: Critical Facility and Infrastructure Customers Energized with Backup Generation

County	Site Type	Generation Deployed	Duration of Operation	Reason Deployed
Glenn	Elk Creek Community Water District	0.230 MW	0 hours	High risk to environment or Public Safety
Colusa	Cortina Rancheria Indian Reservation Residence	0.07 MW	62:05 hours	Health and Safety risk for Tribal elders
Colusa	Cortina Rancheria Indian Reservation Residence	0.07 MW	62:25 hours	Health and Safety risk for Tribal elders
Colusa	Cortina Rancheria Indian Reservation Residence	0.07 MW	62:10 hours	Health and Safety risk for Tribal elders
Shasta	CALFIRE Happy Valley Fire Center	0.56 MW	0 hours	High risk to environment or Public Safety

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 16 provides the number and nature of complaints received from customers and Public Safety Partners, submitted to both the CPUC and PG&E, for the July 2 – 3, 2024 PSPS. Any complaints received after the July 2 – 3, 2024 PSPS will be included in the 2024 PSPS Post-Season Report.

Table 16: Number and Nature of Complaints due to the July 2 – 3, 2024 PSPS

Nature of Complaints	Number of Complaints
Communications/Notifications Including, but not limited to complaints regarding lack of notice, excessive notices, confusing notice, false alarm notice, problems with getting up-to-date information, inaccurate information provided, not being able to get information in the prevalent languages and/or information accessibility, complaints about website, Public Safety Partner Portal, Representational State Transfer (REST)/Digital Asset Manager (DAM) sites (as applicable).	30
PSPS Frequency/Duration Including, but not limited to complaints regarding the frequency and/or duration of PSPS, including delays in restoring power, scope of PSPS and dynamic of weather conditions.	14
Safety/Health Concern Including, but not limited to complaints regarding difficulties experienced by AFN/MBL populations, traffic accidents due to non-operating traffic lights, inability to get medical help, well water or access to clean water, inability to keep property cool/warm during outage raising health concern.	37
General PSPS Dissatisfaction/Other Including, but not limited to complaints about being without power during PSPS and related hardships such as food loss, income loss, inability to work/attend school, plus any PSPS-related complaints that do not fall into any other category.	53
Outreach/Assistance Including, but not limited to complaints regarding CRCs, community crew vehicles, backup power, hotel vouchers, other assistance provided by utility to mitigate impact of PSPS.	5

Claims

As of July 10, 2024, PG&E received three claims for the July 2 – 3, 2024 PSPS as listed in Table 17.

Table 17: Count and Type of Claim(s) Received

Description of Claims	Number of Claims
Business Interruption / Economic Loss	1
Food Loss Only	2
Property Damage	0

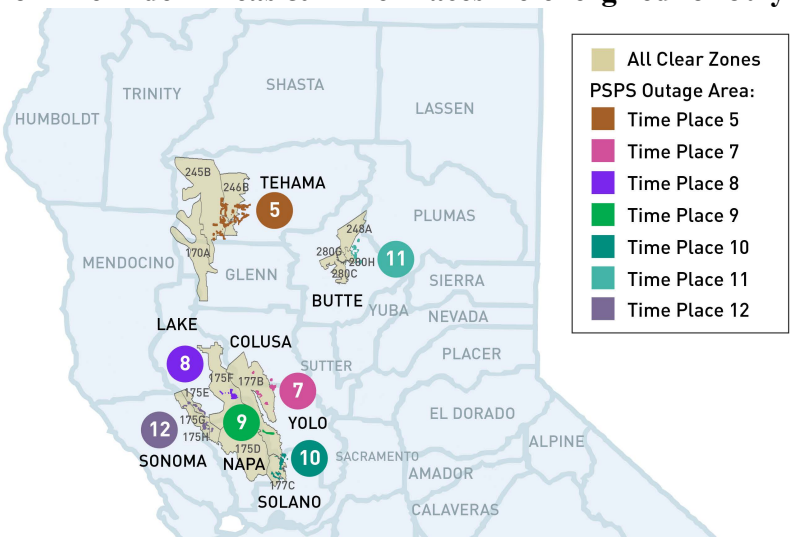
Section 8 – Power Restoration

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

Response:
During this PSPS, the PG&E Incident 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-Clears", 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 if it is safe to do so.

Figure 16: Map of Fire Index Areas & Time-Places De-energized for July 2 – 3, 2024 PSPS



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, troublemen, 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 five Weather "All-Clears" in two waves and deployed approximately 85 personnel and 21 helicopters to patrol the lines in advance of restoration. Patrols were conducted on approximately 240 miles of distribution circuits that had been de-

energized during the first wave and 269 miles during the second wave. 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 18.

Table 18: Weather All-Clear Times[54]

All-Clear Zones	Weather All-Clear Date and Time
170A, 175F, 177B, 245B, 246B	07/02/2024 11:07
175D, 175E, 175G, 175H, 177C, 248A, 280C, 280G, 280H	07/02/2024 12:23
175E, 177C, 280C, 280G	07/03/2024 10:39
175F, 175H, 177B	07/03/2024 11:46
175G, 245B, 246B, 248A, 280H	07/03/2024 12:43

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.

[54] Due to the two-wave de-energization, some zones were given "All-Clear" twice for the July 2-3, 2024 PSPS.

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 July 2 – 3, 2024 PSPS, PG&E opened eight CRCs. The sites were visited by 1,377 people. A full list of CRC locations, assistance available, operating days and hours, and attendance is reported in Appendix E. Due to low customer impact, Napa, Sonoma, and Yolo counties agreed that CRCs were not needed in their respective counties.

CRCs are typically open from 08:00 to 22:00 PDT during the time the power is shut off until customers are restored. Visitors were provided with PSPS information by dedicated staff, as well as ADA-compliant restrooms, tables and chairs, power strips to meet basic charging needs for personal medical devices and other electronics, snacks, bottled water, bagged ice, 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 provided. Privacy screens were also available at indoor locations.

During this PSPS, visitors requested and received:

- 1,612 snacks
- 1,616 bottled waters
- 1,312 device chargers
- 622 bags of ice
- 259 blankets

1,293 visitors did not remain on site and were all provided "Grab and Go" bags.

Additional information about our CRC operations, including coordination with Tribal and local governments, CRC types and resources, and more is available in the 2024 PSPS Pre-Season Report CRC Plan (Appendix A), pp. 51-61.

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 extreme heat, air-conditioned tents were added at four outdoor CRCs, in addition to the standard CRC requirements during this PSPS.

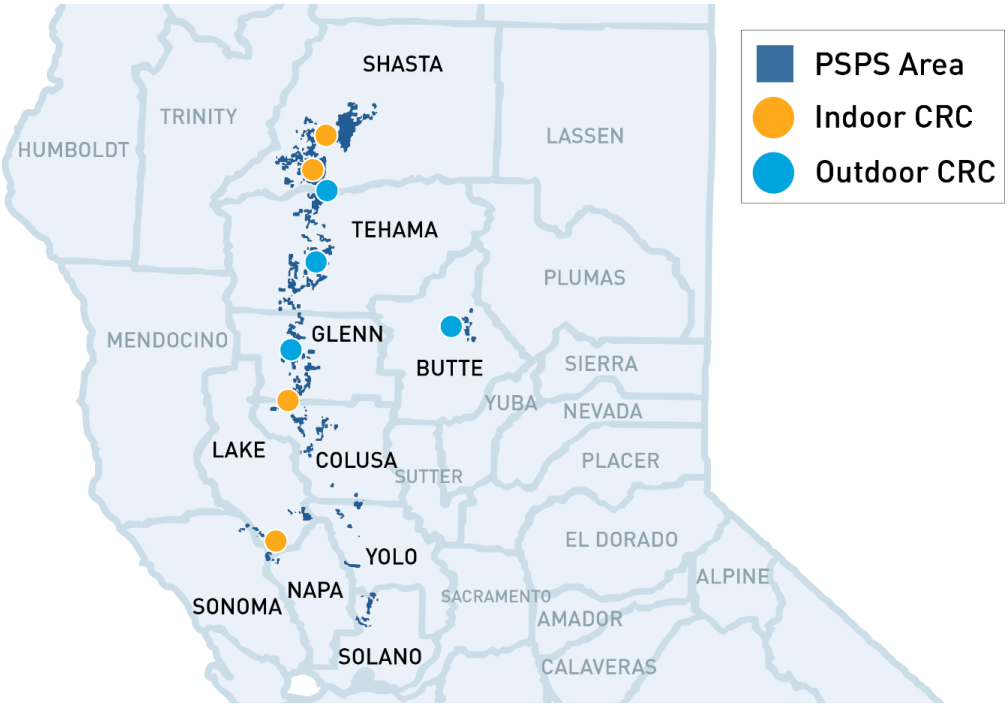
During this PSPS, one CRC in Anderson, Shasta County, CA was unexpectantly and temporarily closed due to a wildfire within close proximity to the site. The site was reopened the next day once the fire was contained.

All CRCs remained open past re-energization on July 3, 2024 to support counties experiencing extreme heat.

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

Response:
Figure 17 below shows a map of the CRC locations. Based on the CRC survey conducted for this PSPS, most respondents traveled less than five miles to their nearest CRC location. Additional CRC location information can be found at PG&E Emergency Site – View Outage Map. Customers can find specific information about CRC locations using the 'Address Search' or 'City/County Search' functions.

Figure 17: Location of Community Resource Centers Readied During July 2 – 3, 2024 PSPS



Section 10 – Mitigations to Reduce Impact

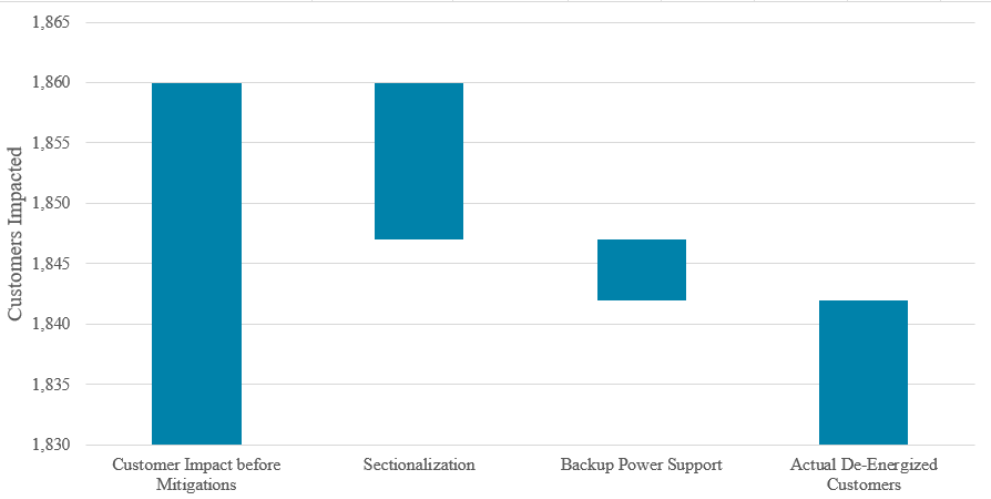
Section 10.1 - Mitigation actions and impacts (both waterfall graph and map) including: sectionalization devices, temporary generation, microgrids, permanent backup generation, transmission switching, covered conductor, and any other grid hardening that mitigated the impact of the event *(D.21-06-014,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

Response:

Mitigations to Reduce Impact

PG&E employed multiple measures to avoid de-energizing approximately 15,509 customers. Figure 18 depicts the impact each mitigation measure had on the total number of customers.[55]

Figure 18: Reduction in Number of Impacted Customers Driven by Mitigation Efforts



Community Microgrids

A community microgrid is a group of customers and Distributed Energy Resources (DERs) within clearly defined electrical boundaries with the ability to disconnect from and reconnect to the grid. These microgrids are typically designed to serve the portions of communities that include community resources, like hospitals, police and fire stations, and gas stations and markets. PG&E continues to own and operate the distribution system within the microgrid. More information about PG&E's microgrid solutions or how to begin developing a community microgrid can be found at www.pge.com/cmep. Community microgrids were not utilized during the July 2 – 3, 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 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 this PSPS.

[55] The "Total Number of Customers," based on SPIDs, does not include streetlights.

Distribution Switching

Depending on fire risk patterns, distribution switch locations and switching plans maintain service to customers on lines that fall outside the high-risk area but are served by lines that pass through the fire risk area. Depending on PSPS scope, we may be able to use back-tie switching to bypass the distribution circuits that pass through the de-energization area to keep customers energized from a different set of lines. During this PSPS, distribution switching was not used as a mitigation as there were no opportunities available. This was primarily due to the small scope of the PSPS.

Sectionalization

PG&E has installed new sectionalization devices near the borders of the CPUC-designated Tier 2 and 3 HFTDs and HFRA to reduce the number of customers affected by PSPS outages. PG&E used sectionalization devices on 13 circuits.

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. During this PSPS, there were no islanding opportunities in scope for energization.

Temporary Microgrids

PG&E temporary distribution microgrids were not in scope for this PSPS. 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 the temporary microgrids include fire stations, local water and waste companies, markets, post offices, and medical facilities. On average, customers served by the temporary microgrids experience de-energization periods of under 30 minutes for the switch-over from grid to microgrid and go-back from microgrid to the grid. Eight temporary microgrid sites are currently ready for immediate operation in PG&E's service area.

Backup Power Support:

PG&E used temporary generation to support five stand-alone customers. Table 15 lists the facilities that received backup power support during the July 2 – 3, 2024 PSPS.

Covered Conductor:

The effects of grid-hardening and covered conductors are accounted for in our IPW model, which predicts the probability of utility-caused ignitions. Overhead system hardening is expected to reduce the probability of outages and ignitions in recently hardened sections. The IPW model more heavily weighs ignition and outage rates in recent years which will result in areas with fewer ignitions (e.g., areas that may have been recently hardened, being less likely to be 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; the National Weather Service and the United States Forest Service; and local meteorological conditions of humidity and winds.[56] 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 July 2 – 3, 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 PSPS. And, during the PSPS, the advanced weather modeling systems compiled from our network of more than 1,500 weather stations is able to forecast and track weather conditions in real time. Finally, data and post-PSPS analysis results are collected and provided as part of the PSPS Post-Event Report.

Establishing Threshold through Historical Analysis

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

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

Historical Analysis: CFP_D Quantification

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

To establish the CFP_D threshold of nine, we performed multiple sensitivity studies in "backcast" mode for calibration and validation. This involved running 68 different versions of the combined distribution PSPS guidance through hourly historical data throughout multiple years to calibrate

[56] See Resolution ESRB-8, p. 8-9.

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

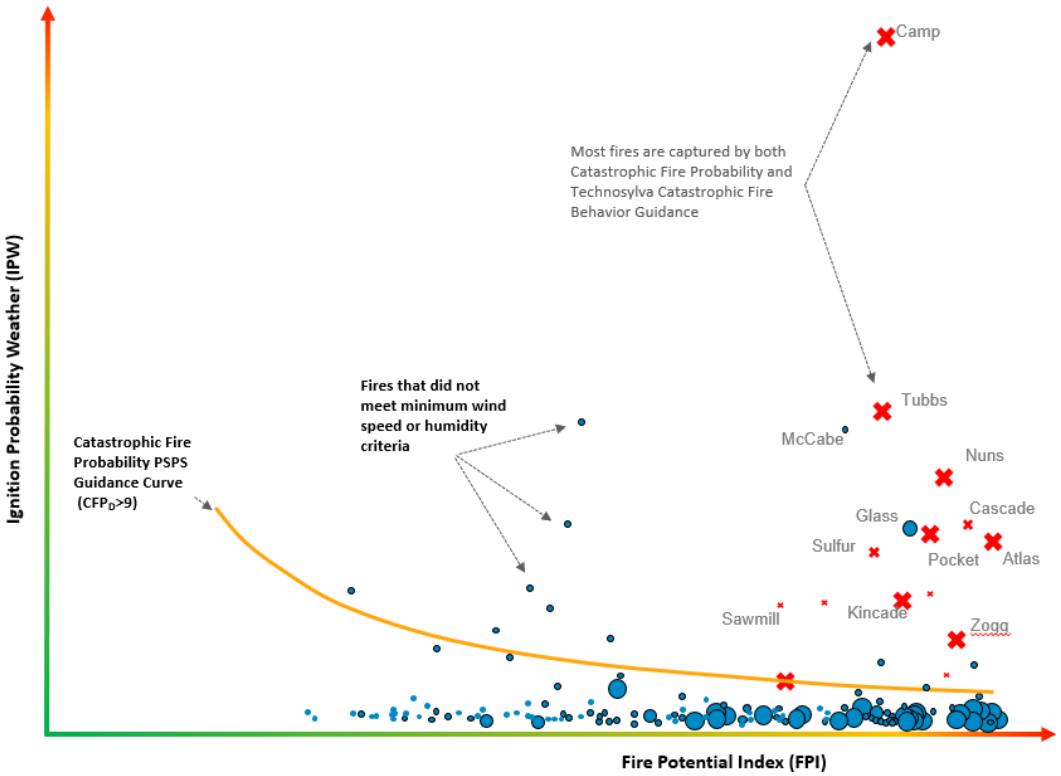
The mFPC and CFP_D guidance that is determined from Technosylva was also evaluated using this process.

The CFP_D guidance value of nine is shown in Figure 19 below with respect to recent large fires since 2012.

Any fires above nine that met the basic 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. Please note that the inclusion of a fire in this analysis does not indicate that PG&E is directly responsible for, or caused, the fire. Instead, the fires are included for the purpose of analyzing the impact of PG&E's current PSPS Protocols.

The red "✖" symbols in Figure 19 below represent fires that were captured by the both the CFP_D and Technosylva CFB The blue dots under the line represent fires below the CFP_D guidance. Blue dots "●" above the line represent events that did not meet the mFPC criteria.

Figure 19: CFP_D Guidance



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

will capture conditions similarly during the most catastrophic fires while also balancing impacts to customers.

Historical Analysis: Execution

To execute the analysis at this scale, we utilized cloud computing resources to run PSPS model guidance for every hour at every 2 x 2 km grid cell across the historical data set to determine the number of times and locations PSPS guidance is exceeded. Each location exceeding guidance is then grouped into events to determine the location and size of each PSPS given the weather and fuels present at that time, under the parameters of the study version. This allows us to determine 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 an 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"[57] 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.

Red Flag Warnings from the National Weather Service

PG&E also validated PSPS guidance against RFWs from the National Weather Service (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 for the past six years (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 Geographic Area Coordination Center

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 that 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

[57] 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)".

dataset was used to evaluate if High Risk days were issued when PSPS guidance was high. Blue Sky Day is defined as "The same as a non-weather impact day (no or very limited impacts due to weather)". Similar to RFWs, based on historical PSPS analysis, High Risk Days are expected to occur more frequently and cover a broader area than PSPS.

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

PG&E created hourly maps from high-resolution climatology and a web-based application to display any hour across 30 years. For each PSPS that meets PSPS guidance in the climatology, these maps were evaluated by a Meteorologist to better understand the nature of the event, wind speeds, antecedent conditions, and the spatial extent of strong winds. It is 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 timeseries integration.

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

Response:

PG&E collects lessons learned input from staff during and after every PSPS EOC activation to identify best practices and biggest opportunities for improvement. See Table 19 below for lessons learned for the July 2 – 3, 2024 PSPS.

Table 19: Lessons Learned from the PSPS

Issue	Discussion	Resolution
Customer Notification	A customer was incorrectly mapped which resulted in missed notifications.	Correct the customer's mapping to prevent future missed notifications and continue to refine our process.
Scope	Opportunity to re-energize customers within a PSPS.	PG&E re-energized customers during the afternoon and evening of July 2 when weather improved during the forecasted PSPS.
Customer Notification	Due to scope and timing changes, staging and execution of Warning notification batches were incorrectly timed which caused some missed Warning notifications to customers.	Internal data platforms did not identify the need to separate TP's into two separate batches based on de-energization time. PG&E plans to evaluate our internal processes and data systems to

		ensure appropriate notification timing is met.

Section 12 – Other Relevant Information

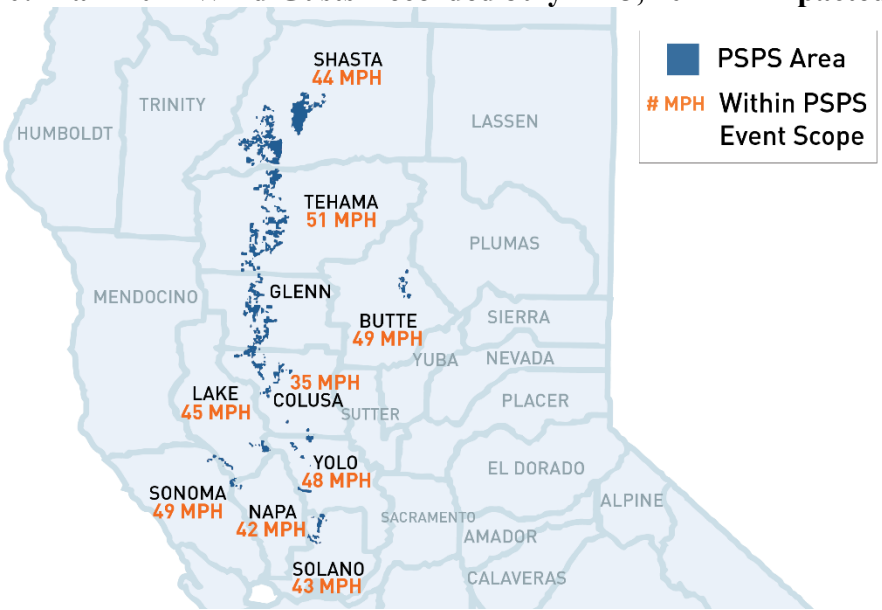
Maximum Wind Gusts

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

Table 20: Maximum Wind Gusts Recorded July 2 – 3, 2024 in Impacted Counties

County	Maximum Wind Gust (mph)	Station ID	Station Name
Butte	49	JBGC1	Jarbo Gap
Colusa	35	PG598	Rail Canyon Road
Glenn	40	PG845	Road 65
Lake	45	PG126	Mt St Helena East
Napa	42	PG358	Knoxville
Shasta	44	KRDD	Redding Municipal Airport
Solano	43	PG880	Blue Ridge Road South
Sonoma	49	PG303	Healdsburg Hills North
Tehama	51	571PG	Round Mountain - Tehama
Yolo	48	PG490	Bald Mountain Tower

Figure 20: Maximum Wind Gusts Recorded July 2 – 3, 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 July 2 – 3, 2024 PSPS Event

** 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 location 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[1]													
		ws mph	ws mph 50m	wg ec mph	temp 2m_f	flame length_ft_2hr	rate of_spread_chhr_2hr	area acres_8hr	rh_2m	vpd2m mb	prob cat	dfm 1hr	dfm 100hr	dfm 1000hr	lfm herb	lfm woody	lfm chamise_new	sum tree_ovr	prob ignition	efpd	HWW	HWA	RFW	GACC_High Risk	Observed ws mph	Observed wg_mph	Observed temp_f	Observed RH_%	Observed ws mph AC	Observed wg_mph AC	Observed temp_f_AC	Observed RH_%_AC	open psps_tags	Tx impacts_yes_no	PSPS Potential Risk Consequence	PSPS Potential Benefit
ARBUCKLE 1101	TP7	16	23	34	110	8	29.1	2033.9	4.2	85	0.912	0.017	0.041	0.058	43	85	87	-99	0.0005807	3.7	No	No	714	714	17, 18	27, 26	93, 96	20, 13	14, 15	22, 22	94, 96	24, 18	Yes	No	0.07914	6.5
BIG BEND 1101	TP11	19	30	44	107	9.1	38.7	2350.8	5.2	76.1	0.971	0.017	0.04	0.06	37	96	102	88659.2	0.0027847	21.9	No	No	No	120	29, 29	49, 46	99, 103	15, 12	12, 14	24, 21	99, 103	14, 12	Yes	No	0.28633	33.5
CALISTOGA 1101	TP12	19	29	42	98	18.3	37.5	1308.2	7.8	56.7	0.944	0.026	0.05	0.068	71	87	93	62182.1	0.0007465	4.9	No	No	402	1696	49, 47	63, 64	100, 101	15, 9	13, 15	19	100	13	Yes	No	0.08254	49.5
CALPINE 1144	TP12	17	27	40	104	10.4	45.3	1773.1	6.1	69	0.967	0.022	0.047	0.066	56	89	92	3736.7	0.0006404	3.7	No	No	17	17	42, 37	54, 47	112, 118	13, 8	17, 23	24, 30	110, 110	13, 9	Yes	No	0.08095	4.1
CALPINE 1146 [2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	No	N/A	N/A
CORNING 1101	TP5	20	27	39	109	9.8	99.3	16936	3.9	81.4	0.939	0.018	0.042	0.058	34	97	92	6259.9	0.0007983	5.3	No	No	2224	2224	21, 24	32, 37	95, 96	19, 10	15, 21	27, 30	96, 98	18, 10	Yes	No	1.39142	184.9
CORNING 1102	TP5	22	28	41	108	11	137.9	26758	3.8	80.7	0.993	0.017	0.039	0.055	34	82	92	1979	0.0005782	3.9	No	No	1703	1703	25, 33	36, 51	97, 100	13, 4	14, 23	25, 34	98, 100	15, 7	Yes	No	0.48068	122.9
CORTINA 1101	TP7	17	25	33	108	9.5	42.6	3814.1	4.1	80.2	0.964	0.018	0.041	0.058	41	87	89	18.4	0.0003352	2.7	No	No	263	263	15, 14	23, 31	96, 100	17, 11	13, 14	20, 22	97, 100	15, 11	Yes	No	0.08274	7.5
DUNNIGAN 1103	TP7	16	24	35	110	8.5	33.8	2610.4	4.3	85.3	0.947	0.017	0.042	0.058	39	86	88	477.9	0.0005215	4	No	No	308	308	17, 18	27, 26	93, 96	20, 13	14, 15	22, 22	94, 96	24, 18	Yes	No	0.08633	9.5
HIGHLANDS 1103	TP8	20	31	46	105	11.1	48	4439.4	5.1	72.4	0.971	0.02	0.047	0.066	44	83	90	1149.6	0.0013107	7.8	No	No	2422	2422	27, 26	42, 41	97, 101	14, 9	18, 14	24, 24	98, 102	13, 9	Yes	No	0.11036	118.3
MADISON 2101	TP7	21	34	43	111	8.6	62.6	5250.8	4.4	86.4	0.958	0.017	0.039	0.056	37	83	87	639.3	0.0011822	10.2	No	No	2184	2184	30, 31	47, 48	102, 102	13, 10	18, 15	26, 24	102, 101	13, 13	Yes	No	0.12943	75.4
MIDDLETOWN 1101	TP12	22	32	47	104	12.4	34.2	1452.6	6.1	69	0.967	0.022	0.045	0.063	56	88	92	39459.6	0.0013731	9	No	No	2024	2103	49, 47	63, 64	112, 118	14, 9	17, 23	24, 30	110, 110	13, 9	Yes	No	0.16502	30.1

[1] Wave 1 and wave 2 de-energization data is separated by comma in applicable fields.
[2] PSPS decision-making and de-energization data was not calculated for the CALPINE 1146 circuit due to no customer impact.

MONTICELLO 1101 [3]	TP9	21	33	44	108	10.9	53.5	3924.2	5.1	79.9	0.977	0.021	0.048	0.068	37	85	88	264.8	0.0010168	8.3	No	No	1394	1412	21	35	100	15	12	22	101	15	Yes	No	0.08274	37.8
PUTAH CREEK 1102	TP10	18	28	36	111	8.7	81.4	2133.5	4.9	86.7	0.934	0.018	0.041	0.056	40	89	88	4835.7	0.0006609	3.4	No	No	917	917	29, 25	43, 35	99, 98	16, 12	18, 18	25, 26	99, 99	17, 15	Yes	No	0.1984	67.7
VACAVILLE 1108	TP10	21	31	43	109	6.6	24.6	1325.9	5.8	80.6	0.917	0.019	0.041	0.057	47	92	91	2154.1	0.0008325	5.3	No	No	2475	2476	29, 25	43, 35	111, 101	16, 12	16, 12	26, 21	104, 104	15, 13	Yes	No	0.11865	36.6

[3] Only the first wave of de-energization occurred for Monticello 1101.

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 July 2 – 3, 2024 PSPS Event

Forecast / Agency / Observed	Value	Name	Unit	Value Provided	Description
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_psps_tags**	Open PSPS Qualified Tags	N/A	Yes/No During Event	PSPS-Qualified Tags include P1 (tree represents an immediate risk) and P2 (tree is damaged or diseased and could fall into nearby power lines) tree tags and Electric Corrective tags (Priority A - emergency, B - urgent, and E/F - risk-based)
Observed	**Tx_impacts_yes_no**	Impacted by Transmission	N/A	Yes/No During Event	Distribution lines that would have been de-energized due to de-energization of upstream transmission lines, regardless of whether those distribution lines would have also been de-energized due to direct distribution PSPS.
Forecast	**ws_mph**	Sustained wind speeds	mph	max	Sustained windspeed in miles per hour at 10 meters above ground level.
Forecast	**ws_mph_50m**	Sustained wind speeds at 50 m	mph	max	Sustained windspeed in miles per hour at 50 meters above ground level.
Forecast	**wg_ec_mph**	Forecasted Peak Wind Gust	mph	max	Wind gust in miles per hour at 10 meters above ground level.
Forecast	**temp_2m_f**	Temperature	degrees F	max	Temperature in Fahrenheit at two meters above ground level.
Forecast	**flame_length_ft_2hr**	Flame length	ft	max	Flame length in feet on fire front for first two hours of fire spread simulation from Technosylva.
Forecast	**rate_of_spread_chhr_2hr**	Rate of spread	chains/hr	max	Rate of fire spread in chains per hour for first two hours of fire spread simulation from Technosylva.
Forecast	**area_acres_8hr**	Acres burned	acres	max	Acres burned in the 8-hour fire spread simulation from Technosylva.
Forecast	**rh_2m**	Relative Humidity	%	min	Relative Humidity in percent at two meters above ground level.
Forecast	**vpd2m_mb**	Vapor Pressure Deficit	mb	max	Vapor Pressure Deficit in millibar at 2m above surface.

Forecast / Agency / Observed	Value	Name	Unit	Value Provided	Description
Agency	**HWW**	High Wind Warning	N/A	Yes/No during event	High Wind Warning from the Federal National Weather Service.
Agency	**HWA**	High Wind Advisory	N/A	Yes/No during event	High Wind Advisory from the Federal National Weather Service.
Agency	**RFW**	Red Flag Warning	N/A	Yes/No during event	Red Flag Warning from the Federal National Weather Service.
Agency	**GACC_HighRisk**	GACC High Risk	N/A	Yes/No during event	High Risk issued by the Federal North or South Operations Predictive Services.
Forecast	**prob_cat**	Fire Potential Index (FPI)	probability outputs	max	Fire Potential Index (FPI) Model Output - Probability of a catastrophic fire if an ignition were to occur. FPI component of the CFP_D model.
Forecast	**dfm_10hr**	Dead Fuel Moisture Content 10 hrs	fuel moisture fraction	min	Dead Fuel Moisture in 10-hour fuel moisture class. Can be scaled to percentage by multiplying by 100.
Forecast	**dfm_100hr**	Dead Fuel Moisture Content 100 hrs	fuel moisture fraction	min	Dead Fuel Moisture in 100-hour moisture class. Can be scaled to percentage by multiplying by 100.
Forecast	**dfm_1000hr**	Dead Fuel Moisture Content 1000 hrs	fuel moisture fraction	min	Dead Fuel Moisture in 1000-hour moisture class. Can be scaled to percentage by multiplying by 100.
Forecast	**lfm_herb**	Live Fuel Moisture Content-herbaceous	%	min	Live Fuel Moisture Percentage of herbaceous plant species. (% of species that is comprised of water)
Forecast	**lfm_woody**	Live Fuel Moisture Content-woody	%	min	Live Fuel Moisture Percentage of woody plant species. (% of species that is comprised of water)
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	**sum_tree_ovr**	Tree Overstrike	ft	max	Sum of tree overstrike in a 2 x 2 km grid cell area in ft.
Forecast	**prob_ignition**	Ignition Probability Weather (IPW) Model Output	Probability	max	Ignition Probability Weather (IPW) Model Output - Probability of Ignition based on the probability of outages by cause. Ignition component of the CFP_D model. **Ignition Probability Weather Model** - A model that provides estimates of the probability of an ignition given an outage on an hourly basis
Forecast	**cfpd**	Catastrophic Fire Probability (CFP_D)	Scaled Probability	max	The product of probability of catastrophic fire (Prob_Cat) and IPW - probability of ignition (prob_ignition). This product is called the (CFP_D) Catastrophic Fire Probability distribution model. Scaled by 1000 to covert to an integer value.
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.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX B

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

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

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 the last customer was restored on a circuit.

Table B-1. Circuits De-Energized During the July 2 – 3, 2024 PSPS Event

Distribution / Transmission	Circuit Name	De-Energization Date and Time	All-Clear Date and Time	Restoration Date and Time	Key Communities	HFTD Tier(s)	Total Customers	Residential Customers	Commercial / Industrial Customers	Medical Baseline Customers	AFN other than MBL Customers	Other Customers
Distribution	ARBUCKLE 1101	7/2/2024 1:09	7/3/2024 11:46	7/3/2024 14:23	COLUSA	Outside HFTD	3	2	0	0	0	1
Distribution	BIG BEND 1101	7/2/2024 0:29	7/3/2024 12:43	7/3/2024 16:52	BUTTE	Tier 3, Tier 2	277	250	25	27	86	2
Distribution	CALISTOGA 1101	7/2/2024 1:10	7/3/2024 12:43	7/3/2024 14:25	NAPA	Tier 3	9	0	8	0	0	1
Distribution	CALPINE 1144	7/2/2024 1:37	7/3/2024 12:43	7/3/2024 17:54	SONOMA, LAKE	Partially Outside HFTD, Tier 3, Tier 2	15	2	13	0	0	0
Distribution	CALPINE 1146	7/2/2024 1:37	7/3/2024 12:43	7/3/2024 17:54	LAKE	Outside HFTD	1	0	1	0	0	0
Distribution	CORNING 1101	7/2/2024 4:42	7/3/2024 12:43	7/3/2024 17:56	TEHAMA	Partially Outside HFTD, Tier 2	804	743	58	98	363	3
Distribution	CORNING 1102	7/2/2024 4:50	7/3/2024 12:43	7/3/2024 17:10	TEHAMA	Partially Outside HFTD, Tier 2	247	200	40	18	67	7
Distribution	CORTINA 1101	7/2/2024 0:59	7/3/2024 11:46	7/3/2024 14:20	COLUSA	Tier 2	8	3	5	0	0	0
Distribution	DUNNIGAN 1103	7/2/2024 0:57	7/3/2024 11:46	7/3/2024 14:20	YOLO, COLUSA	Partially Outside HFTD, Tier 2	13	9	3	0	3	1
Distribution	HIGHLANDS 1103	7/2/2024 4:05	7/3/2024 11:46	7/3/2024 14:10	LAKE	Partially Outside HFTD, Tier 2	49	34	11	3	10	4
Distribution	MADISON 2101	7/2/2024 1:00	7/3/2024 11:46	7/3/2024 14:16	YOLO	Partially Outside HFTD, Tier 2	73	45	19	1	15	9
Distribution	MIDDLETOWN 1101	7/2/2024 1:14	7/3/2024 12:43	7/3/2024 14:01	NAPA, SONOMA, LAKE	Tier 3	111	99	10	3	14	2
Distribution	MONTICELLO 1101	7/2/2024 1:54	7/2/2024 12:23	7/2/2024 15:04	NAPA	Tier 2	8	0	7	0	0	1
Distribution	PUTAH CREEK 1102	7/2/2024 1:19	7/3/2024 11:46	7/3/2024 14:02	YOLO, SOLANO	Partially Outside HFTD, Tier 2	169	126	32	16	12	11
Distribution	VACAVILLE 1108	7/2/2024 1:20	7/3/2024 10:39	7/3/2024 13:02	NAPA, SOLANO	Partially Outside HFTD, Tier 2	56	26	25	2	4	5
						Total	1843	1539	257	168	574	47

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX C

SECTION 6 – PUBLIC SAFETY PARTNERS CONTACTED

Appendix C: PUBLIC SAFETY PARTNERS CONTACTED

Table C-1. Public Safety Partners Contacted

Organization/Jurisdiction	Title	HFTD or HFRA Tier	Date/Time Contacted
Butte County	County Administration	Tier 3, Tier 2	07/01/2024 12:47 PDT
Butte County	Admin Analyst II	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Board Chair	Tier 3, Tier 2	07/01/2024 12:47 PDT
Butte County	Chief	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Chief Administrative Officer	Tier 3, Tier 2	07/01/2024 12:47 PDT
Butte County	County Clerk-Recorder	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Deputy Chief	Tier 3, Tier 2	07/01/2024 12:47 PDT
Butte County	Deputy County Administrative Officer - Emergency Management	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Director	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Division Chief	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	General	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	General Services Director	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Lieutenant	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Probation Officer	Tier 3, Tier 2	07/01/2024 12:47 PDT
Butte County	Public Health Director	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Senior Contracts/Procurement Agent and EOD Logistics Chief	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Sergeant	Tier 3, Tier 2	07/01/2024 12:32 PDT
Butte County	Supervisor	Tier 3, Tier 2	07/01/2024 12:47 PDT
Butte County Communication Facility	AT&T Mobility	Tier 3	07/01/2024 12:18 PDT
Butte County Communication Facility	AT&T Services Inc	Tier 3, Tier 2	07/01/2024 12:18 PDT
Butte County Emergency Services Facility	County Of Butte	Tier 3	07/01/2024 12:51 PDT
Butte County Other Facility	California Department of Forestry	Tier 3	07/01/2024 12:18 PDT
Colusa County	Board Chair	HFRA, Tier 2	06/29/2024 21:06 PDT
Colusa County	County Clerk/Recorder	HFRA, Tier 2	06/29/2024 21:06 PDT
Colusa County	County Supervisor	HFRA, Tier 2	06/29/2024 21:06 PDT
Colusa County	Deputy Chief	HFRA, Tier 2	06/29/2024 20:58 PDT
Colusa County	Director	HFRA, Tier 2	06/29/2024 20:58 PDT
Colusa County	Division Chief	HFRA, Tier 2	06/29/2024 20:58 PDT
Colusa County	Emergency Service Technician	HFRA, Tier 2	06/29/2024 20:58 PDT
Colusa County	Fire Chief	HFRA, Tier 2	06/29/2024 20:58 PDT
Colusa County	General	HFRA, Tier 2	06/29/2024 20:58 PDT
Colusa County	MHOAC	HFRA, Tier 2	06/29/2024 21:06 PDT
Colusa County	Sheriff	HFRA, Tier 2	06/29/2024 21:06 PDT
Colusa County	Supervisor	HFRA, Tier 2	06/29/2024 21:06 PDT

Colusa County	Vice Chair	HFRA, Tier 2	06/29/2024 21:06 PDT
Colusa County Tribal	Chairperson	Tier 2	06/29/2024 21:06 PDT
Colusa County Communication Facility	AT&T	Tier 2	06/29/2024 20:53 PDT
Colusa County Communication Facility	AT&T Mobility LLC	Tier 2	06/29/2024 20:53 PDT
Colusa County Communication Facility	AT&T Services Inc	Tier 2	06/29/2024 20:53 PDT
Colusa County Communication Facility	Citizens Telecommunications of California Inc.	Tier 2	06/29/2024 21:02 PDT
Colusa County Communication Facility	Frontier Communications Corporation Dip	Tier 2	06/29/2024 21:02 PDT
Colusa County Communication Facility	GTE Mobile Net of California LP	Tier 2	06/29/2024 20:53 PDT
Colusa County Emergency Services Facility	California Department of Forestry	Tier 3, Tier 2	06/29/2024 21:02 PDT
Colusa County Emergency Services Facility	County Of Colusa	Tier 2	06/29/2024 21:02 PDT
Colusa County Energy Sector Facility	City Of Santa Clara	Tier 2	06/29/2024 20:53 PDT
Colusa County Water And Waste Water Facility	California Department of Forestry	Tier 3, Tier 2	06/29/2024 21:02 PDT
Colusa County Water And Waste Water Facility	County of Colusa	Tier 2	06/29/2024 21:02 PDT
Glenn County	CAO	HFRA, Tier 2	06/29/2024 20:58 PDT
Glenn County	County Administrative Officer	HFRA, Tier 2	06/29/2024 21:06 PDT
Glenn County	Deputy Director Oes	HFRA, Tier 2	06/29/2024 20:58 PDT
Glenn County	Director Of Public Works Agency	HFRA, Tier 2	06/29/2024 20:58 PDT
Glenn County	Fire Chief	HFRA, Tier 2	06/29/2024 21:06 PDT
Glenn County	General	HFRA, Tier 2	06/29/2024 21:06 PDT
Glenn County	Sheriff	HFRA, Tier 2	06/29/2024 21:06 PDT
Glenn County Communication Facility	American Tower Corporation	Tier 2	06/29/2024 21:02 PDT
Glenn County Communication Facility	AT&T Services Inc	HFRA, Tier 2	06/29/2024 20:53 PDT
Glenn County Communication Facility	Verizon	Tier 2	06/29/2024 20:53 PDT
Glenn County Emergency Services Facility	County Of Glenn	Tier 2	06/29/2024 21:02 PDT
Glenn County Emergency Services Facility	Elk Creek Fire District	Tier 2	06/29/2024 20:53 PDT
Glenn County Water And Waste Water Facility	Elk Creek Community Service	Tier 2	06/29/2024 20:53 PDT
Glenn County Tribal	Interim Tribal Secretary	HFRA	06/29/2024 20:58 PDT
Glenn County Tribal	Tribal Administrator	HFRA	06/29/2024 20:58 PDT
Lake County	County Administration	Tier 2	06/29/2024 20:58 PDT
Lake County	Administrator	Tier 2	06/29/2024 20:58 PDT
Lake County	Battalion Chief	Tier 2	06/29/2024 21:06 PDT
Lake County	Board Chair	Tier 2	06/29/2024 21:06 PDT

Lake County	Chair of The Board	Tier 2	06/29/2024 21:06 PDT
Lake County	City Manager	Tier 2	06/29/2024 21:06 PDT
Lake County	Council Member	Tier 2	06/29/2024 21:06 PDT
Lake County	County Administrative Officer	Tier 2	06/29/2024 20:58 PDT
Lake County	County Supervisor, District 4	Tier 2	06/29/2024 20:58 PDT
Lake County	Dispatch	Tier 2	06/29/2024 20:58 PDT
Lake County	District 3 County Supervisor	Tier 2	06/29/2024 20:58 PDT
Lake County	District 5 Supervisor	Tier 2	06/29/2024 20:58 PDT
Lake County	Emergency Services Manager	Tier 2	06/29/2024 20:58 PDT
Lake County	Fire Chief	Tier 2	06/29/2024 20:58 PDT
Lake County	Health Services Director	Tier 2	06/29/2024 20:58 PDT
Lake County	Lieutenant	Tier 2	06/29/2024 20:58 PDT
Lake County	Mayor	Tier 2	06/29/2024 21:06 PDT
Lake County	Sheriff	Tier 2	06/29/2024 20:58 PDT
Lake County Communication Facility	AT&T Mobility LLC	Tier 2	07/01/2024 12:18 PDT
Lake County Communication Facility	AT&T Services Inc	Tier 2	06/29/2024 20:53 PDT
Lake County Communication Facility	GTE Mobile Net of California LP	Tier 3	07/01/2024 12:18 PDT
Lake County Communication Facility	Mediacom California LLC	Tier 2	07/01/2024 12:51 PDT
Napa County	County Administration	Tier 2	06/29/2024 20:58 PDT
Napa County	Board Chair	Tier 2	06/29/2024 21:06 PDT
Napa County	County Clerk/Recorder	Tier 2	06/29/2024 21:06 PDT
Napa County	County Executive Officer	Tier 2	06/29/2024 21:06 PDT
Napa County	Deputy Chief of Operations	Tier 2	06/29/2024 20:58 PDT
Napa County	Emergency Services Officer	Tier 2	06/29/2024 20:58 PDT
Napa County	Fire Chief	Tier 2	06/29/2024 20:58 PDT
Napa County	GIS	Tier 2	06/29/2024 20:58 PDT
Napa County	General	Tier 2	06/29/2024 20:58 PDT
Napa County	Interim County Executive Officer	Tier 2	06/29/2024 21:06 PDT
Napa County	MHOAC	Tier 2	06/29/2024 21:06 PDT
Napa County	Sheriff	Tier 2	06/29/2024 20:58 PDT
Napa County	Supervisor	Tier 2	06/29/2024 20:58 PDT
Napa County	Under-Sheriff	Tier 2	06/29/2024 20:58 PDT
Napa County CCA	General	Tier 2	06/29/2024 20:58 PDT
Napa County Communication Facility	AT&T Mobility LLC	Tier 2	06/29/2024 20:53 PDT
Napa County Communication Facility	California Highway Patrol	Tier 2	06/29/2024 21:02 PDT
Napa County Communication Facility	T-Mobile West Corporation	Tier 3	07/01/2024 12:18 PDT
Shasta County	Tribal Councilmember	Tier 3, Tier 2	06/29/2024 20:58 PDT
Shasta County	Emergency Command Center	Tier 3, Tier 2	06/29/2024 21:06 PDT
Shasta County	Fire Chief	Tier 3, Tier 2	06/29/2024 20:58 PDT

Shasta County	General	Tier 3, Tier 2	06/29/2024 21:06 PDT
Shasta County	Interim Tribal Administrator	Tier 3, Tier 2	06/29/2024 21:06 PDT
Shasta County	Lieutenant	Tier 3, Tier 2	06/29/2024 20:58 PDT
Shasta County	Office of Emergency Services Coordinator	Tier 3, Tier 2	06/29/2024 21:06 PDT
Shasta County	Operations Manager	Tier 3, Tier 2	06/29/2024 20:58 PDT
Shasta County	RDMHS	Tier 3, Tier 2	06/29/2024 20:58 PDT
Shasta County	Sergeant	Tier 3, Tier 2	06/29/2024 20:58 PDT
Shasta County	Sheriff-Coroner	Tier 3, Tier 2	06/29/2024 21:06 PDT
Shasta County	Staff Chief, Northern Operations	Tier 3, Tier 2	06/29/2024 21:06 PDT
Shasta County	Tribal Chairman	Tier 3, Tier 2	06/29/2024 21:06 PDT
Shasta County Anderson	Chief Plant Operator (Wastewater Treatment Plant)	Tier 2	06/29/2024 20:58 PDT
Shasta County Anderson	City Manager	Tier 2	06/29/2024 20:58 PDT
Shasta County Anderson	Deputy Public Works Director	Tier 2	06/29/2024 21:06 PDT
Shasta County Anderson	Fire Chief	Tier 2	06/29/2024 20:58 PDT
Shasta County Anderson	Public Works Superintendent	Tier 2	06/29/2024 20:58 PDT
Shasta County Communication Facility	AT&T Mobility C/O Engie Ins	Footnote 1	06/29/2024 20:53 PDT
Shasta County Communication Facility	AT&T Mobility LLC	Tier 2	06/29/2024 20:53 PDT
Shasta County Communication Facility	AT&T Services Inc	Tier 3, Tier 2	06/29/2024 20:53 PDT
Shasta County Communication Facility	Charter Communications Holding Company LLC	Tier 2	06/29/2024 21:02 PDT
Shasta County Communication Facility	Frontier Communications	Tier 2	06/29/2024 21:02 PDT
Shasta County Communication Facility	Frontier Communications Corporation Dip	Tier 2	06/29/2024 21:02 PDT
Shasta County Communication Facility	GTE Mobile Net of California LP	Tier 2	06/29/2024 20:53 PDT
Shasta County Communication Facility	Happy Valley Telephone Co	Tier 2	06/29/2024 21:02 PDT
Shasta County Communication Facility	Metro Pcs Inc	Tier 2	06/29/2024 21:02 PDT
Shasta County Communication Facility	TDS Telecom	Tier 2	06/29/2024 21:02 PDT
Shasta County Communication Facility	Verizon	Tier 2	06/29/2024 20:53 PDT
Shasta County Communication Facility	Verizon Wireless	Tier 2	06/29/2024 20:53 PDT
Shasta County Emergency Services Facility	California Department of Forestry	Tier 3, Tier 2	06/29/2024 20:53 PDT
Shasta County Emergency Services Facility	County Of Shasta	Tier 2	06/29/2024 20:53 PDT
Shasta County Government - Jail Facility	California Department of Corrections	Tier 2	06/29/2024 21:02 PDT
Shasta County Other Facility	California Department of Forestry	Tier 2	06/29/2024 21:02 PDT

Shasta County Other Facility	Happy Valley Telephone Co	Tier 2	06/29/2024 21:02 PDT
Shasta County Water And Waste Water Facility	US Bureau of Reclamation	Tier 3	06/29/2024 21:02 PDT
Solano County	County Administration	Tier 2	06/29/2024 21:06 PDT
Solano County	Board Chair	Tier 2	06/29/2024 21:06 PDT
Solano County	County Administrator	Tier 2	06/29/2024 21:06 PDT
Solano County	County Clerk	Tier 2	06/29/2024 21:06 PDT
Solano County	Dispatch	Tier 2	06/29/2024 21:06 PDT
Solano County	Emergency	Tier 2	06/29/2024 21:06 PDT
Solano County	Fire Chief	Tier 2	06/29/2024 20:58 PDT
Solano County	MHOAC - EMS Administrator	Tier 2	06/29/2024 20:58 PDT
Solano County	Sheriff	Tier 2	06/29/2024 21:06 PDT
Solano County	Supervisor	Tier 2	06/29/2024 20:58 PDT
Solano County CCA	General	Tier 2	06/29/2024 20:58 PDT
Solano County Communication Facility	American Tower Corp	Tier 2	06/29/2024 21:02 PDT
Solano County Communication Facility	American Tower Corporation	Tier 2	06/29/2024 21:02 PDT
Solano County Communication Facility	AT&T Services Inc	Tier 2	06/29/2024 20:53 PDT
Solano County Communication Facility	Crown Castle International	Tier 2	06/29/2024 21:02 PDT
Solano County Communication Facility	Verizon	Tier 2	06/29/2024 21:02 PDT
Sonoma County	County Administration	Tier 3	07/01/2024 12:47 PDT
Sonoma County	1st District Sonoma County Supervisor	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Board Chair	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Board Vice Chair	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Community Alert & Warning Manager	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Deputy Director	Tier 3	07/01/2024 12:32 PDT
Sonoma County	Director	Tier 3	07/01/2024 12:32 PDT
Sonoma County	Division Chief	Tier 3	07/01/2024 12:32 PDT
Sonoma County	EMS	Tier 3	07/01/2024 12:32 PDT
Sonoma County	EMS Dispatch	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Fire Captain	Tier 3	07/01/2024 12:47 PDT
Sonoma County	MHOAC	Tier 3	07/01/2024 12:32 PDT
Sonoma County	Main Office	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Sheriff	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Sheriff Dispatch	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Sheriff's Liaison	Tier 3	07/01/2024 12:32 PDT
Sonoma County	Staff Duty Officer	Tier 3	07/01/2024 12:47 PDT
Sonoma County	Supervisor	Tier 3	07/01/2024 12:47 PDT
Sonoma County CCA	General	Tier 3	07/01/2024 12:32 PDT
Tehama County	Chief Administrator	HFRA, Tier 2	06/29/2024 21:06 PDT
Tehama County	Communications Supervisor	HFRA, Tier 2	06/29/2024 20:58 PDT

Tehama County	County Clerk / Recorder	HFRA, Tier 2	06/29/2024 21:06 PDT
Tehama County	Lieutenant And Oes Manager	HFRA, Tier 2	06/29/2024 20:58 PDT
Tehama County	Oes Director	HFRA, Tier 2	06/29/2024 20:58 PDT
Tehama County	Sheriff	HFRA, Tier 2	06/29/2024 21:06 PDT
Tehama County Corning	City Clerk	Tier 2	06/29/2024 21:06 PDT
Tehama County Corning	City Manager	Tier 2	06/29/2024 21:06 PDT
Tehama County Corning	Police Chief	Tier 2	06/29/2024 20:58 PDT
Tehama County Red Bluff	Chief Of Police	Tier 2	06/29/2024 20:58 PDT
Tehama County Red Bluff	City Manager	Tier 2	06/29/2024 20:58 PDT
Tehama County Communication Facility	AT&T Mobility	Tier 2	06/29/2024 20:53 PDT
Tehama County Communication Facility	AT&T Mobility LLC	Tier 2	06/29/2024 21:02 PDT
Tehama County Communication Facility	AT&T Services Inc	Tier 2	06/29/2024 20:53 PDT
Tehama County Communication Facility	Ducor Telephone Co	Tier 2	06/29/2024 21:02 PDT
Tehama County Communication Facility	Ducor Telephone Corp	Tier 2	06/29/2024 21:02 PDT
Tehama County Emergency Services Facility	California Department of Forestry	Tier 2	06/29/2024 21:02 PDT
Tehama County Government - Jail Facility	California Department of Corrections	Tier 2	06/29/2024 21:02 PDT
Tehama County Other Facility	Burns, Sherri	Tier 2	06/29/2024 20:53 PDT
Tehama County Other Facility	California Department of Forestry	Tier 2	06/29/2024 21:02 PDT
Tehama County Other Facility	Ducor Telephone Co	Tier 2	06/29/2024 21:02 PDT
Yolo County	County Administration	Tier 2	06/29/2024 21:06 PDT
Yolo County	Board Chair	Tier 2	06/29/2024 21:06 PDT
Yolo County	County Administrator	Tier 2	06/29/2024 21:06 PDT
Yolo County	County Clerk-Recorder	Tier 2	06/29/2024 21:06 PDT
Yolo County	County Oes Supervisor	Tier 2	06/29/2024 20:58 PDT
Yolo County	Deputy County Administrator	Tier 2	06/29/2024 20:58 PDT
Yolo County	Dispatch	Tier 2	06/29/2024 21:06 PDT
Yolo County	Ems Administrator	Tier 2	06/29/2024 21:06 PDT
Yolo County	Fire Chief	Tier 2	06/29/2024 20:58 PDT
Yolo County	Non-Emergency	Tier 2	06/29/2024 21:06 PDT
Yolo County	Sheriff	Tier 2	06/29/2024 21:06 PDT
Yolo County	Supervisor	Tier 2	06/29/2024 21:06 PDT
Yolo County CCA	General	Tier 2	06/29/2024 20:58 PDT
Yolo County Communication Facility	AT&T Mobility LLC	Tier 2	06/29/2024 20:53 PDT
Yolo County Communication Facility	GTE Mobile Net of California LP	Tier 2	06/29/2024 20:53 PDT

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX D

SECTION 8 – ALL CLEAR ZONE MAP

Appendix D: ALL CLEAR ZONE MAP

Figure D-1. All Clear Zone Map

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX E

SECTION 9 – COMMUNITY RESOURCE CENTER LOCATIONS

Appendix E: LIST OF PG&E COMMUNITY RESOURCE CENTERS

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

The table below provides details of the eight CRCs that PG&E mobilized during the July 02 – 03 ,2024 PSPS event, including specific locations, dates and times opened and closed, total attendance for each location, and amenities provided.

#	County	Site Name	Address	Operating Hours (PDT)				Total Visitors	Indoor / Outdoor	Amenities Provided
				Day 1	Day 2	Day 3	Day 4			
				7/2/2024	7/3/2024	7/4/2024	7/5/2024			
1	Butte	Concow Elementary School	11679 Nelson Bar Rd	0800 - 2200	0800 - 2200	0800 - 2200	0800 - 1400	58	Outdoor*	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.
2	Colusa	Stonyford Community Hall	229 Market St	0800 - 2200	0800 - 2200	0800 - 2200	0800 - 1400	156	Indoor	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.
3	Glenn	Elk Creek Junior Senior High School	3430 Co Rd 309	0800 - 2200	0800 - 2200	0800 - 2200	0800 - 1400	37	Outdoor*	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.
4	Lake	Twin Pine Casino and Hotel	22223 CA-29	0800 - 2200	0800 - 2200	0800 - 2200	0800 - 1400	165	Indoor	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.
5	Shasta	Happy Valley Community Center	5400 Happy Valley Rd	0800 - 2200	0800 – 1800**	0800 – 2200	0800 - 1400	36	Indoor	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.
6	Shasta	Dignity Health Mercy Oaks	100 Mercy Oaks Dr	0800 - 2200	0800 - 2200	0800 - 2200	0800 - 1400	54	Indoor	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.
7	Tehama	Rancho Tehama Association	17605 Park Terrace Road	0800 - 2200	0800 - 2200	0800 - 2200	0800 - 1400	804	Outdoor*	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.
9	Tehama	Noland Park	19001 Bowman Rd	0800 - 2200	0800 - 2200	0800 - 2200	0800 - 1400	67	Outdoor*	Wi-Fi, ADA Restrooms, Bottled Water, Device Charging, Snacks, Cooling, Seating, and Ice.

*Cooling and ice were added as additional amenities due to extreme heat.

**The Happy Valley Community Center closed temporarily on Day two due to a wildfire evacuation.

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 July 2 – 3, 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 23rd day of August 2024.

MARK QUINLAN
SENIOR VICE PRESIDENT
WILDFIRE, EMERGENCY & OPERATIONS