



Meredith E. Allen
Senior Director
Regulatory Relations

77 Beale Street, Room 2341
San Francisco, CA 94105

Mailing Address:
Pacific Gas and Electric Company
P.O. Box 770000
Mail Code B23A
San Francisco, CA 94177

Tel.: 415-973-2868
Meredith.Allen@pge.com

October 31, 2018

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

Dear Ms. Malashenko:

As required by Resolution ESRB-8, Pacific Gas and Electric Company respectfully submits a compliance report for the proactive de-energization event that was initiated on October 14, 2018 and fully restored on October 17, 2018. 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,

A handwritten signature in black ink that reads 'Meredith E. Allen'.

Meredith E. Allen
Senior Director, Regulatory Relations

cc: ESRB_ComplianceFilings@cpuc.ca.gov

PG&E Public Safety Power Shutoff Report to the CPUC

Events from: 10/13/2018 – 10/17/2018

Executive Summary

On October 14, 2018, PG&E made the difficult decision to proactively de-energize portions of its service territory. PG&E made this decision in the interest of public safety and in accordance with California Public Utilities Commission (CPUC) Resolution ESRB-8. This decision did not come easily, was not made lightly, and was exercised as an option of last resort.

This report describes PG&E's decision-making process, including the conditions leading up to the event, as well as the other data and information required by ESRB-8

PG&E recognizes the significant nature of the decision to proactively turn off power to our customers. This first-of-its-kind event (for PG&E) provided opportunities to receive feedback from the CPUC, California Governor's Office of Emergency Services (CalOES), California Department of Forestry and Fire Protection (Cal Fire), and other stakeholders. We hear and acknowledge this feedback and continue to solicit additional feedback.

In advance of the next Public Safety Power Shutoff, PG&E will be focused on improving the program, particularly in the areas of customer communications, stakeholder outreach, and restoration times.

PG&E is committed to working together with all stakeholders and communities to help further reduce the risk of wildfires. Ultimately, the decision to shut off power was made for one reason – to keep our communities and customers safe and help reduce the risk of wildfires.

Background

California has experienced dramatic environmental changes in recent years, resulting in record drought, massive tree mortality, record heat waves, and extremely strong wind events. These changes have created a new normal for our state, and we must continue to adapt to meet these challenges.

Recognizing that the “2017 California wildfire season was the most destructive wildfire season on record,” the CPUC issued Resolution ESRB-8 in July 2018. The resolution supports the use of de-energization as a means to mitigate wildfire risks and establishes notification, mitigation, and reporting requirements.

PG&E is continuously evolving its plans and programs in the interest of public safety and in response to new standards and regulations – but in light of this new normal, evident in the 2017 and 2018 statewide wildfires, we are partnering with community leaders, government officials, and others to do even more to strengthen the resiliency and safety of our state's energy infrastructure and communities.

We are working and learning to reflect this new normal in how we adapt, proactively manage risks, plan and invest, and operate to make our systems more resilient. Following the October 2017 wildfires, we have been implementing our comprehensive Community Wildfire Safety Program (CWSP), as a series of additional safety precautions to help further reduce wildfire risks, while providing safe, reliable power to our customers. The CWSP includes a range of different initiatives designed to further mitigate risk, including turning off the power for safety during extreme weather events. PG&E refers to such events as Public Safety Power Shutoffs (PSPS).

We know how much our customers rely on electric service and we only consider temporarily turning off power as a last resort during extreme weather conditions in the interest of public safety. But the 2017 and 2018 wildfires, combined with the CPUC's resolution on de-energization, have altered the assessment of whether and when a power shutoff may be in the interests of public safety.

As part of PG&E's CWSP, we have reached out to more than 570,000 homes and businesses that are served by our electric lines that run through extreme fire-threat areas. We have communicated to these customers through several formats (letter, email, TV and print ads, social media and news stories) that, if extreme fire danger conditions were forecasted, it might be necessary to temporarily turn off power to their neighborhood or community for safety. Our overall message has focused on helping customers understand that PG&E has a plan to respond to extreme weather events and that customers and communities should have plans, too. We have also conducted some 350 meetings with local civic and community leaders, first-responder agencies, and other public safety authorities to make them aware of PSPS as an additional safety precaution.

October 14 – 17, 2018, Public Safety Power Shutoff

Due to weather conditions with increasing fire risk conditions, including forecasted high winds and extremely low humidity, PG&E activated its Emergency Operations Center (EOC) on Saturday, October 13, 2018. Teams from all Incident Command Structure functions (Planning and Intelligence, Operations, Logistics, Public Information, Customer Strategy, Government Liaison, and others) were assembled to support the potential need for a PSPS.

PG&E initiated out-bound communications to approximately 97,000 customers¹ across 12 counties where the forecasted weather and wildfire potential indicated high likelihood of impacts to the company's equipment and facilities. PG&E's customer communications plan included interactive voice response (IVR) telephone messages, emails, texts, news releases, media interviews, social media, and paid advertising. Consistent with its plan, PG&E alerted local first responders and community leaders in advance of notifying customers and the general public.

Ultimately, PG&E made the decision to temporarily turn off power for customer safety to about 60,000 customers in seven counties. Power was turned off for safety on Sunday, October 14, beginning at approximately 20:00 in the North Bay, followed later that evening in the Sierra Foothills. A PSPS event was determined to be unnecessary for the remaining approximately 37,000 customers who also had been notified of the possibility of a PSPS event on Saturday, October 13.

Overnight Sunday and into Monday morning, portions of the North Bay region experienced wind gusts of approximately 50 mph. In the Sierra, wind speeds were lower with gusts of up to approximately 45 mph. At the Kirkwood Ski Resort in the Sierra, wind gusts reached approximately 120 mph.

¹ Leading up to the October 14 PSPS event, PG&E had initially identified the potential to impact 87,000 customers. The potential customer impact count was updated on October 14 to 97,000 customers after incorporating additional possible impacts due to de-energizing 60kV transmission lines. Of the total potentially impacted customers, 60,000 were ultimately impacted in the October 14 PSPS event because PG&E determined that it was not necessary to de-energize the lines serving the remaining 37,000 customers due to the conditions observed in real-time in areas near those lines.

Once weather conditions improved and conditions were considered safe on Monday, October 15, crews were dispatched to conduct safety inspections of over 3,400 miles of PG&E transmission and distribution power lines via helicopters, vehicles, and on foot. This is approximately the distance from the Bay Area to New York City and one third of the way back. During the inspections, patrollers checked to see whether any line conditions would pose safety issues when PG&E re-energized the lines.

By midnight Monday, October 15, power to approximately 40,000 customers had been safely restored. On Tuesday, October 16, PG&E crews continued safety inspections and repairs to facilities damaged during the wind event. Nearly all customers were restored by 23:00. PG&E restored power to the final approximately three dozen customers by 09:00 on Wednesday, October 17.

PG&E's EOC stayed active from October 17 until October 24 in order to facilitate the company's After Action Review (AAR) process² which began following completion of customer restoration. In addition, PG&E engaged in public meetings after the event and received feedback from first responders, state agencies, local elected officials, and customers about this first PSPS event. PG&E is incorporating feedback and we are in the process of making both short- and longer-term improvements to our protocols. PG&E continues to track and respond to questions and requests from key stakeholders and will continue to make improvements.

For any potential future PSPS events, PG&E will be focused on notifying customers of possible upcoming de-energization between 08:00 and 21:00 whenever possible; reducing multiple notifications (especially for multi-premise commercial customers); providing County OESs, first responders and state agencies with more detailed information and detailed maps of affected customers and communities; notifying communities of estimated time of restoration more frequently during the patrol and restore process after the weather has subsided; and improving processes to reduce restoration times.

- **Explanation of decision to de-energize**

Weather Decision Factors

While PG&E would only consider turning off the power for safety as a last resort, no single factor drives a Public Safety Power Shutoff. For the overall program, PG&E takes a combination of many criteria into consideration when making such an important safety decision. Those criteria, broadly speaking, include:

- A Red Flag Warning declared by the National Weather Service
- Low humidity levels, generally 20 percent and below
- Forecasted sustained winds above approximately 25 mph and wind gusts in excess of approximately 45 mph
- Site-specific conditions such as temperature, terrain and local climate
- Condition of dry fuel on the ground and live vegetation (moisture content)
- On-the-ground, real-time wildfire related information from PG&E Wildfire Safety Operations Center and field observations from PG&E field crews
 - PG&E's Wildfire Safety Operations Center and the PG&E Meteorology team are constantly monitoring weather conditions on a 24 / 7 basis.

² The AAR is a best practice where all members of the EOC review and document all activities, decisions, communications, and improvement opportunities that occurred during the entire emergency process.

For this PSPS event, the decision to de-energize for public safety was made by a designated Officer-In-Charge (OIC), with support from PG&E's EOC, which was fully staffed. The EOC was activated on October 13, 2018 in response to the predicted extreme fire danger and high wind conditions expected on October 14.

Leading up to the event, dry and windy conditions during the prior week lowered the fuel moisture content of live and dry fuels across the Tier 2 and Tier 3 High Fire Threat District (HFTD) in PG&E territory.

On Friday, October 12, weather models and fire danger models were generally forecasting dry and windy conditions that could lead to extreme fire danger for the period from Saturday evening, October 13, through Monday morning, October 15. However, overall projections and forecasts, including those from PG&E, did not indicate that conditions would escalate to the point where de-energization for safety was required.

By Saturday morning, October 13, weather models' forecasts had changed, with predicted wind speeds increasing to levels that, in combination with other conditions, would indicate an "extreme-plus" fire danger per PG&E's Fire Potential Index model: predictions of outage producing winds and very low humidity combined with dry fuel on the ground. Fire danger modeling and forecasts from public agencies communicated an increasing fire threat over the course of the day, Saturday October 13. The U.S. Forest Service - Geographic Area Coordination Center (GACC) projected "High risk due to Gusty [Northeast]/Offshore winds and low [Relative Humidity] Sunday," and the National Weather Service (NWS) elevated Fire Weather Watches to Red Flag Warnings and indicated "potential for rapid fire spread."

On Sunday morning, October 14, forecasts continued to predict that a significant fire-weather event was approaching in the regions in which PG&E ultimately shut off power. The NWS issued a wind advisory for the Sierra foothills and elevated terrain of northern Napa and southern Lake Counties for the period 20:00 Sunday to 11:00 Monday, including the prediction of east to northeast winds of 25 to 35 mph, with gusts of 45 to 55 mph. NWS Red Flag Warnings specifically mentioned potential for gusts up to 60 mph for elevated terrain of the North Bay. PG&E's Fire Potential Index predicted that low fuel-moisture content, strong winds, and extremely low relative humidity would lead to extreme fire danger. In addition, PG&E's outage prediction model indicated that vegetation-related outage activity was expected from the evening of Sunday, October 14, to the morning of Monday, October 15.

On Sunday evening, October 14, real-time observations³ continued to indicate increasing winds and extremely dry air leading to a condition of extreme fire danger with the potential for ignition sources in the areas PG&E was monitoring. With weather forecasts indicating that conditions would worsen further and given some outage and weather-related fire activity was already occurring on the system in those regions, PG&E made the decision to de-energize transmission and distribution circuits that traverse Tier 3 areas (per the CPUC's High Fire-Threat District map) in the affected regions. Data from the NWS model and PG&E models indicated an imminent risk that strong winds could cause major vegetation impacts to PG&E's facilities during this period of extreme fire danger coupled with the potential for rapid fire spread.

³ Real-time observations consisted of observations from weather stations, real-time models, reports from state and local first responder organizations, and PG&E personnel in the field.

- **Factors considered in decision**

Key factors PG&E considered in deciding to de-energize include:

- October 13: The NWS elevated the existing Fire Weather Watches to Red Flag Warnings for October 14 and October 15 due to the forecasted combination of strong winds, low relative humidity, warm temperatures and dry fuels, which would result in critical fire weather conditions and the potential for rapid fire spread
- October 13: The PG&E forecasts issued on Saturday, October 13 predicted “extreme plus” fire danger conditions including outage producing winds for Sunday evening, October 14
- October 13-14: Predictions for wind-related outage activity and vegetation impacts based on PG&E’s damage prediction model
- October 13-14: Forecast extreme-plus conditions coincide to areas of historical vegetation-related outage activity during northeast wind events (that could pose a risk of ignition)
- October 14: The Wind Advisory issued by the NWS indicated the potential for damaging wind gusts of 45 to 55 mph on October 14 and 15
- October 14: Critical fire weather conditions were occurring across much of the PG&E service territory, including high winds, extremely low humidity, and critically dry fuels
- October 14: Increasing wind gusts around the circuits that were ultimately de-energized on the evening of Sunday, October 14, with the expectation that conditions would worsen
- October 14: Input from on-site PG&E’s mobile field observers
- October 14-15/on-going: Real-time monitoring of weather stations and weather models
- October 14-15/on-going: Monitoring of fire initiations via public safety live audio streams by PG&E’s Wildfire Safety Operations Center
 - Monitoring on October 14 indicated an active fire related to weather conditions in one of the areas being watched for potential de-energization

- **Time, place, and duration of event**

The table below shows each circuit involved in the October 14 PSPS event, along with the following for each circuit: whether the areas affected by the de-energization are classified as Zone 1, Tier 2, or Tier 3 as per the definition in General Order 95, Rule 21.2-D; the start time of the outage; key communities served; counties served; and the restoration date and time for the last customer energized.

Table 1 – Details of circuits de-energized and re-energized

Circuit	HFTD Tier(s)	Start Date and Time	Key Communities	Counties	Restoration Date and Time
APPLE HILL-1103	Tier 2, Tier 3	10/14/18 21:00	Camino, Placerville	El Dorado	10/15/2018 16:29
APPLE HILL-1104	Tier 2, Tier 3	10/14/18 21:17	Camino, Placerville, Pollock Pines,	El Dorado	10/15/2018 18:37
APPLE HILL-2102	Tier 2, Tier 3	10/14/18 21:05	Camino, Grizzly Flats, Mount Aukum, Placerville, Pollock Pines, Somerset	El Dorado	10/16/2018 18:04
BONNIE NOOK-1101	Tier 3	10/14/18 21:54	Alta, Colfax, Dutch Flat, Gold Run	Placer	10/15/2018 18:24

BONNIE NOOK-1102	Tier 3	10/14/18 21:54	Alta	Placer	10/15/2018 18:04
CALISTOGA-1101	Tier 2, Tier 3	10/14/18 20:34	Calistoga	Napa, Sonoma	10/15/2018 21:27
CALISTOGA-1102	Tier 2, Tier 3	10/14/18 20:34	Calistoga	Napa	10/16/2018 17:37
CLEAR LAKE-1101	Tier 2, Tier 3	10/14/18 20:30	Kelseyville, Lakeport, Finley	Lake	10/15/2018 16:13
DIAMOND SPRINGS-1103	Tier 2, Tier 3	10/14/18 21:25	Diamond Springs, Placerville	El Dorado	10/15/2018 15:11
DIAMOND SPRINGS-1104	Tier 2, Tier 3	10/14/18 21:20	Diamond Springs, El Dorado, Placerville	El Dorado	10/15/2018 14:47
DIAMOND SPRINGS-1107	Tier 2, Tier 3	10/14/18 21:35	Placerville, Shingle Springs	El Dorado	10/15/2018 16:32
EL DORADO PH- 2101	Tier 2, Tier 3	10/14/18 21:04	Grizzly Flats, Kyburz, Placerville, Pollock Pines, Somerset, Twin Bridges	El Dorado	10/15/2018 17:30
EL DORADO PH- 2102	Tier 3	10/14/18 21:00	Pollock Pines	El Dorado	10/15/2018 18:37
FORESTHILL-1101	Tier 2, Tier 3	10/14/18 21:27	Foresthill	Placer	10/16/2018 12:19
FORESTHILL-1102	Tier 2, Tier 3	10/14/18 21:27	Foresthill	Placer	10/15/2018 14:57
HIGHLANDS-1102	Tier 2, Tier 3	10/14/18 20:40	Clearlake Oaks	Lake	10/16/2018 18:21
KONOCTI-1102	Tier 2, Tier 3	10/14/18 20:28	Cobb, Kelseyville, Lower Lake, Middletown	Lake	10/16/2018 12:58
MIDDLETOWN-1101	Tier 2, Tier 3	10/14/18 20:39	Calistoga, Cobb, Kelseyville, Middletown	Lake, Napa	10/16/2018 15:40
MIDDLETOWN-1102	Tier 2, Tier 3	10/14/18 20:39	Hidden Valley Lake, Middletown	Lake	10/15/18 17:49
MIDDLETOWN-1103	Tier 2, Tier 3	10/14/18 20:39	Middletown	Lake	10/15/18 17:49
MOUNTAIN QUARRIES-2101	Tier 2, Tier 3	10/14/18 21:09	Cool, Garden Valley, Georgetown, Greenwood	El Dorado	10/16/18 14:10
OLETA-1102	Tier 2, Tier 3	10/14/18 21:01	Fiddletown	Amador	10/15/18 20:18
PINE GROVE-1101	Tier 2	10/14/18 22:11	Jackson, Pine Grove, Sutter Creek	Amador	10/15/18 19:34
PINE GROVE-1102	Tier 2, Tier 3	10/14/18 22:11	Fiddletown, Pine Grove, Pioneer, Sutter Creek, Volcano	Amador	10/16/18 15:19
PLACERVILLE-1110	Tier 2, Tier 3	10/14/18 21:06	Placerville	El Dorado	10/15/18 18:21
PLACERVILLE-2106	Tier 2, Tier 3	10/14/18 21:08	Coloma, Garden Valley, Georgetown, Placerville	El Dorado	10/16/18 15:26

REDBUD-1101	Tier 2, Tier 3	10/14/18 20:39	Clearlake Oaks	Lake	10/15/18 17:50
REDBUD-1102	Tier 2, Tier 3	10/14/18 20:35	Clearlake, Clearlake Oaks, Clearlake Park	Lake	10/15/18 17:53
SILVERADO-2102	Tier 2, Tier 3	10/14/18 20:29	Napa, Saint Helena	Napa	10/15/18 16:48
SILVERADO-2104	Tier 2, Tier 3	10/14/18 20:24	Angwin, Calistoga, Deer Park, Pope Valley, Saint Helena	Napa	10/17/18 08:47
TIGER CREEK-0201	Tier 2, Tier 3	10/14/18 21:24	Pioneer	Amador	10/15/18 10:00
WEST POINT-1101	Tier 2, Tier 3	10/14/18 21:11	Pioneer, Volcano	Amador	10/16/18 17:16
WEST POINT-1102	Tier 2, Tier 3	10/14/18 22:11	Glencoe, Mokelumne Hill, Mountain Ranch, Rail Road Flat, West Point, Wilseyville	Calaveras, Amador	10/17/18 08:05
FULTON- CALISTOGA 60 kV LINE*	Tier 2, Tier 3	10/14/18 20:34	NA	NA	10/15/2018 10:43
KONOCTI- MIDDLETOWN 60 kV LINE*	Tier 2, Tier 3	10/14/18 20:39	NA	NA	10/15/2018 11:19
FRENCH MEADOWS-MIDDLE FORK 60 kV LINE	Tier 3	10/14/18 21:27	NA	Placer	10/15/2018 14:21
MIDDLE FORK #1 60 kV LINE	Tier 3	10/14/18 21:27	NA	NA	10/15/2018 14:21
DRUM-GRASS VALLEY-WEIMAR 60 kV LINE*	Tier 2, Tier 3	10/14/18 21:54	NA	NA	10/15/2018 11:32
GOLD HILL #1 60 kV LINE	Tier 2, Tier 3	10/14/18 21:19	NA	El Dorado	10/15/2018 14:08
WEIMAR #1 60 kV LINE*	Tier 2, Tier 3	10/14/18 21:27	NA	Placer	10/15/2018 13:15
WEST POINT- VALLEY SPRING 60 kV LINE*	Tier 2, Tier 3	10/14/18 22:11	NA	Amador	10/15/2018 10:52

De-energized transmission lines passing through Tier 3 HFTD areas marked with an asterisk in Table 1 resulted in outages to distribution substations (Calistoga Substation, Middletown, Bonnie Nook, Foresthill, Pine Grove and West Point). In some instances, this resulted in PSPS impacts to customers who live outside Tier 3 HFTD areas.

- **Customers impacted**

There were approximately 60,000 customers whose power was turned off for some period of time during the October 14 PPS event. The table below shows each circuit involved, the start time of the outage for each circuit, the total customer count and type of customer.

Table 2 – Details of customers impacted by circuit

Circuit	Start Date and Time	Total Number Out	Residential	Commercial /Industrial	Medical Baseline ⁴	Other
APPLE HILL-1103	10/14/18 21:00	1809	1488	258	66	63
APPLE HILL-1104	10/14/18 21:17	2261	2043	151	104	67
APPLE HILL-2102	10/14/18 21:05	4489	4013	327	216	149
BONNIE NOOK-1101	10/14/18 21:54	514	421	67	13	26
BONNIE NOOK-1102	10/14/18 21:54	533	454	62	17	17
CALISTOGA-1101	10/14/18 20:34	1596	1216	233	27	147
CALISTOGA-1102	10/14/18 20:34	2132	1600	427	31	105
CLEAR LAKE-1101	10/14/18 20:30	491	300	98	9	93
DIAMOND SPRINGS-1103	10/14/18 21:25	2224	1779	406	107	39
DIAMOND SPRINGS-1104	10/14/18 21:20	1014	934	70	71	10
DIAMOND SPRINGS-1107	10/14/18 21:35	1844	1443	353	67	48
EL DORADO PH-2101	10/14/18 21:04	4198	3892	230	174	76
EL DORADO PH-2102	10/14/18 21:00	1649	1455	135	83	59
FORESTHILL-1101	10/14/18 21:27	2242	2047	149	121	46
FORESTHILL-1102	10/14/18 21:27	421	395	23	15	3
HIGHLANDS-1102	10/14/18 20:40	25	15	7	0	3
KONOCTI-1102	10/14/18 20:28	2800	2322	283	91	195
MIDDLETOWN-1101	10/14/18 20:39	1999	1565	274	58	160
MIDDLETOWN-1102	10/14/18 20:39	2342	2074	199	100	69
MIDDLETOWN-1103	10/14/18 20:39	156	96	37	3	23
MOUNTAIN QUARRIES-2101	10/14/18 21:09	1131	976	124	46	31
OLETA-1102	10/14/18 21:01	54	42	6	1	6
PINE GROVE-1101	10/14/18 22:11	1368	1179	147	72	42
PINE GROVE-1102	10/14/18 22:11	4401	3815	415	228	171
PLACERVILLE-1110	10/14/18 21:06	1617	1306	268	67	43
PLACERVILLE-2106	10/14/18 21:08	5243	4762	365	231	116
REDBUD-1101	10/14/18 20:39	916	780	52	48	84
REDBUD-1102	10/14/18 20:35	3407	3031	166	211	210
SILVERADO-2102	10/14/18 20:29	207	107	58	0	42
SILVERADO-2104	10/14/18 20:24	2287	1872	232	57	183
TIGER CREEK-0201	10/14/18 21:24	14	2	11	0	1
WEST POINT-1101	10/14/18 21:11	1785	1692	62	70	31
WEST POINT-1102	10/14/18 22:11	2911	2502	224	125	185

⁴ Medical baseline customer counts overlap with residential and commercial/industrial counts; total equals sum of residential, commercial/industrial and other.

FULTON-CALISTOGA 60 kV LINE	10/14/18 20:34	0	0	0	0	0
KONOCTI-MIDDLETOWN 60 kV LINE	10/14/18 20:39	0	0	0	0	0
FRENCH MEADOWS-MIDDLE FORK 60 kV LINE	10/14/18 21:27	3	0	3	0	0
MIDDLE FORK #1 60 kV LINE	10/14/18 21:27	0	0	0	0	0
DRUM-GRASS VALLEY-WEIMAR 60 kV LINE	10/14/18 21:54	0	0	0	0	0
GOLD HILL #1 60 kV LINE	10/14/18 21:19	1	0	1	0	0
WEIMAR #1 60 kV LINE	10/14/18 21:27	1	0	1	0	0
WEST POINT-VALLEY SPRING 60 kV LINE	10/14/18 22:11	1	0	1	0	0

- **Damage to overhead facilities in areas where power was shut off**

PG&E personnel patrolled all sections of de-energized PSPS circuits for safety prior to re-energizing. During these patrols, PG&E personnel discovered 23 instances of wind-related issues across impacted divisions that required remediation prior to re-energizing. This included 18 instances of damage to PG&E equipment, 15 of which appear to have been caused by falling vegetation.⁵ In addition to damaged assets, PG&E personnel also discovered five cases of documented hazards (all vegetation-related), such as branches found lying across conductors, which were cleared prior to re-energizing.

The 18 instances of wind-related damage include the following counts of damaged assets (each instance of damage may include multiple types of damaged equipment):

- 18 damaged spans of conductor
- 5 damaged cross-arms
- 3 damaged insulators
- 2 damaged fuses
- 1 damaged transformer
- 1 damaged pole

In each case, PG&E repaired or replaced the damaged equipment prior to re-energizing.

Examples of damaged PG&E assets observed during PSPS patrols are shown below:

⁵ Damages discovered during PSPS patrols were assessed to determine whether they were attributable to the wind event. Any instances where there was insufficient certainty that the damages occurred during the wind event have been excluded from these figures.



Figure 1. Foresthill, Placer County. Pole, cross-arm and conductor damaged by split tree.



Figure 2. Near Calistoga, Sonoma County. Primary conductor damaged by fallen tree limb.

• **Description of customer notice(s)**

- Several general customer communications were launched via PG&E's website and via social media.
- PG&E proactively reached out to customers who were affected or could be affected by the October 14 PSPS event before, during, and after the event. Outreach was made via Integrated Voice Recording (IVR), email, and mobile text messaging. Please see Appendix A for details on messages sent to customers. In summary:

- The first customer communication prior to de-energization (IVR, text, and email) started at approximately 22:00 on October 13, alerting customers that PG&E might need to shut-off power for public safety due to weather conditions.
 - The second customer communication prior to de-energization (IVR, text, and email) started at approximately 07:00 on October 14, alerting customers that PG&E might need to shut-off power for public safety due to weather conditions.
 - The third customer communication prior to de-energization (IVR, text, and email) started at approximately 16:00 on October 14, informing customers that their power would be shut off.
 - Cancellation notifications were sent via IVR to customers in the areas where PG&E had determined a PSPS event was unnecessary to inform them that there would be no de-energization. These notifications started at approximately 10:00 on October 15.
 - Following the de-energization, notifications were sent via IVR starting at approximately 14:30 on October 15 to inform customers that crews were inspecting lines and PG&E was working to restore power.
- On October 14, PG&E representatives went door-to-door and attempted to contact medical baseline customers in the affected areas for whom PG&E was unable to confirm successful contact through the process defined below:
 - Successful contact was validated through general automated notifications (IVR, text, email) if a customer:
 1. Picked up a phone call;
 2. Prompted back (hits “1”) from a text message; or
 3. Opened an email
 - If successful contact was not confirmed through general automated notifications, customer service representatives started continuously making live calls to try to contact the customer. Successful contact was validated if the customer picked up the phone call.
 - If the customer did not pick up the phone call, a field employee was deployed to visit the customer’s premises, and if the field employee could not make contact at the customer’s premises, PG&E continued to make live calls to the customer.
- There were three impacted Community Choice Aggregators (CCA): Sonoma Clean Power, Marin Clean Energy, and Pioneer Community Energy. These CCAs were notified in advance of the de-energization.
- PG&E also reached out to large commercial customers, focusing on communications service providers, hospitals, water agencies, and schools.
- **Local community representatives contacted prior to de-energization and the date on which they were contacted**

Before, during, and after this de-energization event, broad outreach was conducted to the communities potentially and actually impacted. See Appendix B for a list of community representatives contacted. PG&E deployed an automated notification through the Send Word Now (SWN) platform to pre-identified city and county officials. SWN is a notification platform that can deploy Interactive Voice Recording (IVR) messages, emails and text messages. To complement the notification routed through SWN, PG&E reached out via live calls to over 50 government officials at the local, state, and federal level for this event.

On October 13, PG&E notified the Director of Safety and Enforcement Division that the weather forecast had changed, factors indicated that PSPS might be necessary, and that PG&E would be notifying customers, elected officials, first responders, and the Office of Emergency Services in advance of the possible de-energization. PG&E had multiple conference calls with representatives of the CPUC, Cal OES, Cal Fire and the Governor's office starting on October 14 and continuing through October 17. PG&E also conducted outreach with the California Energy Commission.

On October 14, PG&E made notifications to the Director of Safety and Enforcement Division that a PSPS had been initiated. These notifications did not occur before de-energization began but were made as soon as practicable. The delay occurred due to the accelerated PSPS timeframe and need for confirmation of information required for the notification.

- **Identify each community assistance location available during PSPS event, describe the location (in a building, a trailer, etc.), describe the assistance available at each location, and give the days and hours that it was open**

Customer outreach employees were on the ground in two areas following the de-energization event to answer customer questions:

- Downtown Angwin from 10:00 – 15:00 on Tuesday, October 16 and;
- Multiple community locations in Calistoga from 09:00 – 11:00 on Tuesday, October 16.

- **Number and nature of complaints received as the result of PSPS event**

As of October 24, we have been notified that 17 residential customers have complained to the CPUC as a result of the PSPS event since the first customer notification on October 13.

- Three complaints were related to food spoilage
- Eleven complaints were related to restoration timeframes
- One complaint was related to medically sensitive customers
- One complaint related to backup generation

- **Claims filed because of PSPS event**

As a result of the October 14-17, 2018 PSPS event, PG&E has received a total of 146 claims as of October 24, 2018:

- 25 Business Interruption/ Economic Impact
- 17 Property Damage
- 2 Property Damage with Business Interruption/ Economic Impact
- 102 Food Loss

PG&E has stated publicly that because of the safety-related nature of PSPS events, customers will not be reimbursed for associated losses.

- **Detailed description of steps taken to restore power**

- An "all clear" was issued by the EOC with approval from the OIC at 08:00 on October 15, after winds decreased below outage-producing thresholds. Before the all-clear, PG&E had mobilized resources from non-impacted divisions to support the execution of the patrol and re-energization strategy.

- In support of safe restoration, PG&E patrolled all facilities to identify any damage before re-energizing. To reduce the outage impact to customers, PG&E utilized helicopter patrols in areas where visibility was not limited by vegetation. Using the Incident Command System (ICS) as a base response framework, each circuit was assigned a taskforce consisting of supervisors, crews, troublemen, and inspectors. This structure allowed PG&E to patrol and perform step restoration in alignment with the impacted centralized control centers. Step restoration is when a substation is re-energized and circuits are subsequently safely energized in segments as patrols continue. Any necessary repairs are conducted while patrols continue to safely allow for patrol, repair, and restoration to proceed as efficiently as possible. Over 3,400 circuit miles were visually patrolled for safety. PG&E utilized over 300 field resources and 13 helicopters to identify any safety concerns and make necessary repairs prior to restoration.
- **Other relevant information to help the Commission’s assessment of reasonableness of the decision to de-energize**

Although we were able to leverage and successfully execute the PSPS process with zero safety incidents and no ignitions related to PG&E facilities in the affected areas after the PSPS was initiated, we continue to view PSPS as a tool of last resort among PG&E’s overall wildfire mitigation strategy. Knowing the potential impacts of this safety measure on our customers and communities, PG&E views this as an extreme measure that should be taken with great care and will continue to learn from the use of PSPS to develop and implement improvements.

Appendix

Appendix A - Communication Dates, Times and Type

Table A-1. Summary of Customer Notifications⁶

Starting Date	Type of Notification	Starting Time	Total # Notifications Sent (at the premise level)
10/13/2018	Pre-event Notification	22:00	112,621
10/14/2018	Pre-event Notification	07:00	109,197
10/14/2018	Shut off Notification	16:00	104,941
10/15/2018	Cancellation Notification (premises no longer impacted)	10:00	24,913
10/15/2018	Update post Shut-off (line patrolling for restoration) Notifications	14:30	76,136

⁶ This summary includes an aggregation of all notifications sent, including notifications to a premise that had multiple notification contact points and channels (IVR, text, email).

Table A-2. Notification Scripts

Date and Starting Time of Notification	Pre-event Notification
10/13/2018 (22:00)	<p>“This is an important safety alert from Pacific Gas and Electric Company. Extreme weather conditions with high fire-danger are forecasted in <<1 county name>> County, starting this <<day>> and lasting through <<1 day>>.</p> <p>These conditions may cause power outages. To protect public safety, PG&E may also temporarily turn off power in your neighborhood or community. If there is an outage, we will work to restore service as soon as it is safe to do so.</p> <p>Please have your emergency plan ready. If you see a downed power line, assume it is energized and extremely dangerous. Do not touch or try to move it — and keep children and animals away. Report downed power lines immediately by calling 911.</p> <p>For more information on how to prepare, please visit pge.com/wildfiresafety or call 1-800-PGE-5002.Thank you. Please Press 1 to replay this message.”</p>
Date and Starting Time of Notification	Pre-event Notification
10/14/2018 (07:00)	<p>“This is an important safety alert from Pacific Gas and Electric Company. Extreme weather conditions with high fire-danger are forecasted in << county name>> County, starting this <<day>> and lasting through <<day>>.</p> <p>These conditions may cause power outages. To protect public safety, PG&E may also temporarily turn off power in your neighborhood or community. If there is an outage, we will work to restore service as soon as it is safe to do so.</p> <p>Please have your emergency plan ready. If you see a downed power line, assume it is energized and extremely dangerous. Do not touch or try to move it — and keep children and animals away. Report downed power lines immediately by calling 911.</p> <p>For more information on how to prepare, please visit pge.com/wildfiresafety or call 1-800-PGE-5002.Thank you. Please Press 1 to replay this message.”</p>
Date and Starting Time of Notification	Shut-off Notification
10/14/2018 (16:00)	<p>“This is an important safety update about your power outage from Pacific Gas and Electric Company. We have turned off or will soon turn off electricity in your area for safety due to extreme weather conditions with high fire-danger. Please be ready with your emergency plan.</p> <p>We appreciate your patience and will work to restore service after conditions improve and it is safe to do so. We will continue to keep you updated.</p> <p>If you see a downed power line, assume it is energized and extremely dangerous. Do not touch or try to move it — and keep children and animals away. Report downed power lines immediately by calling 911.</p>

	For more information, visit pge.com/wildfiresafety or call 1-800-PGE-5002. Thank you. Please press 1 to replay this message.”
Date and Starting Time of Notification	Cancellation Notice
10/15/2018 (10:00)	“This is an important safety update from Pacific Gas and Electric Company. Weather conditions have improved in your area, and we are not planning to turn off your electricity for safety. Conditions can change quickly, so please stay prepared with your emergency plan. We are continuing to monitor conditions and will contact you with any further updates. Thank you for your patience. For more information, please visit pge.com/wildfiresafety or call 1-800-PGE-5002. Please press 1 to replay this message.”
Date and Starting Time of Notification	Update Post Shut-off Notice
10/15/2018 (14:30)	“This is an important safety update about your power outage from Pacific Gas and Electric Company. Due to extreme weather conditions with high fire-danger, we turned off electricity in your area for safety. Power remains out. Please stay vigilant and safe. If you see a downed power line, assume it is energized and extremely dangerous. Do not touch or try to move it — and keep children and animals away. Report downed power lines immediately by calling 911. Crews are inspecting equipment to determine how quickly we can safely restore service to your neighborhood. We will provide updates regarding your estimated restoration time as they are available. For more information, visit pge.com/wildfiresafety or call 1-800-PGE-5002. Thank you. Please press 1 to replay this message. To stop receiving calls regarding this outage, press 2.”

Appendix B – List of Community Representatives Contacted

Liaison Outreach Tracker	10/14 09:00 Community Reps contacted
Members of Congress	Senators Harris and Feinstein, Representatives LaMalfa, Thompson, Garamendi, McClintock and Huffman
Members of Legislature	Senators: McGuire, Gaines, Nielsen, Dodd Assembly members: Wood, Dahle, Aguiar-Curry, Kiley, Bigelow and Gallagher
Amador County	County OES Director John Silva, Administrative Officer Chuck Iley, Public Health Officer Dr. Rita Kerr, Supervisor Lynn Morgan, Supervisor Brian Oneto, Supervisor Richard Forester, Supervisor Pat Crew, Supervisor Frank Axe
Butte County*	County CAO and OES, Asst. CAO Brian Ring, OES Director Cindi Dunsmore, CAO Shari McCracken
Calaveras County	County OES Director Michelle Patterson, Supervisor Jack Garamendi, Supervisor Michael Oliveira, Supervisor Dennis Mills, County OES
El Dorado County	County OES Director Jim Byers, OES Office Leslie Schlag, Supervisor Brenda Bailey, Supervisor Brian Veerkamp, Placerville City Manager Cleve Morris, CAO Don Ashton, Placerville Police Chief Jim Ortega, Sheriff John D'Agostini, Supervisor John Hidahl, Supervisor Kathy Witherow, Placerville City Councilmember Mark Acuna, Supervisor Mike Ranalli, Undersheriff Randy Peshon, Supervisor Shiva Frentzen, Supervisor Sue Novasel, OES Deputy Todd Crawford
Lake County	CAO Carol Huchingson, Lake County Fire Chief Willie Sapeta, Sheriff Brian Martin, Supervisor Jim Steele, Supervisor Moke Simon, Supervisor Rob Brown, Rep Thompson District staff Brad Onorato, County OES Manager Dale Carnathan, incoming supervisor Bruno Sabatier, City of Lakeport City Manager Margaret Silveira
Napa County	County OES – Kevin Twohey and Kerry Whitney, County Supervisors Ryan Gregory, Diane Dillon and Belia Ramos, City of Calistoga Mayor Chris Canning
Nevada County*	County OES Manager and deputy, Nevada County CEO's Office Alison Lehman, OES Director John Gulserian, County Asst. CEO Mali Dyck, CIO Steve Monaghan, CEO's Office Taylor Wolfe, Grass Valley City Manager Tim Kiser
Placer County	County OES - Young Rodriguez, Cierra McGowan, Rod Rodriguez, PSCO Lieutenant Andrew Scott, PSCO Kevin Borden, PSCO Shayne Wright, CalFire Battalion Chief Brian Estes, PIO Chris Gray-Garcia, CalFire IMT Jon Ten Eyck, Michael Romero, CEO's Office Shawna Pratt, PSCO Captain Tory Saunders, Wendy Williams
Plumas County*	County OES Holly Powers, Supervisor Lori Simpson
Sierra County*	Supervisor Lee Adams, Sheriff's Office Lee Brown

Sonoma County	City of Santa Rosa fire and emergency management – Neil Bregman and Paul Lowenthal*, Santa Rosa Mayor Chris Coursey*, Supervisor Lynda Hopkins*, Supervisor James Gore, Supervisor Susan Gorin, County OES – Zach Hamill, City of Cloverdale City Manager David Kelley*, Rep Thompson District staff – Stephen Gale and Andrea Rodriguez
Yuba County*	County OES - Scott Bryan, Brianne Schuette, CAO Robert Bendorf

* Community representatives for areas that were ultimately not de-energized.

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" and I am informed and believe the matters stated therein are true.

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

Executed at San Francisco, California this 30th day of October, 2018.



PATRICK HOGAN
Senior Vice President, Electric Operations
PACIFIC GAS & ELECTRIC COMPANY