

- **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
KONOCI-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 PSPS 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
KONOCITI-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.