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23 COMPANY

24 UNITED STATES DISTRICT COURT  
25 NORTHERN DISTRICT OF CALIFORNIA  
26 SAN FRANCISCO DIVISION

27 UNITED STATES OF AMERICA,  
28  
Plaintiff,  
  
v.  
PACIFIC GAS AND ELECTRIC COMPANY,  
Defendant.

Case No. 14-CR-00175-WHA  
**RESPONSE TO QUESTIONS TO  
PG&E RE LATE OCTOBER PSPSs**  
Judge: Hon. William Alsup

1 Defendant Pacific Gas and Electric Company (“PG&E”) respectfully submits this  
2 response to the Court’s November 4, 2019 request for information on the Public Safety Power  
3 Shutoffs (“PSPS”) that occurred on October 23 (the “October 23 PSPS”) and October 26-29 (the  
4 “October 26-29 PSPS”).

5 **Question 1:** With respect to the late October PSPSs, please supply all of the  
6 same type of information already requested of PG&E, for the early October PSPS  
7 (Dkt. Nos. 1100, 1106).

8 **PG&E Response:**

9 PG&E acknowledges the hardship that the October PSPS events have caused for  
10 the millions of people affected. PG&E reiterates its assurance that it continues to work with all  
11 key stakeholders to minimize, to the extent possible, the hardship caused by these PSPS events.

12 The Court requested that PG&E indicate how many trees and limbs fell or blew  
13 onto the de-energized lines as well as the number of infrastructure failures identified during the  
14 post-PSPS patrols and, for each, how many of those tree or branch contacts or infrastructure  
15 failures likely would have caused arcing had the lines been energized. PG&E provides that  
16 information below.<sup>1</sup> PG&E notes that the data collected in connection with this response is  
17 subject to interpretation given the nature of the collection of the data, the quality of the photos  
18 depicting vegetation and infrastructure and the circumstances during patrols (*e.g.*, completing  
19 documentation while power is being restored). PG&E also notes that its ability to provide the  
20 Court with information about how many line contacts (from trees, branches or infrastructure  
21 failures) would have caused arcing involves some amount of speculation and is based on  
22 PG&E’s best view based on factors such as the vegetation’s location and the damage the  
23 vegetation or infrastructure failure appears to have caused.

24 \_\_\_\_\_  
25 <sup>1</sup> After PG&E filed its October 30, 2019 response to the Court’s Request for Information on  
26 PSPS, it came to PG&E’s attention that an instance of vegetation damage that appears to have  
27 occurred during the October 9-12 PSPS was inadvertently excluded from its response. PG&E is  
28 unable to determine whether that vegetation damage likely would have caused arcing.

1 The information that PG&E provides herein was collected in connection with the  
2 patrols that PG&E conducted of (i) the approximately 7,800 miles included in the October 23  
3 PSPS event, and (ii) all line miles<sup>2</sup> included in the October 26 and October 29 PSPS events.<sup>3</sup>  
4 These patrols were conducted to assess whether the lines were safe to re-energize, including  
5 whether line or equipment repairs were necessary before the lines could be re-energized.

#### 6 October 23 PSPS Event

7 PG&E identified approximately 19 instances of vegetation damage that appear to  
8 have occurred during the October 23 PSPS (*e.g.*, a tree branch laying across a power line.)<sup>4</sup>  
9 PG&E's current information with respect to these 19 instances is as follows:

- 10 • 15 instances of vegetation damage likely would have caused arcing if the  
11 lines had been energized based on PG&E's assessment of whether the  
12

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13 <sup>2</sup> At this time, PG&E does not have an approximate number of line miles that were patrolled  
14 as part of the October 26 and October 29 PSPS events. A complete list of the more than 700  
15 circuits that were patrolled can be found in the ESRB-8 report filed with the CPUC on November  
16 18, 2019, *available at* [https://www.pge.com/pge\\_global/common/pdfs/safety/emergency-  
17 preparedness/natural-disaster/wildfires/PSPS-Report-Letter-10.26.19.pdf](https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/PSPS-Report-Letter-10.26.19.pdf).

18 <sup>3</sup> On October 26, 2019 and October 29, 2019, PG&E conducted two PSPS events in  
19 response to catastrophic wildfire risk presented by offshore wind events combined with low  
20 humidity levels and critically dry fuels. The overlap of the two events resulted in approximately  
21 12 hours of daylight restoration time available for patrols and restoration for the October 26  
22 PSPS event. The customers who were affected by both events experienced a cycle of either  
23 (1) being de-energized and restored for a short period of time before being de-energized again, or  
24 (2) being de-energized and remaining de-energized over the duration of both events. Because  
25 PG&E is unable to determine in all circumstances whether the damage discussed herein occurred  
26 during the October 26 or October 29 PSPS events, the damage statistics for both events has been  
27 consolidated.

28 <sup>4</sup> During the post-PSPS patrols, PG&E identified vegetation issues that may have pre-dated  
the October 23 PSPS (*e.g.*, vegetation that was within the applicable clearance zones). These  
issues are not included as part of the approximately 19 instances of vegetation damage discussed  
above. PG&E also identified three instances of vegetation damage to service drops (*i.e.*, an  
overhead line from PG&E's distribution line to a point of attachment on the customer's  
residence). Because it is the customer's responsibility to safely clear vegetation from service  
drops, these issues also are not included as part of the approximately 19 instances of vegetation  
damage discussed above. PG&E addressed each of these issues prior to re-energizing its lines.

1                   vegetation was contacting or had contacted the conductor (*e.g.*, a tree  
2                   branch is laying on two phases of a conductor); and

- 3                   • 4 instances of vegetation damage likely would not have caused arcing (*e.g.*,  
4                   the conductor was covered).

5 Each of the 15 locations where vegetation damage occurred that likely would have caused arcing  
6 is identified by county and coordinates on Exhibit A, attached herewith. Exhibit A also includes  
7 information regarding the date of the most recent vegetation management work at each of the  
8 locations where arcing likely would have occurred.

9                   PG&E identified approximately four instances of damage to its infrastructure that  
10 appear to have been caused by extreme wind and/or other fire conditions present during the  
11 October 23 PSPS (*e.g.*, a broken tie wire (the equipment connecting the insulator to the  
12 conductor)).<sup>5</sup> PG&E's current information with respect to these four instances is that all four  
13 instances of infrastructure damage likely would have caused arcing based on PG&E's assessment  
14 of the location of the damaged equipment (*e.g.*, two phases of conductor made contact). Each of  
15 these four locations is identified by county and coordinates on Exhibit B, attached herewith.  
16 Exhibit B also includes information regarding the date of the most recent inspection or patrol of  
17 the equipment at each of the approximately four locations where arcing likely would have  
18 occurred.<sup>6</sup>

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19  
20                   <sup>5</sup> During the post-PSPS patrols, PG&E identified equipment issues that may have pre-dated  
21 the October 23 PPS (e.g., a crack in a cross arm that may not have been caused by extreme  
22 wind). These issues are not included as part of the approximately four instances of infrastructure  
23 damage discussed above. PG&E addressed each of these issues prior to re-energizing its lines.

24                   <sup>6</sup> A patrol is a simple, visual inspection of applicable overhead and underground facilities to  
25 identify obvious structural problems and hazards. Distribution patrols must be performed  
26 annually in urban areas, and every other year in rural areas, unless the area has been inspected in  
27 that year. All transmission line facilities are patrolled annually, but a detailed inspection  
28 (described below) may supplant an annual patrol if performed that year. A patrol of overhead  
lines may be performed by walking, driving or helicopter.

                  An inspection is a careful examination of individual components, structures and equipment  
through visual observation, and/or routine diagnostic tests in order to identify abnormal

### October 26 and October 29 PSPS Events

PG&E identified approximately 241 instances of vegetation damage that appear to have occurred during the October 26 and 29 PSPSs.<sup>7</sup> PG&E's current information with respect to these 241 instances is as follows:

- 175 instances of vegetation damage likely would have caused arcing if the lines had been energized based on PG&E's assessment of whether the vegetation was contacting or had contacted the conductor (*e.g.*, a tree branch is laying on two phases of a conductor);
- 52 instances of vegetation damage likely would not have caused arcing (*e.g.*, the conductor was covered); and
- with respect to 14 instances of vegetation damage, PG&E is unable to determine whether arcing likely would have occurred.

Each of the 175 locations where vegetation damage occurred that likely would have caused arcing is identified by county and coordinates on Exhibit C, attached herewith. Exhibit C also includes information regarding the date of the most recent vegetation management work at each of the locations where arcing likely would have occurred.

conditions that adversely impact safety or reliability. PG&E performs inspections of distribution lines every five years. For transmission facilities, detailed inspection frequencies vary depending on voltage, structure type (wood or steel), and foundation location relative to Bay waters.

<sup>7</sup> During the post-PSPS patrols, PG&E identified vegetation issues that may have pre-dated the October 26 and October 29 PSPSs. These issues are not included as part of the approximately 241 instances of vegetation damage discussed above. PG&E also identified 39 instances of vegetation damage to service drops (*i.e.*, an overhead line from PG&E's distribution line to a point of attachment on the customer's residence). Because it is the customer's responsibility to safely clear vegetation from service drops, these issues are also not included. Finally, PG&E also identified four instances of vegetation damage to infrastructure owned and operated by third parties, and these issues are not included as part of the approximately 241 instances of vegetation damage discussed above. PG&E addressed each of these issues prior to re-energizing its lines.

1 PG&E identified approximately 44 instances of damage to its infrastructure that  
2 appear to have been caused by extreme wind and/or other fire conditions present during the  
3 October 26 and October 29 PSPSs.<sup>8</sup> PG&E's current information with respect to these 44  
4 instances is as follows:

- 5 • 24 instances of infrastructure damage likely would have caused arcing  
6 based on PG&E's assessment of the location of the damaged equipment;
- 7 • 19 instances of infrastructure damage likely would not have caused arcing;  
8 and
- 9 • with respect to one instance of infrastructure damage, PG&E is unable to  
10 determine whether arcing likely would have occurred.

11 Each of the 24 locations where infrastructure damage occurred that likely would have caused  
12 arcing is identified by county and coordinates on Exhibit D, attached herewith. Exhibit D also  
13 includes information regarding the date of the most recent inspection or patrol of the equipment  
14 at each of the 24 locations where arcing likely would have occurred.

15 **Question 2:** If a jumper cable separates and falls away from an energized  
16 *transmission* line, will any arcing or sparking plausibly occur, even briefly,  
17 between the energized line as it falls away? If a jumper cable becomes  
18 disconnected from an energized line, what other scenarios could plausibly  
19 produce sparking or arcing?

20 **PG&E Response:**

21 Arcing refers to an event during which electricity moves through the air to the  
22 nearest conducting surface. The nearest conducting surface could be the other end of a severed  
23 conductor, a conductor on another phase or a grounded object such as a tower leg. The  
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25 <sup>8</sup> During the post-PSPS patrols, PG&E identified equipment issues that may have pre-dated  
26 the October 26 and October 29 PSPS events. These issues are not included as part of the  
27 approximately 44 instances of infrastructure damage discussed above. PG&E addressed each of  
28 these issues prior to re-energizing its lines.

1 separation of an energized jumper cable from an energized transmission line may result in arcing  
2 between the jumper and a nearby grounded object. Where a jumper is connected to a single  
3 conductor, arcing can also occur between the two ends of the disconnected jumper at the point of  
4 separation as it falls away. By contrast, where a jumper is connected to bundled conductor (*i.e.*,  
5 where a jumper is connected to two conductors for the same phase that run parallel to each  
6 other), arcing typically would not occur between the two ends of the disconnected jumper as the  
7 parallel conductor would provide an alternate path through which the current would run. In  
8 either jumper/conductor configuration, arcing could still occur between the energized jumper and  
9 a nearby grounded object. PG&E cannot speculate whether arcing or sparking can occur under  
10 such circumstances given the host of variables that determine the probability of arcing or  
11 sparking. Such variables include, among others, the proximity of grounded objects to the  
12 detached jumper cable and line voltage, which could affect whether the air becomes ionized (a  
13 predicate for arcing).

14 **Question 3:** What scenarios could plausibly cause a jumper cable to separate  
15 from a transmission line during a windstorm?

16 **PG&E Response:**

17 During a windstorm, a jumper cable on a transmission line can become separated  
18 from its connection point in a variety of ways, regardless of whether the jumper had a pre-  
19 existing condition. For example, high winds can result in the mechanical failure of a jumper  
20 cable in good working condition or exacerbate a pre-existing condition on the jumper (such as  
21 corrosion or metal fatigue). Another potential scenario is that during a particularly severe wind  
22 event, debris carried by the wind could strike the jumper cable and cause it to sever.

23 **Question 4:** For the Burned Mountain Tower in question, when, how and by  
24 whom was the jumper cable in question last inspected?

25 **PG&E Response:**

26 PG&E understands this question as referring to the detached jumper cable on  
27 Tower 001/006 on the Geysers #9-Lakeville 230 kV Transmission Line (the “Geysers #9 Line”),

1 referenced in PG&E’s Electric Incident Report filed with the California Public Utilities  
2 Commission on October 24, 2019. Based on PG&E’s records, the jumper cables on  
3 Tower 001/006 were last inspected on July 18, 2019 by a PG&E troubleman during a routine  
4 detailed ground inspection of the Geysers #9 Line, in accordance with the schedule for routine  
5 inspections set forth in PG&E’s Electric Transmission Preventive Maintenance (“ETPM”)  
6 Manual. The ETPM Manual instructs inspectors to visually examine all transmission line  
7 components to determine their overall condition and identify for correction any abnormalities,  
8 including, for conductors, rust, cracks, gunshot damage, corrosion, twisting, loose connectors,  
9 damaged or missing dampers, and insufficient clearance from the tower or other components.  
10 No new conditions on Tower 001/006 were identified as a result of the July 18, 2019 detailed  
11 inspection.<sup>9</sup>

12           Based on PG&E’s records, earlier in 2019, Tower 001/006 was subject to  
13 enhanced inspections as part of PG&E’s Wildfire Safety Inspection Program (“WSIP”). On  
14 February 6, 2019, a PG&E contractor crew assigned to WSIP performed a climbing inspection of  
15 Tower 001/006. On the electronic checklist used to document the climbing inspection, the  
16 personnel performing the inspection answered “No” in response to the prompt, “Jumpers in poor  
17 condition”. On May 11, 2019, PG&E collected aerial drone photographs of Tower 001/006, and  
18 on May 23, 2019, PG&E’s Drone Inspection Review Team (“DIRT”) performed a drone  
19 inspection of the tower by reviewing the drone photographs. During that review, the DIRT team  
20 used the incorrect form (one for non-steel instead of steel structures) to document the inspection.  
21  
22

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23           <sup>9</sup> At the time of the inspection, the tower had three open notifications resulting from the  
24 February 2019 Wildfire Safety Inspection Program climbing inspection (discussed in text). One  
25 of these notifications required repainting of the structure. That notification remained open as of  
26 October 23, 2019. Another one of these notifications, related to a missing danger sign, was  
27 addressed in September 2019. The final notification open as of the inspection was for rusted  
28 bolts and was determined on July 30, 2019 not to require corrective action because the condition  
observed was determined to be surface rust only.



1 Both forms included the same question about the condition of jumpers. The DIRT team  
2 answered “N/A” in response to the prompt, “Jumpers in poor condition”.<sup>10</sup>

3 Tower 001/006 is a double-circuit tower that supports two transmission lines in  
4 the Geysers area in Sonoma County, California: the Geysers #12-Fulton 230 kV Transmission  
5 Line (the “Geysers #12 Line”) and the Geysers #9 Line. Based on PG&E’s records, in addition  
6 to the inspection of the jumper cables on Tower 001/006 that occurred on July 18, 2019 in  
7 connection with the routine detailed inspection of the Geysers #9 Line, described above,  
8 Tower 001/006 was also inspected by a PG&E troubleman on July 11, 2019 in connection with a  
9 routine detailed ground inspection of the Geysers #12 Line. No new conditions on  
10 Tower 001/006 were identified as a result of the July 11, 2019 detailed inspection of the tower.

11 **Question 5:** Should we now be worried that other jumper cables inspected in the  
12 same manner have potential failures that have gone undetected?

13 **PG&E Response:**

14 As part of its WSIP, PG&E recently completed enhanced inspections of the vast  
15 majority of its transmission, distribution and substation assets in High Fire-Threat District  
16 (“HFTD”) areas, including approximately 700,000 distribution structures across more than  
17 25,200 line miles, approximately 50,000 transmission structures across more than 5,500 line  
18 miles and 222 substation facilities. Inspection findings were documented through high-  
19 resolution images and reviewed by dedicated teams with experience in system maintenance,  
20 engineering and maintenance planning to evaluate identified conditions. The electronic  
21 checklists used to perform these enhanced climbing and drone inspections of transmission  
22 structures specifically asked inspectors to look for and document any abnormalities with respect  
23 to transmission line components and hardware, including jumper cables. As of August 31, 2019,

24 \_\_\_\_\_  
25 <sup>10</sup> In June 2019, the DIRT team re-reviewed the drone photographs of Tower 001/006 in  
26 connection with a routine review of drone inspection forms on which no conditions were  
27 reported. The only condition identified as a result of that re-review was a missing danger sign on  
28 the structure; no conditions relating to jumper cables on Tower 001/006 were identified through  
that re-review.

1 PG&E had repaired or made safe all of the highest-priority conditions found during WSIP  
2 inspections of its transmission, distribution and substation assets. In particular, as a result of its  
3 WSIP, PG&E identified two Priority Code “A” conditions relating to jumper cables on  
4 transmission structures, both of which were timely repaired and made safe. PG&E is  
5 incorporating the lessons learned from WSIP into its ongoing regularly scheduled inspections  
6 and maintenance of electric infrastructure.

7 PG&E is also actively investigating the cause of the failure of the jumper cable on  
8 Tower 001/006 on the Geysers #9 Line.<sup>11</sup> As one aspect of its investigation, PG&E is seeking to  
9 determine whether the configuration of the jumper cable on Tower 001/006 contributed to its  
10 failure and, in addition, whether there are similarly configured jumper cables in PG&E’s system.  
11 PG&E is also seeking more generally to determine whether there may be jumper cables that may  
12 be susceptible to failure for any reason in PG&E’s system. PG&E is not currently aware of  
13 information suggesting that there are jumper cables on other transmission structures in its system  
14 that are susceptible to potential failures. In the event PG&E becomes aware of any condition  
15 affecting a jumper cable that could lead to failure or otherwise presents a public safety risk, it  
16 will take corrective action.

17 **Question 6:** How many structures have been lost and how many lives have been  
18 lost by wildfires arguably caused by PG&E *distribution* lines in 2019? The Court  
19 is inclined to expect that the answer for 2019 thus far will be many fewer than for  
20 prior years, thanks to the PSPS interruptions, but the Court (and the public) would  
21 appreciate a more precise answer. Please answer as of **NOVEMBER 29**.

22 **PG&E Response:**

23 In 2019, there have been no fatalities and no structures destroyed in any wildfire  
24 that may have been caused by PG&E distribution lines. PG&E reiterates its commitment to  
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26 <sup>11</sup> PG&E assisted CAL FIRE with its November 1, 2019 collection of potential evidence  
27 from Tower 001/006, including its collection of the jumper cable that failed. To PG&E’s  
28 knowledge, this potential evidence remains in the possession of CAL FIRE.

1 continue to work aggressively to further strengthen its programs and infrastructure to maximize  
2 safety and mitigate wildfire risk.

3 In preparing this response, PG&E reviewed available data associated with fires of  
4 ten acres or greater to which PG&E's distribution lines may have contributed that potentially  
5 involved vegetation contact or equipment failure in 2019.<sup>12</sup> PG&E's response does not include  
6 data pertaining to ignitions that may have been caused by third-party contact with PG&E's  
7 equipment (*e.g.*, animal or vehicle contact) or ignitions for which the cause is unknown. PG&E  
8 relied on data that it compiled in the ordinary course of business about incidents in its service  
9 territory through November 29, 2019. This analysis represents PG&E's current understanding of  
10 the circumstances.

11 **Question 7:** A local television station has suggested that the PSPS process itself  
12 has sparked wildfires. Has there been any such instance, even arguably?

13 **PG&E Response:**

14 PG&E is not familiar with the television story referenced by the Court, or a  
15 wildfire being sparked by the PSPS events. Prior to initiating a PSPS, PG&E proactively reaches  
16 out to customers using multiple methods, including interactive voice response (IVR) calls, text  
17 messaging, email and personal phones calls, to alert its customers that a PSPS may occur. This  
18 is because, among other reasons, there are public safety risks associated with turning off power,  
19 including impacts to first responders, critical medical care and the provision of water, sewer, and  
20 other essential services, including street lights and signals and communications systems. PG&E  
21 advises its customers that in taking steps to minimize the safety risks and inconvenience caused  
22 by a power outage, customers should avoid using candles due to the risk of fire. In the event  
23 candles must be used, PG&E further advises its customers to exercise extreme caution. PG&E  
24 also urges its customers to turn off heat-producing appliances such as ovens, stovetops and irons  
25

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26 <sup>12</sup> These figures do not include three structures that were destroyed in three separate fires  
27 that may have involved PG&E distribution lines, each of which was no more than one acre in  
28 size and none of which involved any fatalities.

1 during an outage, because this practice helps to eliminate fire hazards that may occur when  
2 power is restored. Finally, PG&E advises its customers to avoid using permanent or portable  
3 generators unless they were installed safely and can be operated properly. Improperly installed  
4 or operated generators pose a risk of damage to property and may endanger the lives of  
5 customers.

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7  
8 Respectfully Submitted,

9 Dated: November 29, 2019

JENNER & BLOCK LLP

10  
11 By: /s/ Reid J. Schar  
12 Reid J. Schar (*pro hac vice*)

13 CRAVATH, SWAINE & MOORE LLP

14  
15 By: /s/ Kevin J. Orsini  
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19  
20 By: /s/ Kate Dyer  
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21  
22 Attorneys for Defendant PACIFIC GAS  
23 AND ELECTRIC COMPANY  
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# **EXHIBIT A**

**Exhibit A**

No.	County	Latitude	Longitude	Date of Last Routine Inspection	Date of Last Drought and Tree Mortality Response (“CEMA”) Inspection
1	Amador	38.39061	-120.64143	6/8/2019	8/16/2019
2	Amador	38.3956	-120.64284	6/8/2019	8/16/2019
3	Amador	38.440518	-120.552185	6/15/2019	3/14/2019
4	Lake	38.681511	-122.593837	5/15/2019	9/19/2019
5	Placer	39.00374656	-120.9954162	10/23/2018	5/29/2019
6	Plumas	39.6817	-120.9851	5/21/2019	9/18/2018
7	San Mateo	37.419454	-122.332157	4/19/2019	2/9/2018
8	San Mateo	37.415794	-122.331923	4/29/2019	2/9/2018
9	Sonoma	38.63782	-122.68032	7/17/2019	1/9/2019
10	Sonoma	38.435825	-122.548608	7/18/2019	10/1/2019
11	Sonoma	38.4419	-122.5979	7/16/2019	2/27/2019
12	Sonoma	38.30116	-122.4415794	6/14/2019	8/17/2019
13	Sonoma	38.75669	-122.90353	7/2/2019	6/20/2019
14	Yuba	39.470911	-121.214932	6/7/2019	N/A <sup>13</sup>
15	Yuba	39.3997	-121.2242	10/1/2019	5/15/2018

<sup>13</sup> The location where the vegetation damage occurred is outside the scope of the CEMA program.

# **EXHIBIT B**

**Exhibit B**

No.	County	Latitude	Longitude	Date of Last Patrol	Date of Last Inspection
1	Calaveras	38.414834	-120.134649	7/30/2019	5/31/2019
2	El Dorado	38.66490976	-120.7868313	7/13/2019	4/5/2019
3	Plumas	39.685274	-120.993788	6/26/2019	5/22/2019
4	Sonoma	38.43707	-122.54692	8/20/2018	10/15/2019



# **EXHIBIT C**

**Exhibit C**

No.	County	Latitude	Longitude	Date of Last Routine Inspection	Date of Last Drought and Tree Mortality Response ("CEMA") Inspection <sup>14</sup>
1	Alameda	37.7603439	-122.1454128	1/4/2019	8/26/2019
2	Alameda	37.82095768	-122.2010525	9/19/2019	10/3/2019
3	Alameda	37.775556	-122.15862	1/4/2019	8/26/2019
4	Alameda	37.8385	-122.231	9/17/2019	10/22/2019
5	Alameda	37.705501	-122.020264	5/31/2019	2/1/2019
6	Alameda	37.8331	-122.2006	6/4/2019	8/1/2019
7	Amador	38.4349	-120.5862	7/20/2019	3/7/2019
8	Butte	39.512385	-121.357103	5/5/2019	7/10/2018
9	Butte	39.85805	-121.605199	5/20/2019	11/8/2018
10	Butte	39.4509675	-121.542707	7/25/2019	6/18/2019
11	Calaveras	38.3802167	-120.5576683	2/19/2019	9/14/2019
12	Calaveras	38.237543	-120.351522	10/15/2019	2/28/2018
13	Calaveras	38.377866	-120.56514	4/23/2019	9/14/2019
14	Calaveras	38.32937	-120.546037	4/5/2019	9/14/2019
15	Calaveras	38.405104	-120.164262	11/16/2019	2/1/2019
16	Contra Costa	37.792893	-122.014834	4/9/2019	2/12/2019
17	Contra Costa	37.87087143	-121.7399879	10/14/2019	6/18/2019
18	Contra Costa	37.9214	-122.026	7/9/2019	9/18/2019
19	Contra Costa	37.923987	-122.015118	7/8/2019	9/18/2019
20	Contra Costa	37.84190908	-122.0314809	12/18/2018	7/30/2019
21	El Dorado	38.903126	-120.863236	7/26/2019	11/9/2018
22	El Dorado	38.905485	-121.0056536	7/9/2019	11/9/2018
23	El Dorado	38.867651	-120.849093	9/18/2019	4/11/2019
24	El Dorado	38.86441599	-120.8361437	6/4/2019	4/11/2019
25	Humboldt	40.16233787	-123.6555889	10/7/2019	8/1/2019
26	Humboldt	40.894111	-123.770828	5/9/2019	10/18/2019
27	Humboldt	40.285565	-123.81725	2/16/2019	N/A
28	Lake	38.85095197	-122.7320008	8/13/2019	3/29/2019
29	Lake	38.9088198	-122.5908602	3/5/2019	8/16/2019
30	Lake	38.9276	-122.6179	6/10/2019	5/8/2019
31	Lake	38.85761	-122.722172	8/20/2019	3/29/2019
32	Lake	39.02764123	-122.6676858	8/20/2019	4/24/2019
33	Lake	38.93935	-122.62475	3/5/2019	8/16/2019
34	Lake	39.024636	-122.880637	9/27/2019	5/14/2019

<sup>14</sup> N/A refers to locations where the vegetation damage occurred outside the scope of the CEMA program.

No.	County	Latitude	Longitude	Date of Last Routine Inspection	Date of Last Drought and Tree Mortality Response ("CEMA") Inspection <sup>14</sup>
35	Lake	39.040863	-122.586604	9/4/2019	4/12/2019
36	Lake	39.0217	-122.678	8/23/2019	4/24/2019
37	Madera	37.19387	-119.49639	1/1/2019	6/1/2019
38	Marin	37.90858	-122.527317	4/23/2019	9/30/2019
39	Marin	37.97988	-122.591686	1/21/2019	7/8/2019
40	Marin	37.945987	-122.56257	10/8/2019	6/7/2018
41	Marin	37.960387	-122.545014	6/26/2019	6/7/2018
42	Marin	38.00806	-122.64567	7/16/2019	12/28/2018
43	Marin	37.90368	-122.55355	5/28/2019	10/24/2019
44	Marin	37.9540483	-122.5536417	3/21/2019	7/8/2019
45	Marin	37.89089	-122.50541	5/15/2019	9/14/2019
46	Marin	37.985868	-122.600086	1/30/2019	6/24/2019
47	Mendocino	39.79066	-123.19807	9/18/2019	10/22/2019
48	Mendocino	39.262353	-123.112601	7/23/2019	10/16/2019
49	Mendocino	38.7853	-123.50076	7/30/2019	6/11/2019
50	Mendocino	39.835941	-123.676355	10/8/2019	9/11/2019
51	Mendocino	39.35946	-123.6473	4/24/2019	9/23/2019
52	Napa	38.569992	-122.583697	6/5/2019	1/9/2019
53	Napa	38.570619	-122.583958	6/5/2019	1/9/2019
54	Napa	38.571188	-122.584761	6/5/2019	1/9/2019
55	Napa	38.4878	-122.4641	4/10/2019	8/30/2019
56	Napa	38.56141279	-122.5816536	7/25/2019	11/2/2018
57	Napa	38.65695613	-122.6027459	2/26/2019	1/9/2019
58	Napa	38.5652283	-122.43928	5/8/2019	10/26/2018
59	Napa	38.575955	-122.57749	7/1/2019	11/2/2018
60	Napa	38.554331	-122.536025	11/28/2018	11/2/2018
61	Napa	38.54638	-122.48961	4/26/2019	9/30/2019
62	Napa	38.5356	-122.47017	4/26/2019	10/26/2018
63	Napa	38.559989	-122.547034	6/26/2019	11/2/2018
64	Napa	38.565	-122.4639	5/1/2019	10/26/2018
65	Napa	38.60143	-122.62712	7/12/2019	1/9/2019
66	Napa	38.56775	-122.54206	6/19/2019	11/2/2018
67	Napa	38.35503	-122.36594	8/5/2019	1/28/2019
68	Napa	38.51827	-122.4234	4/4/2019	7/2/2018
69	Napa	38.588781	-122.607214	8/6/2019	1/9/2019
70	Napa	38.589055	-122.606693	7/15/2019	1/9/2019
71	Napa	38.34554	-122.40071	9/20/2019	1/28/2019
72	Napa	38.54844885	-122.5652616	3/4/2019	1/9/2019
73	Napa	38.3652	-122.4144	8/13/2019	1/28/2019

No.	County	Latitude	Longitude	Date of Last Routine Inspection	Date of Last Drought and Tree Mortality Response ("CEMA") Inspection <sup>14</sup>
74	Nevada	39.146137	-121.143905	8/28/2019	11/8/2018
75	Nevada	39.163738	-121.045957	9/26/2019	1/14/2019
76	Nevada	39.3709933	-121.0571226	5/21/2019	11/8/2018
77	Nevada	39.2088104	-121.070202	8/15/2019	3/25/2019
78	Nevada	39.222346	-121.063828	8/14/2019	2/18/2019
79	Nevada	39.07742163	-121.056044	9/12/2019	3/25/2019
80	Nevada	39.3163	-121.11	6/12/2019	10/8/2019
81	Nevada	39.320661	-121.128089	5/23/2019	10/4/2019
82	Nevada	39.26291	-120.8185781	5/7/2019	N/A
83	Placer	39.039128	-120.967797	11/12/2018	5/14/2019
84	Placer	39.20820956	-120.8004096	8/9/2018	4/26/2018
85	Placer	39.20501842	-120.7994337	8/14/2018	4/26/2018
86	Placer	39.20992701	-120.8013657	8/14/2018	4/26/2018
87	Placer	39.20762633	-120.8000847	8/9/2018	4/26/2018
88	Placer	39.20937457	-120.8010581	8/14/2018	4/26/2018
89	Placer	39.20587977	-120.799436	8/14/2018	4/26/2018
90	San Mateo	37.572956	-122.363254	9/10/2019	N/A
91	San Mateo	37.314025	-122.294819	6/28/2019	5/9/2019
92	San Mateo	37.62180766	-122.4348659	10/24/2019	6/14/2019
93	San Mateo	37.62521	-122.432483	10/23/2019	6/14/2019
94	San Mateo	37.552362	-122.339913	10/21/2019	12/13/2018
95	San Mateo	37.634752	-122.44324	8/12/2019	2/15/2019
96	San Mateo	37.61730201	-122.4341958	9/14/2018	6/14/2019
97	San Mateo	37.639027	-122.440475	8/9/2019	2/15/2019
98	San Mateo	37.433062	-122.321972	5/9/2019	2/9/2018
99	San Mateo	37.59004024	-122.4739712	10/16/2019	5/24/2019
100	San Mateo	37.408051	-122.33265	4/29/2019	2/9/2018
101	San Mateo	37.404266	-122.334644	4/29/2019	2/9/2018
102	San Mateo	37.407143	-122.332749	4/29/2019	2/9/2018
103	San Mateo	37.405951	-122.333058	4/29/2019	2/9/2018
104	San Mateo	37.289689	-122.215498	9/27/2019	2/26/2019
105	San Mateo	37.634978	-122.445914	8/9/2019	2/15/2019
106	San Mateo	37.634881	-122.452168	8/13/2019	6/13/2019
107	San Mateo	37.2994	-122.2656	11/8/2019	2/26/2019
108	Santa Clara	37.455616	-121.851195	6/14/2019	5/9/2018
109	Santa Clara	37.198662	-122.030359	5/20/2019	3/8/2019
110	Santa Clara	37.25075433	-122.0946811	7/19/2019	10/16/2019
111	Santa Clara	37.0356	-121.7468	12/21/2018	9/20/2019
112	Santa Cruz	37.0883	-122.2038	8/12/2019	6/18/2019

No.	County	Latitude	Longitude	Date of Last Routine Inspection	Date of Last Drought and Tree Mortality Response ("CEMA") Inspection <sup>14</sup>
113	Santa Cruz	37.11982	-121.99152	5/3/2019	2/2/2019
114	Santa Cruz	36.95198	-121.84287	4/26/2019	4/26/2018
115	Santa Cruz	37.13896	-122.09077	7/18/2019	1/25/2018
116	Santa Cruz	37.05866646	-121.8221006	4/12/2019	12/21/2018
117	Santa Cruz	37.107088	-121.947074	9/23/2019	3/1/2019
118	Santa Cruz	37.166012	-122.042466	5/20/2019	3/8/2019
119	Santa Cruz	37.119719	-121.951974	5/15/2019	11/15/2018
120	Santa Cruz	37.09919	-122.05306	10/10/2018	5/28/2019
121	Santa Cruz	37.105841	-121.948772	9/30/2019	12/17/2018
122	Santa Cruz	37.02094	-121.82773	4/9/2019	12/21/2018
123	Santa Cruz	37.05377	-121.81684	4/10/2019	12/21/2018
124	Santa Cruz	36.9881	-121.93946	2/25/2019	8/6/2019
125	Santa Cruz	37.06793965	-122.01398	5/6/2019	2/2/2019
126	Santa Cruz	37.02155	-121.82654	4/9/2019	12/21/2018
127	Santa Cruz	37.16832781	-122.1744458	5/13/2019	11/7/2018
128	Santa Cruz	37.16039	-122.08652	7/22/2019	1/25/2018
129	Santa Cruz	37.02608	-121.77497	2/4/2019	9/20/2019
130	Santa Cruz	37.17961	-122.21531	1/14/2019	10/29/2018
131	Santa Cruz	37.12748	-122.11733	7/1/2019	1/25/2018
132	Santa Cruz	37.0289	-121.9963	11/15/2018	4/19/2019
133	Santa Cruz	36.9994	-122.0371	10/25/2019	4/19/2019
134	Santa Cruz	37.0242013	-121.7779	4/18/2019	4/26/2018
135	Santa Cruz	37.16287	-122.16854	3/21/2019	11/7/2018
136	Shasta	40.622288	-122.234833	4/25/2019	1/12/2019
137	Shasta	40.393239	-122.3501295	6/11/2019	1/31/2019
138	Shasta	40.5926	-122.2288	5/4/2019	1/12/2019
139	Shasta	40.5699	-122.2402	4/25/2019	1/22/2019
140	Shasta	40.5571299	-121.716849	4/11/2019	10/21/2019
141	Shasta	40.519089	-122.2385433	4/19/2019	1/22/2019
142	Shasta	40.47726	-122.4943545	7/31/2019	6/6/2018
143	Shasta	40.5666	-122.207325	5/6/2019	1/29/2019
144	Shasta	40.519078	-122.237914	4/19/2019	1/22/2019
145	Sonoma	38.46157	-122.93668	7/19/2019	4/16/2019
146	Sonoma	38.32323758	-122.433251	6/5/2019	9/17/2019
147	Sonoma	38.27905	-122.41557	10/16/2019	8/30/2019
148	Sonoma	38.27376	-122.45314	10/16/2019	N/A
149	Sonoma	38.31211	-122.68422	3/20/2019	N/A
150	Sonoma	38.610101	-122.661047	7/19/2019	1/9/2019
151	Sonoma	38.42567	-122.83287	9/30/2019	N/A

No.	County	Latitude	Longitude	Date of Last Routine Inspection	Date of Last Drought and Tree Mortality Response ("CEMA") Inspection <sup>14</sup>
152	Sonoma	38.4655	-122.69384	2/20/2019	9/9/2019
153	Sonoma	38.219115	-122.681516	12/12/2018	8/15/2019
154	Sonoma	38.35318	-122.60589	3/25/2019	6/3/2019
155	Sonoma	38.42087	-122.83461	7/25/2019	N/A
156	Sonoma	38.46221	-122.68547	6/6/2019	7/22/2019
157	Sonoma	38.40944	-122.5534	7/16/2019	10/1/2019
158	Sonoma	38.365233	-122.778347	3/13/2019	N/A
159	Sonoma	38.35807	-122.76869	6/4/2019	N/A
160	Sonoma	38.40385	-122.82873	7/26/2019	N/A
161	Sonoma	38.3887	-122.48708	8/8/2019	6/14/2019
162	Sonoma	38.40052	-122.51287	7/16/2019	10/1/2019
163	Sonoma	38.319251	-122.500503	7/24/2019	6/28/2019
164	Sonoma	38.62934	-122.83388	5/7/2019	10/15/2019
165	Sonoma	38.436102	-122.55041	7/18/2019	10/1/2019
166	Sonoma	38.48254	-122.93874	5/7/2019	10/15/2019
167	Sonoma	38.45881	-122.84309	9/13/2019	N/A
168	Sonoma	38.27495	-122.72401	7/10/2019	8/15/2019
169	Sonoma	38.3930338	-122.6207504	3/4/2019	10/19/2019
170	Sonoma	38.293254	-122.702317	3/20/2019	9/17/2019
171	Tehama	40.18024	-122.32753	7/30/2019	2/20/2019
172	Trinity	40.204203	-123.479129	9/16/2019	8/1/2019
173	Tuolumne	37.8365	-120.2286	1/2/2019	6/1/2019
174	Tuolumne	38.174855	-120.035421	6/20/2019	12/1/2018
175	Yuba	39.441747	-121.265136	4/23/2019	7/2/2019

# **EXHIBIT D**

**Exhibit D**

No.	County	Latitude	Longitude	Date of Last Patrol	Date of Last Inspection
1	Alameda	37.7557	-122.1247	2/27/2019	3/17/2019
2	Alameda	37.832278	-122.186688	3/14/2018	5/4/2019
3	Alameda	37.76671	-122.138019	3/2/2019	3/13/2019
4	Amador	38.4349	-120.5862	5/3/2019	4/1/2019
5	Calaveras	37.9144	-120.6129	2/20/2018	5/9/2019
6	Calaveras	38.21484165	-120.3610502	7/12/2019	4/11/2019
7	Contra Costa	37.8017	-121.8577	5/23/2018	4/17/2019
8	Contra Costa	37.9244	-122.015	5/23/2018	4/17/2019
9	Lake	39.024861	-122.667202	6/14/2019	7/13/2016
10	Lake	39.065647	-122.622435	8/29/2019	4/2/2019
11	Madera	37.2526	-119.5066	5/11/2019	5/17/2019
12	Mendocino	39.79081076	-123.1981318	11/14/2018	9/21/2016
13	Napa	38.47144	-122.39927	7/27/2019	9/28/2015
14	Napa	38.36648	-122.40959	7/2/2019	3/18/2019
15	Napa	38.40769	-122.31969	6/20/2019	9/12/2016
16	Placer	39.21015759	-120.8014944	5/18/2019	4/2/2019
17	San Mateo	37.29513	-122.26676	8/13/2019	3/21/2019
18	Santa Clara	37.2515	-122.06398	6/18/2018	4/3/2019
19	Santa Clara	37.190013	-122.012607	5/16/2019	3/29/2019
20	Shasta	40.523967	-122.559842	8/1/2019	3/25/2019
21	Shasta	40.984668	-121.970685	8/21/2019	4/4/2019
22	Sonoma	38.328696	-122.503399	9/26/2019	5/3/2016
23	Sonoma	38.40028	-122.954	8/7/2019	4/14/2019
24	Sonoma	38.22128	-122.64316	3/5/2019	4/20/2019