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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

PACIFIC GAS AND ELECTRIC COMPANY,

Defendant.

Case No. 14-CR-00175-WHA

AMENDED ATTORNEYS PITRE AND CAMPORA'S COMMENTS ON THE ACCURACY OF PG&E'S RESPONSE; DECLARATIONS OF ATTORNEYS FRANK PITRE, STEVE CAMPORA AND DARIO DE GHETALDI IN SUPPORT THEREOF

Judge: Hon. William Alsup

PARAGRAPH 1 OF PLAINTIFFS' SUBMISSION:

> **"I. INTRODUCTION**
>
> Pursuant to this Court's Order following hearing on the Order To Show Cause dated January 30, 2019, attorneys Frank M. Pitre ('Pitre') and Steven M. Campora ('Campora'), hereby file their written submission in support of their brief comments during the hearing. The purpose of this submission is to address specific deficiencies in PG&E's risk management practices and corporate governance which the undersigned believe have contributed to an increased risk of catastrophic wildfires in recent years. The hope is that a better understanding of the factors that have contributed to the increased risk, from those who have served adversarial roles in representing the victims of these tragedies, will provide a framework for implementing short and long-term policies, practices and procedures to prevent any reoccurrence. Attorneys Pitre and Campora wish to acknowledge the assistance from the law firms of Walkup, Melodia, Kelly & Schoenberger and Corey, Luzaich, De Ghetaldi & Riddle, LLP in preparing this submission."

RESPONSE TO PARAGRAPH 1:

As PG&E stated in its Memorandum Regarding 2019 Wildfire Safety Plan in Response to Court's January 30, 2019 Order ("Mem.") (Dkt. 1004), PG&E welcomes comments from members of the community concerning the ways in which it is combating wildfire risk. (Mem., Dkt. 1004 at 5.) That includes Plaintiffs' counsel, who have familiarity with PG&E's policies and procedures and who represent thousands of customers in PG&E's service territory who are affected by the myriad issues related to increased wildfire risk, such as vegetation management and de-energization. It is important to PG&E that all stakeholders' voices are heard so that PG&E may consider the views of the communities it serves. PG&E notes, however, that the vast majority of discovery that Plaintiffs' counsel has received through litigation against PG&E, including with respect to the October 2017 North Bay Wildfires, has focused on issues pre-October 2017 and has not included much information about the new and enhanced measures PG&E has taken since the 2017 and 2018 wildfires occurred to further reduce the risk of catastrophic wildfires. Those measures, which are most relevant to this Court's Order to Show Cause, are set forth in detail in recent PG&E submissions to this Court and the California Public Utilities Commission ("CPUC"), including in its Response to Order to Show Cause Why PG&E's Conditions of Probation Should Not Be Modified

(the "Jan. 23 Br.") (Dkt. 976), its 2020 General Rate Case testimony dated December 13, 2018 (Dkt. 976-6) and its 2019 Wildfire Safety Plan ("WSP") dated February 6, 2019 (Dkt. 1004-1).[1]

Although PG&E disagrees with many of the characterizations set forth in Plaintiffs' submission, it is open to Plaintiffs' suggestions and in fact, as previously discussed with the Court and as set forth in PG&E's Wildfire Safety Plan, has already implemented measures that cover the majority of Plaintiffs' short-term and long-term recommendations. Plaintiffs propose several recommendations related to vegetation management, such as a focus on higher risk areas, removal of overhanging branches and monitoring of contractor certification, all of which PG&E has already adopted. Plaintiffs also recommend that PG&E adopt San Diego Gas & Electric's ("SDG&E") policies related to de-energization, which PG&E has already embraced in creating its own de-energization plan. To the extent that PG&E disagrees with any of Plaintiffs' recommendations in whole or in part, PG&E explains its rationale and sets forth the actions it has taken, and continues to take, to address the issue raised by that particular recommendation. PG&E continues to approach wildfire prevention with the goal of doing all that it can to make sure its facilities do not create public safety risks, and looks forward to receiving public comments on its Wildfire Safety Plan both as part of this proceeding and the CPUC process.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 1:

This Court asked Plaintiffs' Counsel to provide information, under oath, with regard to Pacific Gas and Electric Company's vegetation management and wildfire risk management. Plaintiffs complied with the Court's request. In response, Pacific Gas and Electric Company suggests that Plaintiffs' submission focused on the period prior to October 2017. Plaintiffs supplied the Court with a declaration and deposition testimony addressing conditions **which existed at the time of the Butte Fire and/or the Nor Cal Fires** as the factual basis for their submission. Plaintiffs do not have access to current PG&E information, but Pacific Gas and Electric Company does. However, PG&E has failed to provide their factual information under oath. Instead, Pacific Gas and Electric Company has

[1] The page numbers referenced in all citations to the WSP throughout PG&E's Response refer to the Wildfire Safety Plan's internal pagination, not the ECF page numbers.

referred the Plaintiffs and this Court to its rate case submission (Dkt. 976 and 976-6) and its Wildfire Safety Plan (Dkt. 1004-1). Those items were not provided under oath. Further, the Wildfire Plan, is just that - a plan.

In Plaintiffs' experience, PG&E is very proficient in planning and not proficient at following through with performance. For example, following San Bruno, PG&E professed to have learned its lesson with regard to gas pipeline safety. However, most recently the CPUC has commented as follows:

> SED alleges that the time-period in which gas record falsification and safety violations occurred is 2012 through 2017. This is the period immediately following the 2010 San Bruno gas explosion and fire that resulted in eight fatalities, numerous injuries and damage to property. This Commission would expect that after such a tragedy, caused by multiple proven violations of law, PG&E would have sought to vigorously enhance and increase its effectiveness in all aspects of its gas safety[2].

In 2015, Pacific Gas and Electric Company caused the Butte Fire. That fire burned 70,000 acres and killed two people. While PG&E is representing that it has changed, PG&E's employees and CEO have testified that no changes were made to PG&E's vegetation management program because of the Butte Fire. (See Exhibits J, K and L to the Campora Declaration.)

PARAGRAPH 2 OF PLAINTIFFS' SUBMISSION:

> **"II. PG&E ACCEPTS A HIGH RISK OF WILDFIRES IN ITS ELECTRICAL OPERATIONS AND CAUSES SIGNIFICANTLY MORE WILDFIRES THAN OTHER COMPARABLE UTILITIES**
>
> Every three years, PG&E submits to the CPUC the General Rate Case, a proposal for funding its core gas and electric operations. As part of its rate case for the period 2017 to 2019, PG&E submitted written testimony – GRC-050115-PGE-Safety-Assessment-Testimony. Part of the submission was the written testimony of Janaize Markland. At the time, Ms. Markland was the Director of PG&E's Enterprise and Operational Risk and Insurance Department. (See Campora Decl., Exhibit A). Ms. Markland's testimony stated in pertinent part:
>
> > 'Risk cannot be completely driven out of PG&E's—or any—business. Today, risk tolerance is implicitly defined by the resources allocated to manage specific risks. For example, PG&E has a robust program to manage Wildfire Risk that consists of an award-winning vegetation management program, equipment retrofits in high-risk areas, and enhanced inspections. **As a result, tree-related outages are in the neighborhood of 17 per 1,000 miles, <0.02 percent of**

[2] See CPUC, Order Instituting Investigation and Order to Show Cause on Commission's Own Motion into the Operations and Practices of Pacific Gas and Electric Company with Respect to Locate and Mark Practices and Relates Matters, December 14, 2018, Exhibit G to the Declaration of Steven M. Campora.

> **trees in contact**, and there are a small number of wildfires caused by PG&E equipment each year. **It may be possible to drive tree-related outages to less than 17 per 1,000 miles, or to have less than 0.02 percent of trees in contact, but that would require a level of investment greater than what PG&E is making today.** With limited resources—PG&E cannot do everything and must decide at what point it is okay not to mitigate the risk further— tradeoff decisions must be made.'
>
> (Campora Decl., Exhibit A [Exhibit 2034 - Written Testimony of Janaize Markland])."

RESPONSE TO PARAGRAPH 2:

PG&E admits Paragraph 2 with respect to the fact that every three years, it submits to the CPUC its General Rate Case and that on May 1, 2015, it submitted its General Rate Case containing the Safety Model Assessment Proceeding testimony, cited in Paragraph 2 of Plaintiffs' Submission above. To be clear, however, the way in which PG&E performed its risk assessment and allocated resources throughout its service territory in 2015, at the time PG&E provided to the CPUC the testimony cited above, is vastly different from the way in which PG&E assesses and manages risk today given the significantly increased risk of catastrophic wildfires. That is precisely why, in PG&E's most recent General Rate Case submission to the CPUC, dated December 13, 2018, PG&E recognized that "system risk driven by climate change has increased" and therefore its Electric Operations department is "moving forward aggressively with wildfire mitigation plans", including "longer term grid resiliency initiatives[] and systemwide vegetation management". (Jan. 23 Br. Exhibit F, Dkt. 976-6 at 9.) And, in its Wildfire Safety Plan, PG&E described the enhanced, accelerated and new programs that it is and will aggressively continue to implement to prevent wildfires in 2019 and beyond. (*See generally* WSP, Dkt. 1004-1.)[3]

[3] The page numbers cited throughout PG&E's Response refer to the Wildfire Safety Plan's page numbers, not the ECF page numbers.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 2:

PG&E provides no factual statements, concerning its performance, to which Plaintiffs can respond. Again, PG&E simply refers to its 2019 plan and the new programs it promises it will "aggressively continue to implement to prevent wildfires in 2019 and beyond."

Plaintiffs have addressed the percentage of contact trees and tree related outages, as requested by the Court, in the document captioned, Plaintiffs' Response to Court's Question Concerning Percentage of Contact Trees, filed herewith.

PG&E claims that the risk of catastrophic wildfires in Northern California significantly increased after 2015 and that this significant increase led PG&E to take action. But the risk of catastrophic wildfires in Northern California existed before 2015. We know this because they happened. Repeatedly. In fact, PG&E has been responsible for several of them, paying enormous settlements to federal, state and local governments, as well as private citizens. Below is a non-comprehensive list with a short description of the wildfire, PG&E's negligence, and the fines, penalties, and/or settlements involved:

- **1994: TRAUNER FIRE** – Wildfire in Nevada County that burned 500 acres, destroyed 12 homes and 22 structures. Investigators determined the fire began when a 21,000-volt power line brushed against a tree limb that PG&E should have trimmed. Post-fire, investigators found several hundred safety violations in the area near the origin of the Trauner Fire. Approximately 200 of these violations involved contact between vegetation and PG&E's power lines. As a result, PG&E was convicted of 739 counts of criminal negligence and required to pay $24 million in penalties. (Pitre Decl., Ex. 1).

- **1999: PENDOLA FIRE** – "PG&E paid a $14.75 million settlement to the U.S. Forest Service in 2009 after being blamed for the 1999 Pendola Fire. It burned for 11 days and scorched 11,725 acres, mainly in the Tahoe and Plumas national forests. The fire's cause: A rotten pine, which the government said PG&E should have removed, fell on a power line." (Pitre Decl., Ex. 2). "The utility also reached a $22.7 million settlement with the CPUC in 1999 after regulators found PG&E hadn't spent money earmarked for tree trimming and removal toward those purposes. Shareholders paid the settlement amount for future projects, and PG&E paid a $6 million penalty to the state." (Id.).

- **2001: POE FIRE** – Wildfire caused by a "tree into powerline", burned approximately 8,333 acres and destroyed 36 structures, including 26 homes and 2 commercial properties. (Pitre Decl., Ex. 3). It took over 1,500 firefighters and 54 fire crews to battle the blaze, which

burned for six days and cost over $5 million to suppress. (Id.) As described by The Mercury News:

> *On Sept. 6, 2001, heavy winds near Poe Powerhouse, south of Poe Dam, knocked over a dead 100-foot-tall Ponderosa pine that crashed into three backup power lines running into the PG&E hydroelectric facility there, sparking a fire. Multiple fires converged into what would become known as the Poe Fire,* ***quickly gobbling up more than 1,000 acres in the Big Bend and Yankee Hill communities southeast of Paradise. The winds died down, slowing the blaze, but early morning winds the next day topping 30 mph and a humidity at less than 7 percent stoked the fire a second time.***
> (Pitre Decl., Ex. 4).

"In 2006, PG&E reached a $5.9 million settlement with 122 residents who sued the utility and some of its contractors. PG&E admitted no wrongdoing in the agreement." (Id.)

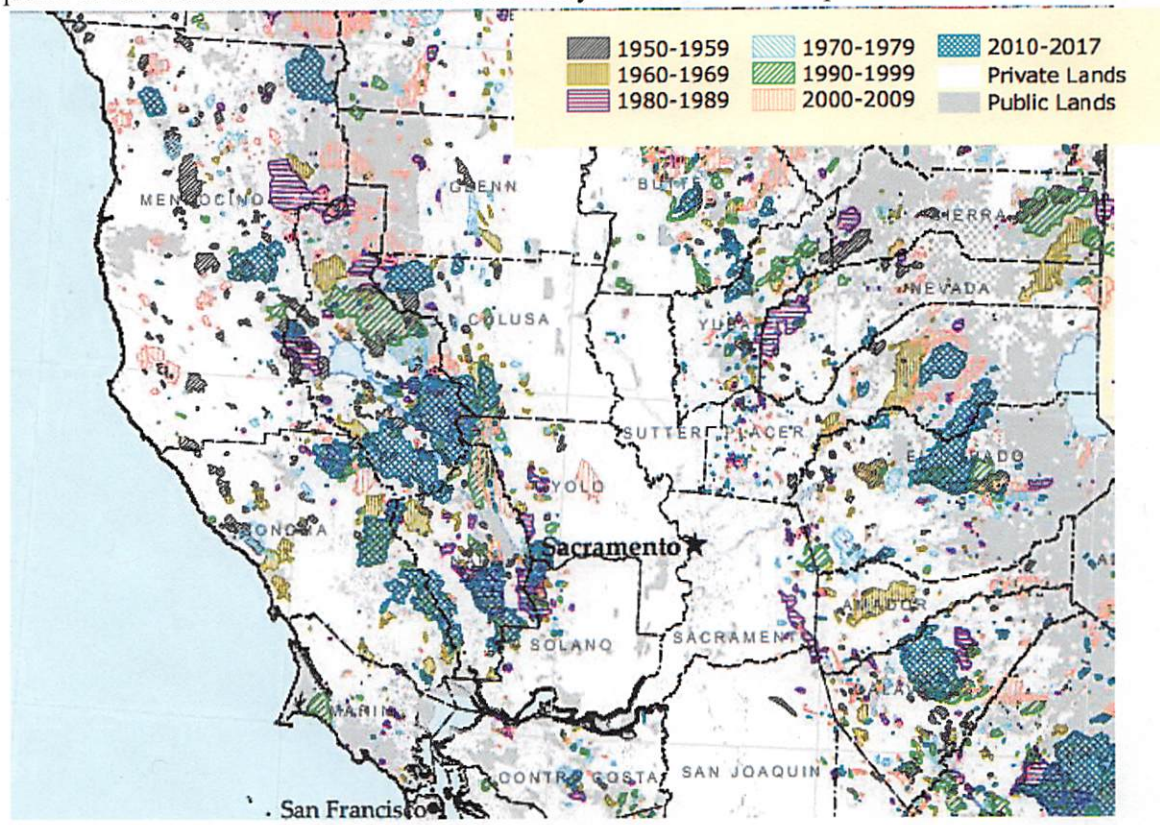
- **2004: SIMS AND FREDS FIRES** – Started in July and October 2004 respectively. The Sims Fire burned over 4,000 acres of the Six Rivers and Trinity National Forests. The federal lawsuit alleged that PG&E failed to remove a decaying tree, which buckled and fell on a 66,000-volt transmission line and ignited the blaze. The Freds Fire started near Kyburz, El Dorado County. The federal lawsuit claimed that PG&E's contractor lost control of a large tree it was cutting down. The tree fell onto a PG&E power line and caused a fire that burned over 7,500 acres. PG&E and its contractors paid $29.5 million to settle the lawsuits over the Freds Fire and the Sims Fire. (Pitre Decl., Ex. 5).

- **2004: POWER FIRE** – Ignited in October 2004 because PG&E contractors left cigarettes burning during a break from clearing vegetation around PG&E's power lines. The contractor paid $45 million as part of a settlement deal with federal prosecutors. PG&E also paid a settlement to the U.S. Forest Service for the Power Fire, which is reflected in the next paragraph. The fire burned over 17,000 acres of the Eldorado National Forest in Amador County. It took 17 days to contain and $8.46 million in suppression costs. (Pitre Decl., Ex. 6).

- **2008: WHISKEY FIRE** – Started in June 2008. The fire burned 7,783 acres of the Mendocino National Forest in Tehama County, and took over 14 days to contain. (Pitre Decl., Ex. 7). As a result of the Power Fire and the Whiskey Fire, PG&E and its contractors agreed to pay a $50.5 million settlement to the U.S. Forest Service for burning over 18,000 acres of national forest. (Pitre Decl., Ex. 8).

In addition to the catastrophic wildfires in Northern California that PG&E has been causing for decades, there is a wealth of data on historic catastrophic wildfires in Northern California maintained and disseminated by federal and state authorities, primarily the California Department of

Forestry and Fire Protection ("CAL FIRE"). For example, the State of California in conjunction with CALFIRE, the United States Bureau of Land Management, the National Park Service, and the United State Forest Service, recently published a map called "Fire Perimeters: Wildfires 1950 – 2017". (Pitre Decl., Ex. 9). The map shows where wildfires have occurred in California since 1950 and what acres burned. This information is also color-coded by the decade the fire occurred. Here is a snapshot of the Counties involved in the North Bay Fires and the Camp Fire:



The map confirms that large destructive wildfires in Northern California have been a significant risk and problem for several decades.

Each year, CAL FIRE publishes a Wildfire Activity Statistics report. These reports are voluminous with wildfire statistics and date back to 1943. All of the reports are also available for free on CAL FIRE's website at: http://www.fire.ca.gov/fire_protection/fire_protection_fire_info_redbooks. In these reports, CAL FIRE publishes a list of the top five most destructive wildfires that year. Here is a snapshot example from 1992:

The explosive fire season took its toll with over 191,490 acres burned, which was 170% of the five-year average and 7,939 fires, which was 110% of the five-year average. The most significant fires for the year, in CDF's jurisdiction, are listed below:

NAME	RANGER UNIT	ACRES BURNED	STRUCTURES DESTROYED
Fountain	Shasta-Trinity	63,960	674
Old Gulch	Tuolumne-Calaveras	17,386	170
Moccasin	Tuolumne-Calaveras	8,370	10
Villa	Butte	6,700	20
Burton	Butte	6,000	0

After reviewing this top five list for the years 1990 through 2010, the following conclusions were made:

- **A wildfire in Northern California and within PG&E's service territory made the top five list every year but one year;**
- **In nine of the twenty years examined, a Northern California wildfire in a PG&E service territory was *the most destructive wildfire of the year*;** and
- **In six of the twenty years examined, powerlines and/or power were the determined cause of one of the top five most destructive wildfires that year. And in all six instances, the wildfires were in Northern California and within PG&E's service territory.**

(Pitre Decl., ¶ 12).

Also available for free on CAL FIRE's website are insightful summary charts regarding wildfires, including: Top 20 Largest California Wildfires and Top 20 Most Destructive California Wildfires. (Pitre Decl., Ex. 10). **In regard to the top 20 most destructive wildfires, 5 of the top 20 pre-date 2017, occurred in Northern California and within PG&E's. Of those 5 wildfires, 3 were started by powerlines. In regard to the top 20 largest wildfires, 8 were ignited prior to 2017 and occurred in Northern California and within PG&E's service territory.**

The history and risk of catastrophic wildfires in Northern California was also well-documented and disseminated by local governments who, in conjunction with CAL FIRE, published their knowledge regarding the history and risk of wildfires in their county in Fire Plans starting in 2005. All of these plans are available for free on CAL FIRE's website here: http://cdfdata.fire.ca.gov/fire_er/fpp_planning_plans. Below we have excerpted sections from the 2005 fire plans of each county where the Butte Fire, North Bay Fires, and Camp Fire occurred,

which clearly indicate four things: (1) the risk of catastrophic wildfires existed in those counties before 2015; (2) the risk was significant historically; (3) the areas of elevated risk in each county had been identified; and (4) the conditions that lead to catastrophic wildfires were generally understood – high winds, low humidity, and dry vegetation.

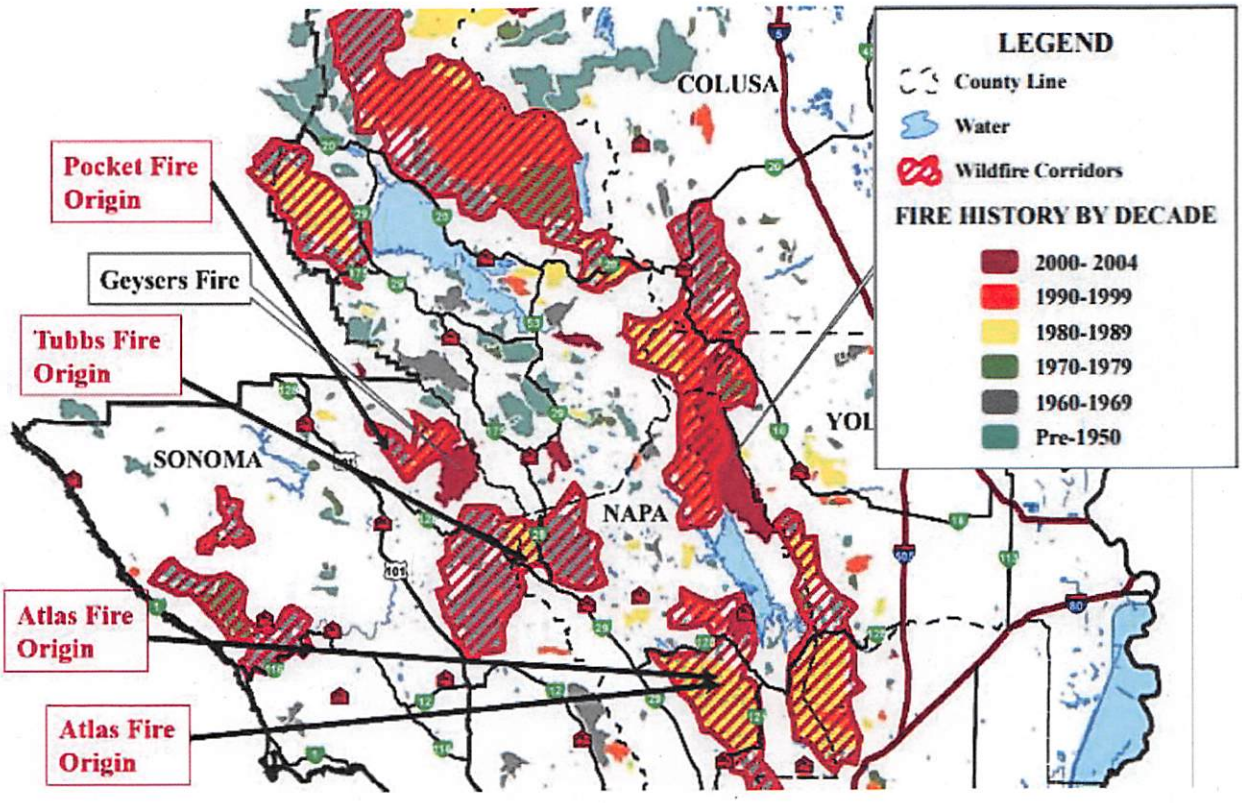
SONOMA-LAKE-NAPA-SOLANO 2005:
(Pitre Decl., Ex. 11)

- "The Sonoma-Lake-Napa Unit (LNU) is one of twenty-one (21) California Department of Forestry and Fire Protection (CDF) administrative units. … and **ranks third in the average number of annual fires**." (Id. at pg. 7 [emphasis added & internal citations omitted]).

- "Accelerated growth is occurring in the population centers of **Santa Rosa**, Petaluma, Windsor, Healdsburg, Cloverdale, Vacaville, Fairfield, Vallejo, and **Lake County**. **All of these areas are characterized by a growing wildland urban interface (WUI) fire problem**." (Id. at pg. 14)

- "Nearly every major fuel type in California exists within the Unit's boundary, including grasslands, oak woodlands, brush, unique redwood forests, mixed conifer forests, and hardwood forests. The only fuel model not found is the desert type. **Because of the extreme vegetative and climatic diversity, the Unit experiences virtually any type of wildfire that can occur in California, from fast spreading grass fires to full-blown forest fires. This means the Unit's fire protection system must be extremely versatile and adaptable. It has long been observed that certain areas are prone to wildfires again and again. These "historic wildfire corridors" occur where topography, fuels, and weather combine to channel large and damaging fires in particular locations**." (Id. at pg. 19)

- "**While most of the Unit has burned at least once since the beginning of organized fire protection, there are several areas of the Unit that have burned with such frequency as to exhibit the characteristic of historic wildfire corridors (Figure 8).**" (Id. at pg. 19-20). Of note, **both the Tubbs and Atlas Fires started in one of these historic wildfire corridors identified by the County back in 2005**. (See Figure 8 below with origins points of Tubbs, Atlas and Pocket Fire mapped on top).



- "Fire behavior is dramatically influenced by weather conditions. **Large, costly fires are frequently, though not always, associated with severe fire weather. Severe fire weather is typified by high temperatures, low relative humidity, and strong surface winds.** The State fire plan weather assessment considers the different climates in California. There are also various different climates in LNU. The Pacific Ocean to the west and the San Francisco Bay to the south greatly affect the Unit weather, as does the eastern edge of the Unit being the western edge of the Sacramento Valley. **Each of these local climates experiences a different frequency of weather events that lead to severe fire behavior as a result of the weather**." (Id. at pg. 47).

BUTTE 2005:

(Pitre Decl., Ex. 12).

- "Both Butte and Plumas Counties have an **extensive history of large and damaging fires, most of which have burned within the urban interface area resulting in not only the loss of property but life.** The following table shows some of Butte and Plumas Counties most recent (10 year) fire history." (Id. at pg. 49)

Butte and Plumas County Recent Large Fire History					
Fire Name	**Year**	**Acreage**	**Residences Destroyed**	**Fatalities (Civilian)**	**Comments**
Butte County					
Oregon	2004	2,030	1	0	Additional structures threatened
Skyway	2002	2,010	0	0	Structures threatened
Highway 70	2001	1,710	0	0	Commercial timber loss
Poe	2001	8,333	51	0	+120 outbuildings & 155 vehicles
Concow	2000	1,835	14	1	Firefighters burned over
Butte Complex	1999	33,924	3	1	+11 outbuildings, 9 major fires, lightning
Plumas County					
Stream	2001	3,556	1	0	Lightning
Storrie	2000	55,261	0	0	Commercial timber loss
Mt .Hough Complex	1999	40,720	0	0	4 major fires, structures threat. lightning
Feather River Complex	1999	3,860	0	0	4 major fires, lightning Butte & Plumas Co.
Horton II	1999	4,336	0	0	Structures threatened
Cemetery	1999	3,930	0	0	Structures threatened
Butte & Plumas Co. Totals		**160,475**	**81**	**2**	

- "The **primary cause of fires** in both areas is debris burning, arson, equipment/vehicle **and power lines**. Numbers of fires and the primary causes have declined steadily since 1995. During 1999 there were 12 to 15 lightning caused fires. This is more than occurred from1991 to 1998. The area east of Highway 99 has **extensive large fire history**. Fire season 2001 continued the pattern of **large fast moving fires** in the Feather River Canyon. On September 6th the Poe fire became the most destructive fire in Butte County history burning 8,333 acres and destroying 50 residences for a property loss of $6,256,112. This was followed by the 70 fire on October 24th. This fire burned 1711 acres threatening the populated community areas. On September 19th 2000 the Concow fire burned 1845 acres, causing one fatality and destroying 16 residences. The Raulson fire burned 1000 acres and 6 homes in 1994. In 1992 the Dry fire burned 800 acres and the Burton fire started on the Skyway between Chico and Paradise and burned up to Durham Pentz Rd. west of Butte College." (Id. at pg. 84)

MENDOCINO 2005:
(Pitre Decl., Ex. 13).

- "The following page contains a map of most of the large fires in the Mendocino Unit since 1922. This information can aid in understanding the potential for a large fire at any particular location and also help in determining areas where pre-fire management plans can be put to the best use. **One thing this fire history makes clear is that, although the County has been spared large fires in the recent past, this Unit can and will sustain large, devastating wildfires.** ***Indeed, the lack of large fires for many years points to the likelihood of one or more happening in the near future.*** **To prepare and lower the risks now will benefit all stakeholders concerned**." (Id. at pg. 45 [italicized in original document]). The map referenced on "the following page" identifies the below list of historic catastrophic fires:
-
    - 1931 Comptche Fire - 33,102 acres

- 1945 Will Creek Fire - 30,725 acres
- 1945 Hayworth Ridge Fire - 14,943 acres
- 1950 Strong Mountain Fire - 20,619 acres
- 1981 Cow Mountain Fire - 25,664 acres
- 1987 Mendenhall Fire - 65,467 acres

- "Fire behavior is dramatically influenced by weather conditions. **Large costly fires are frequently, though not always, associated with severe fire weather conditions. Severe fire weather is typified by high temperatures, low humidity, and strong surface winds**." (Id. at pg. 42)

TUOLUMNE-CALAVERAS 2005:
(Pitre Decl., Ex. 14).

- "**The most sacred of all possessions is a person's home or business. These are threatened almost every time a wildfire burns**." (Id. at pg. 35)

- "**The fire environment in the Tuolumne-Calaveras Unit is conducive to large, damaging fires as shown by the major fire history map. Over 38% of the CDF DPA lands are covered with high hazard fuels (brush and timber).** The topography contains many steep canyons, which, in some cases, are inaccessible. Fighting fires with bulldozers is difficult, if not impossible, in much of the Unit due to this rugged terrain. **Severe fire weather occurs on 35% of the days during the fire season in much of the Unit. This, coupled with the rugged terrain and the high hazard fuels, increases the probability that large damaging fires will occur on a regular basis**." (Id. at pg. 13).

- "**The Tuolumne-Calaveras Unit Fire History Map shows that TCU has had a significant history of major fire incidents over the last 50 years. Almost every community in the unit has been threatened by wildfires that have occurred during this period. The greatest hazard to these communities due to the fuels, weather and topography exists on and east of the Highway 49 corridor.** The Valley Springs, Copperopolis and Lake Don Pedro areas are examples of vicinities outside this corridor that are threatened on a regular basis. **As mentioned in the Fire Environment section of this document, conditions that lead to the occurrence of major fires exist throughout much of the fire season. The question to ask is not, "Will a major fire occur?" but "When will a major fire occur?""**" (Id. at pg. 50)

- "**Through the National Fire Plan, the Communities at Risk list was developed to identify communities that were at risk from the threat of wildfires. The official California Communities at Risk list includes 34 communities in Calaveras County and 28 in Tuolumne** (Tables 1 & 2)." (Id. at pg. 36) **Of note, *all* of the communities that were either burned or threatened and evacuated by the 2015 Butte Fire were identified as "Communities at Risk", including Mountain Ranch, Mokelumne Hill, Murphys, Rail Road Flat, San Andreas, and Sheep Ranch.** (Id.).

Each one of the County Fire Plans also contain two maps: (1) a map that reflects major fire history in the area; and (2) a map that reflects fire risk severity in the area. All maps unequivocally show a history of catastrophic fires and a knowledge that severe risk for fire existed in several areas in the counties. Below are pasted the two maps for each relevant County as of 2005.

SONOMA-NAPA-LAKE-SOLANO 2005:

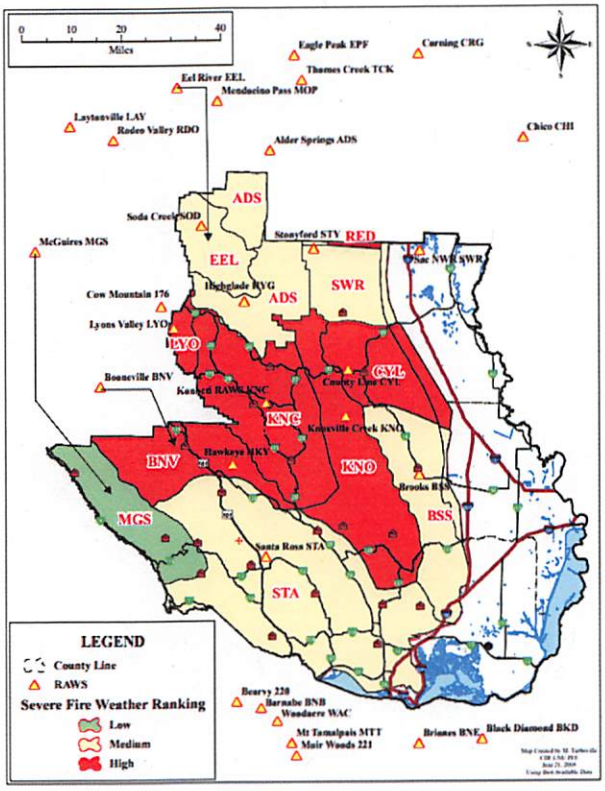


Figure 22: Final FWI Ranking with RAWS Locations (pg. 54)

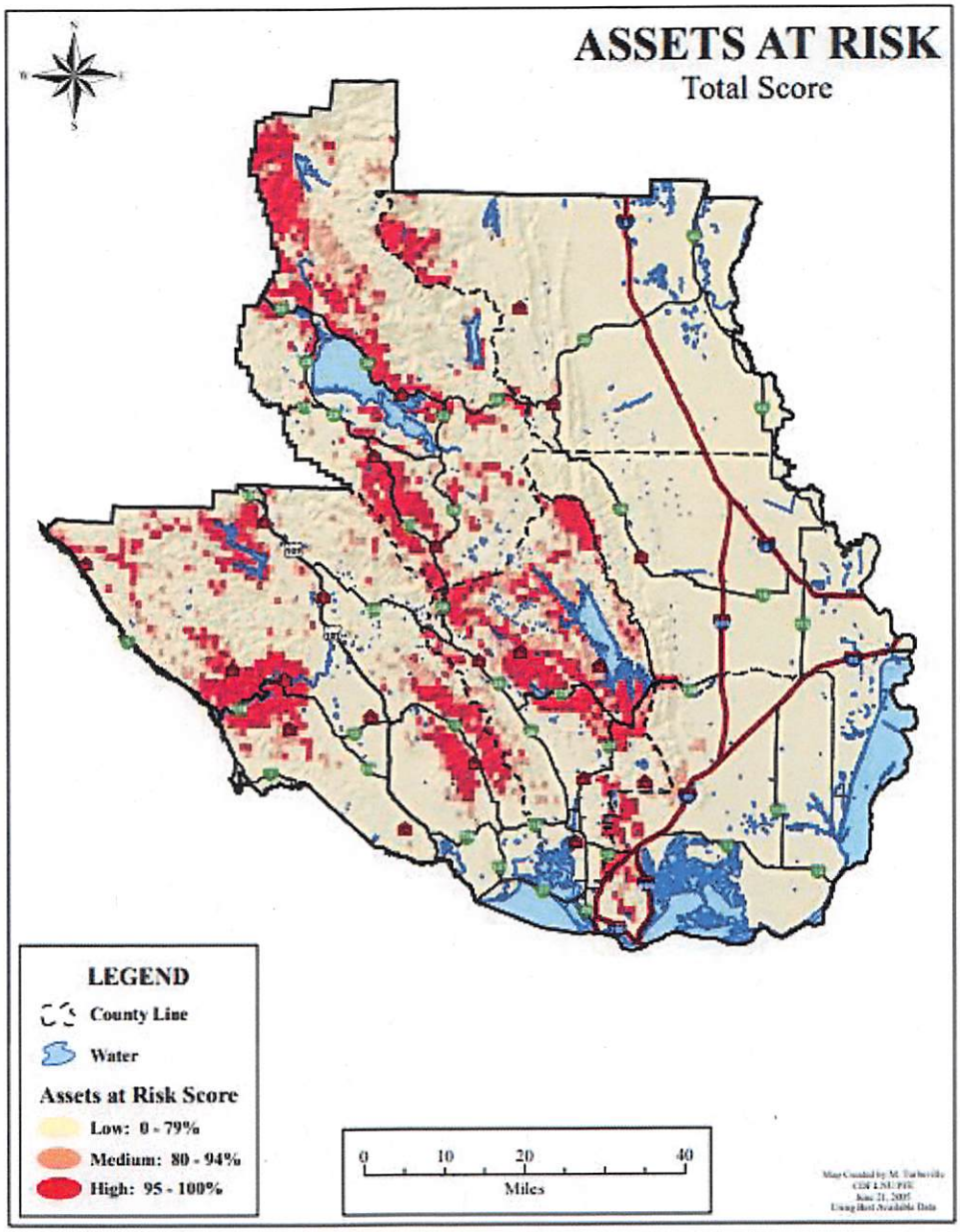


Figure 5: Assets at Risk Map (Total Score)

Figure 5: Assets at Risk (pg. 17)

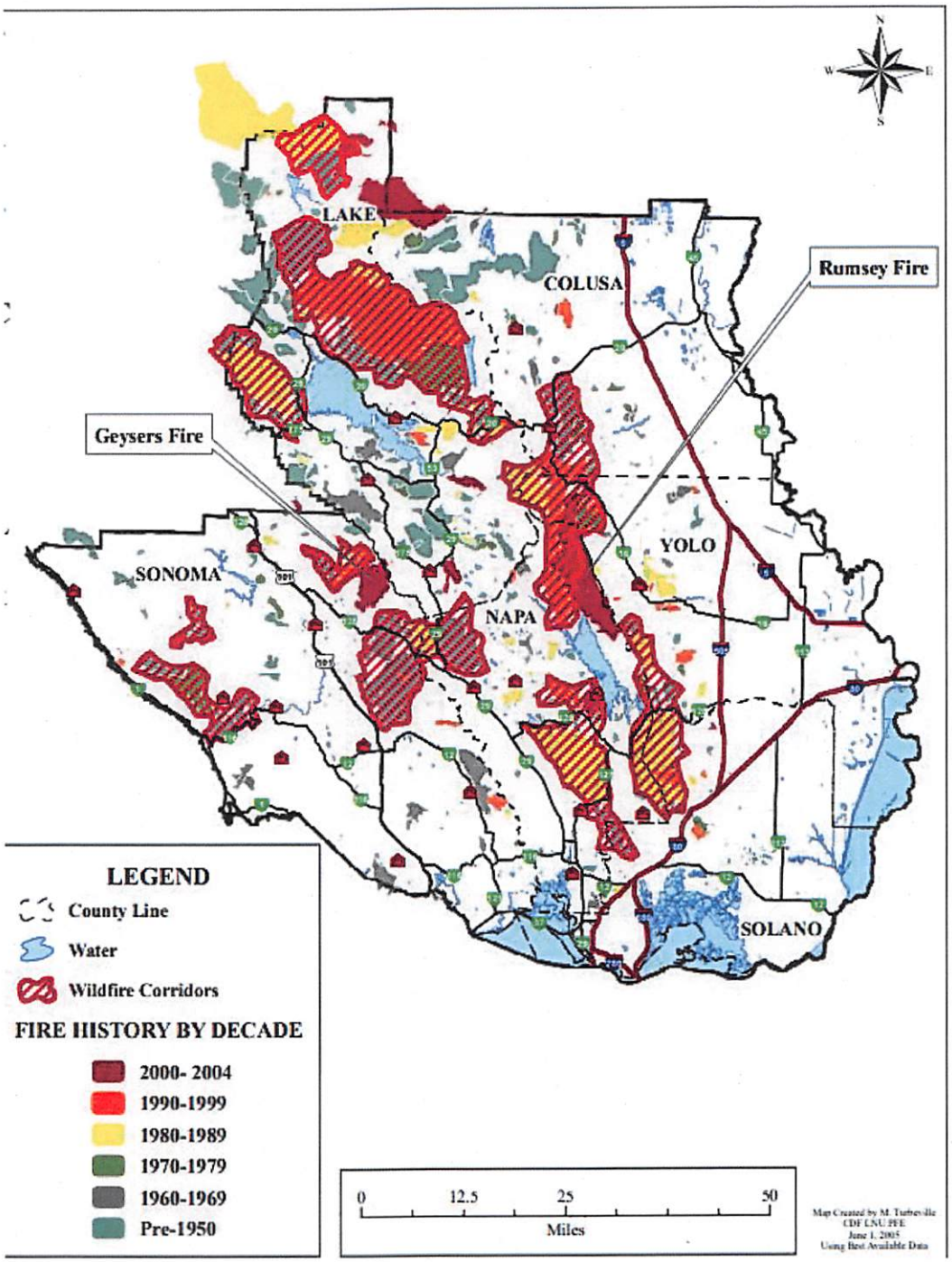
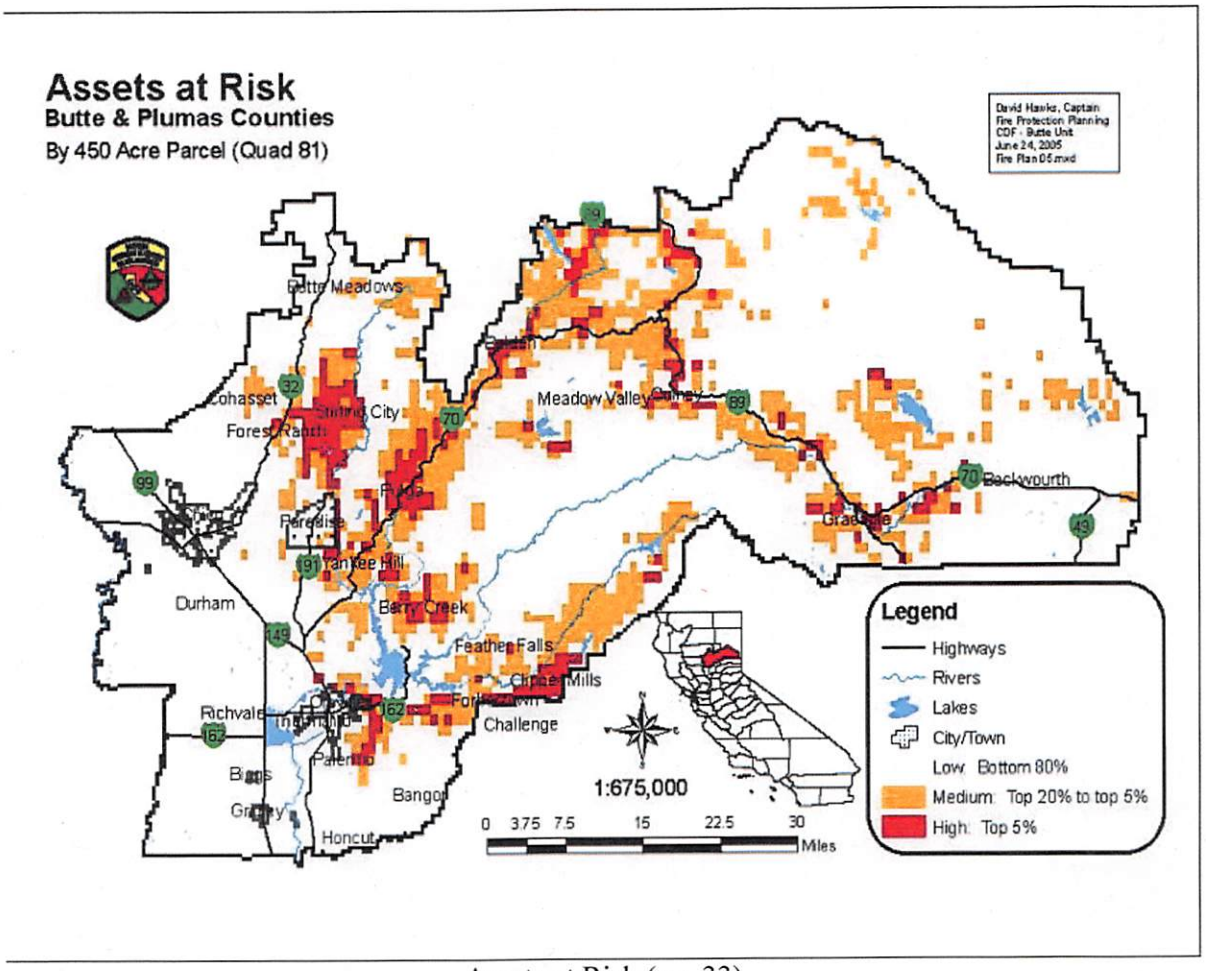
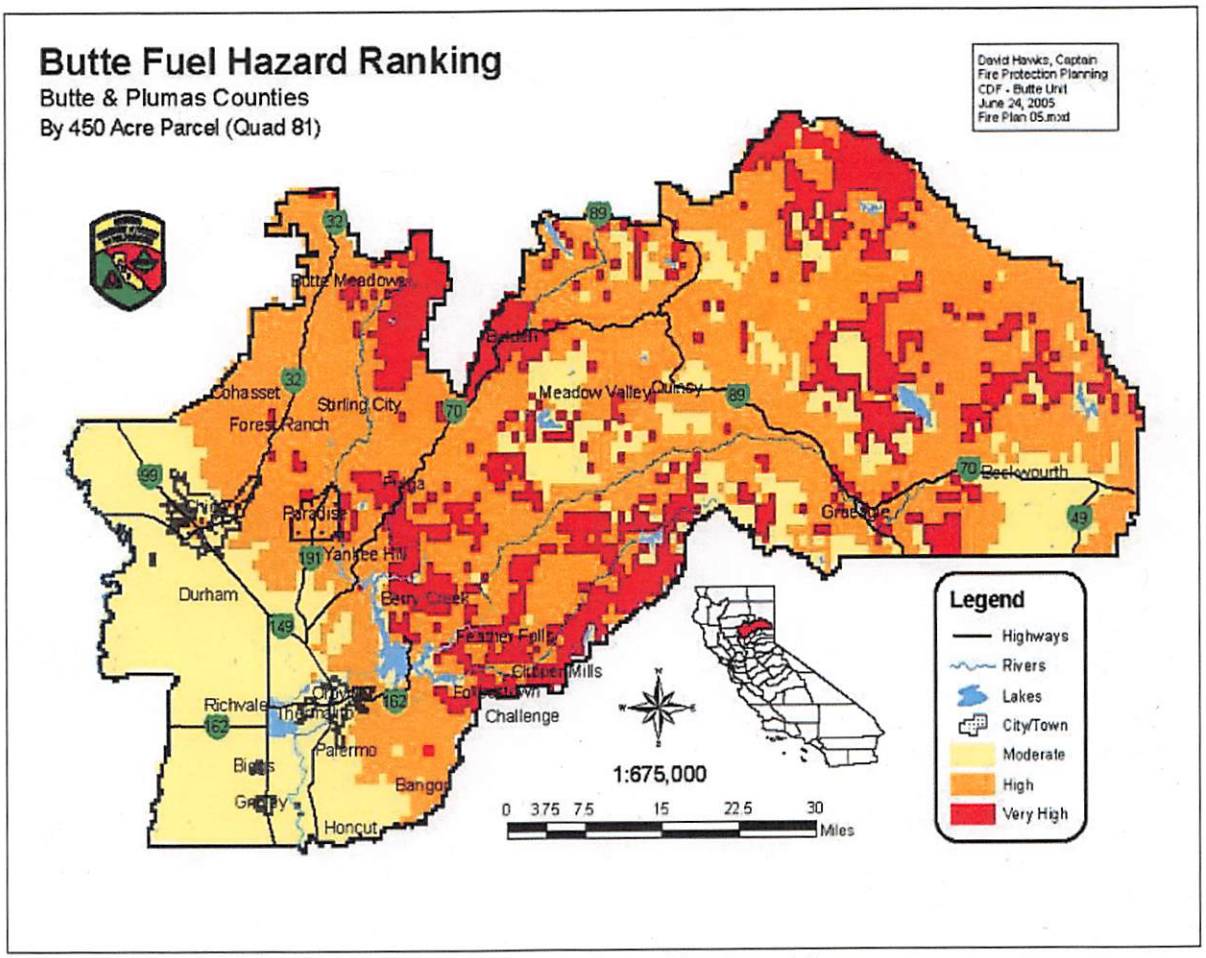


Figure 8: LNU Fire History with Wildfire Corridors (pg. 20)

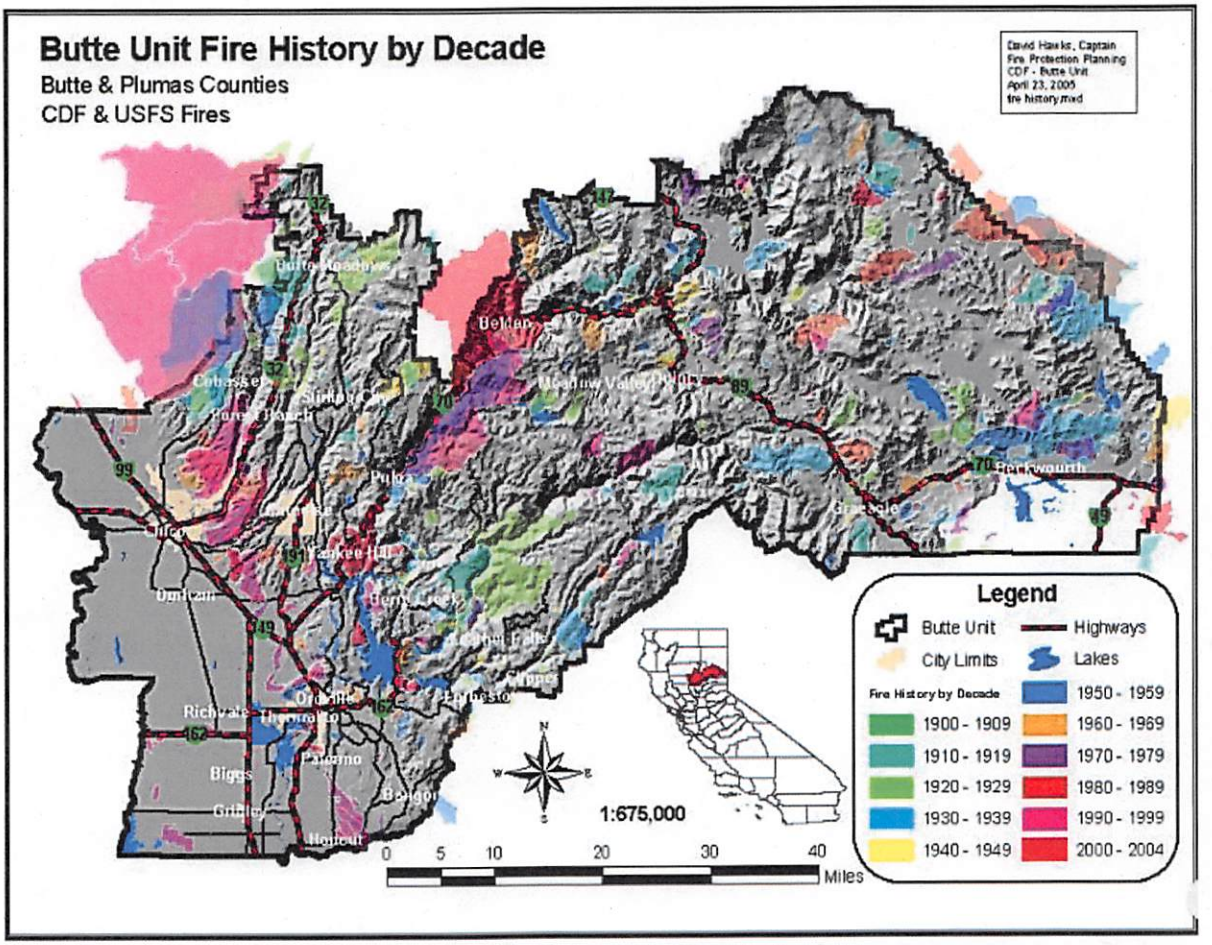
BUTTE 2005:



Assets at Risk (pg. 33)

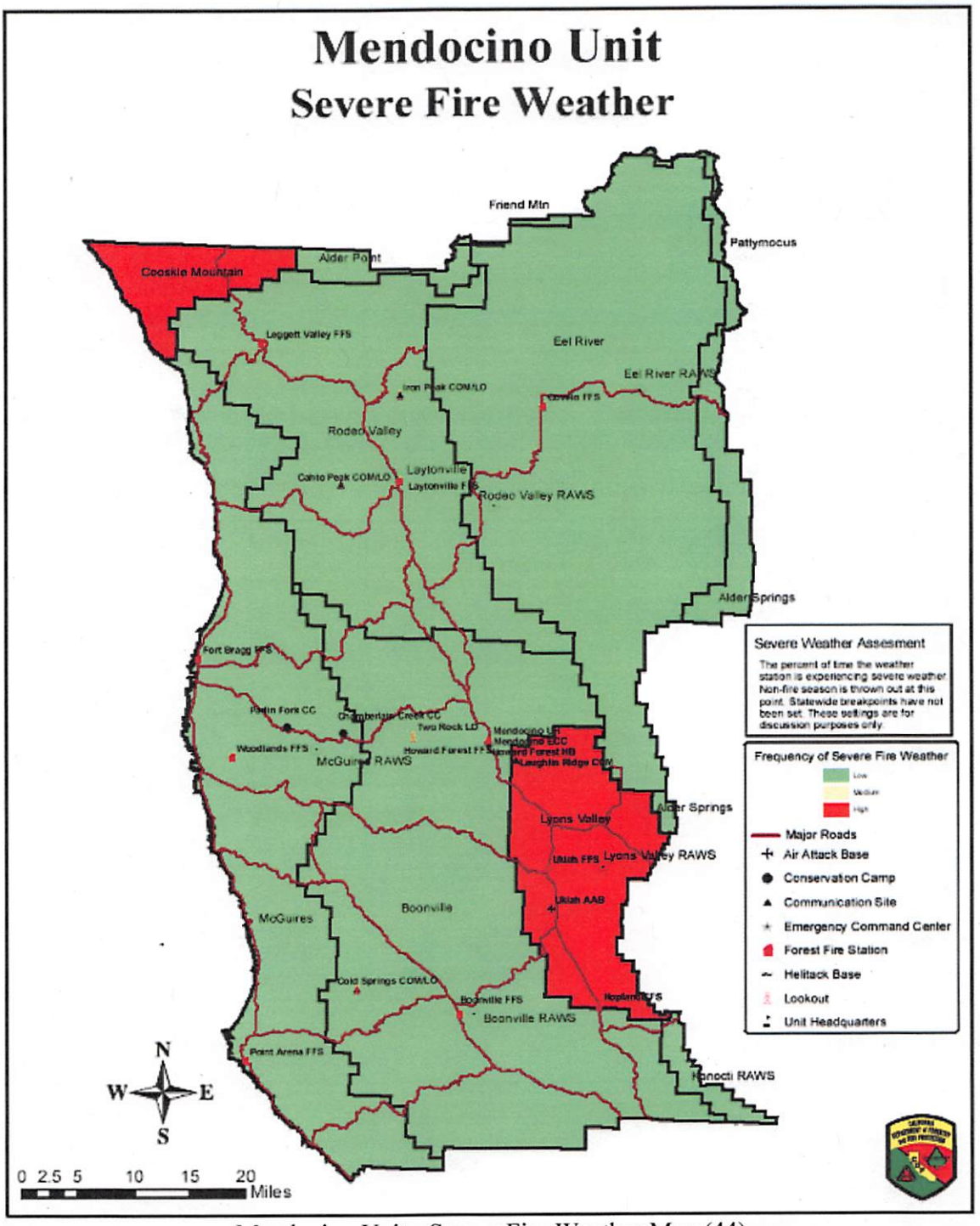


Butte Fuel Hazard Ranking (pg. 46)

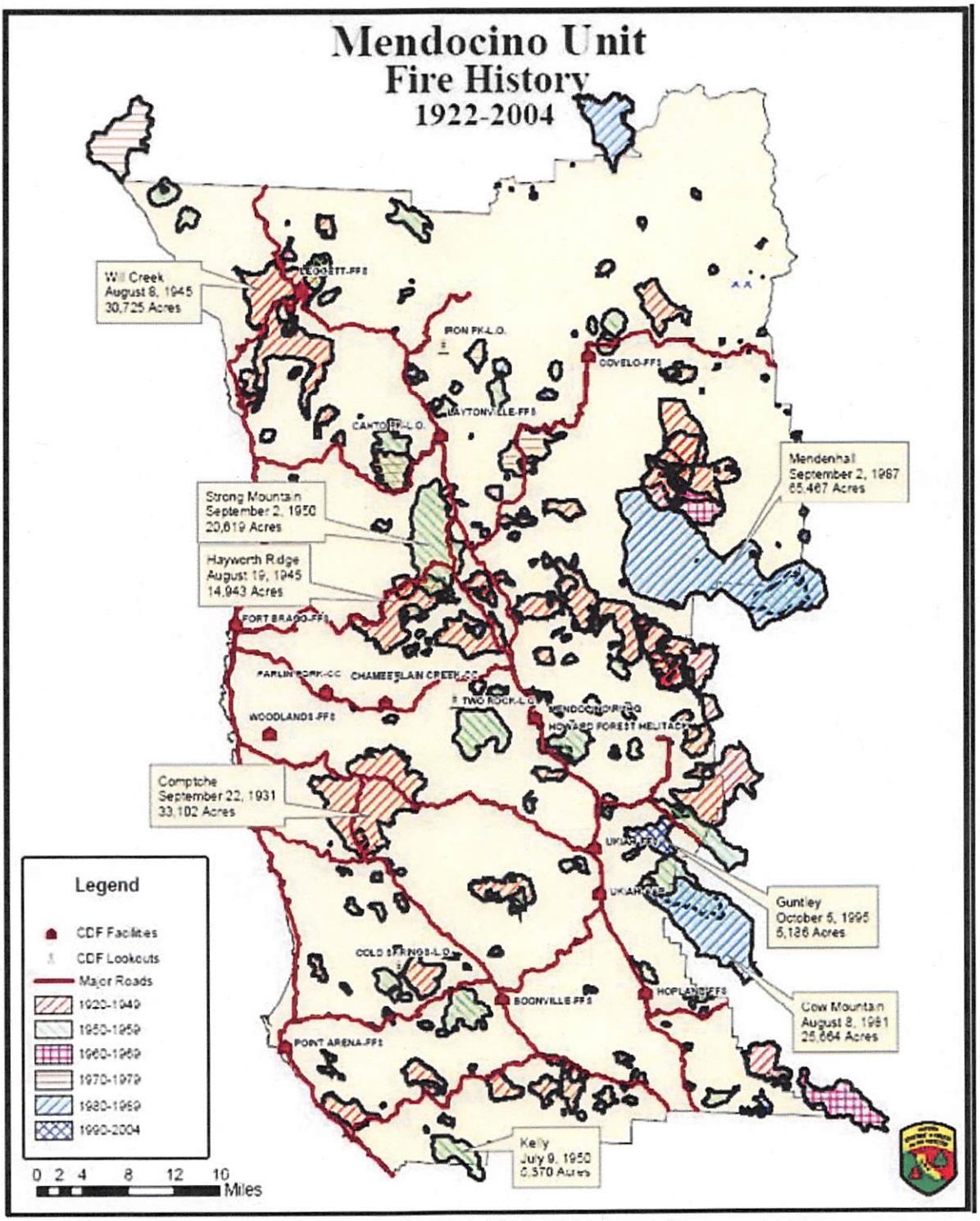


Butte Unit Fire History By Decade (pg 50)

MENDOCINO 2005:



Mendocino Unit - Severe Fire Weather Map (44)



Fire History Map 1922-2004 (pg. 46)

TUOLUMNE-CALAVERAS 2005:

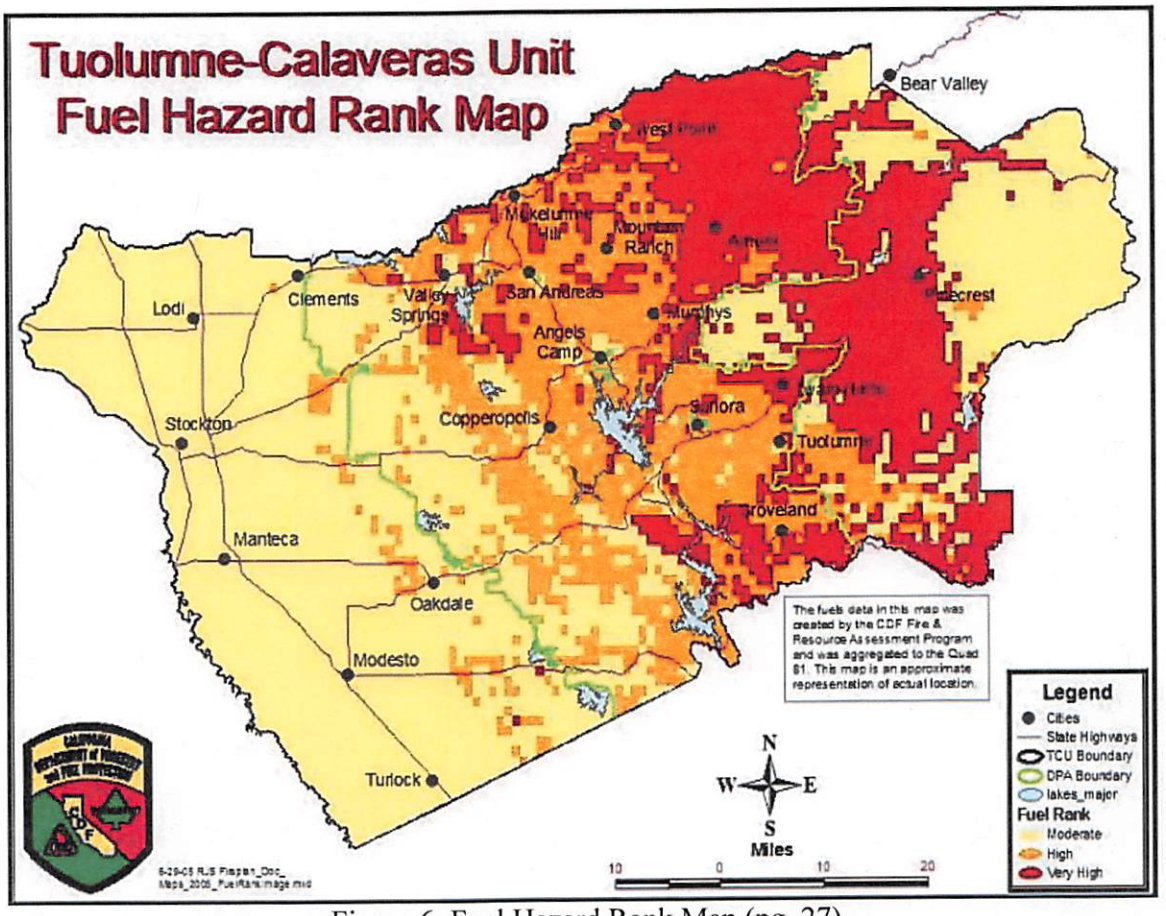


Figure 6: Fuel Hazard Rank Map (pg. 27)

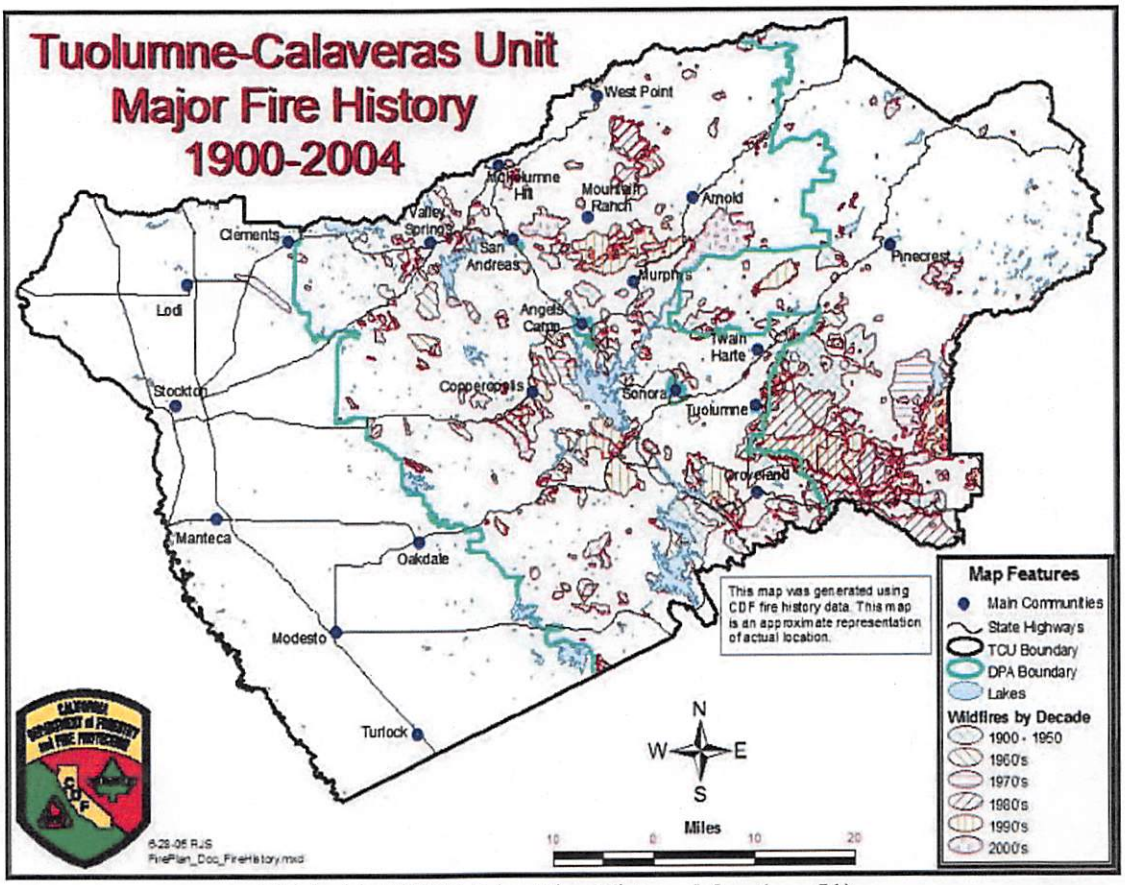


Table 11: TCU Major Fire History Map (pg. 51).

Furthermore, in January 2014, Governor Edmund Gerald Brown, Jr. declared a state of emergency due to California's continued drought. In response, the acting director of the Safety and Enforcement Division of the CPUC sent a letter in February 2014 to all Investor Owned Electric Utilities, including PG&E, that directed "them to take all practicable measures necessary to reduce the likelihood of fires started by [their] facilities." (Pitre Decl., Ex. 15).

In June that same year, the CPUC issued Resolution ESRB-4, which **"[d]irects Investor Owned Electric Utilities to take remedial measures to reduce the likelihood of fires started by or threatening utility facilities**." (Id. at pg. 1) "This Resolution will cause Investor Owned Electric Utilities to take remedial measures **to reduce the likelihood of fires associated with or threatening their facilities during the current drought**." (Id.). As for the "safety considerations", the Resolution "directs Investor Owned Electric Utilities to **take measures to reduce the likelihood of**

fires associated with or threatening their facilities, which will increase the safety to the general public in both forested areas and at urban–rural interfaces." (Id.)

On October 30, 2015, Governor Brown proclaimed a California Tree Mortality State of Emergency. (Pitre Decl., Ex. 16). In that proclamation, Governor Brown stated:

> WHEREAS a **lack of precipitation over the last four years [i.e. since 2011] has made trees in many regions of California susceptible to epidemic infestations of native bark beetles**, which are constrained under normal circumstances by the defense mechanisms of healthy trees; and
>
> **WHEREAS these drought conditions and resulting bark beetle infestations across broad areas have caused vast tree mortality in several regions of the state, with the United State Forest Service estimating that over 22 million trees are dead and that tens of millions more are likely to die by the end of this year**; and
>
> WHEREAS recent scientific measurements suggest that the scale of this tree die-off is unprecedented in modern history; and
>
> **WHEREAS this die-off is of such scale that it worsens wildfire risk across large regions of the State**, presents life safety risks from falling trees to Californians living in impacted rural, forested communities, and worsens the threat of erosion across watersheds;
>
> (Id. at pg. 1).

Although the Governor issued an Executive Order in April 2017 ending the Drought State of Emergency,

> the declaration directed state agencies "to continue response activities that may be needed to manage the lingering drought impacts to people and wildlife". **The California Tree Mortality State of Emergency issued in October 2015 by Governor Brown regarding the bark beetle infestation and resulting tree mortality remains in effect. The CPUC has not rescinded ESRB-4, and work by the utilities to comply with it and the Tree Mortality Emergency continues.**
>
> (Pitre Decl., Ex. 17, pg. 2).

Further, it bears noting that CAL FIRE has found PG&E overwhelming responsible for the 2017 catastrophic wildfires and as of February 28, 2019, PG&E publicly admitted that it is probably responsible for the Camp Fire.[4] If PG&E caused the wildfires, then the fundamental risk of wildfires did not increase. PG&E simply amplified the risk that already existed. For example: every car has a

[4] Eavis, Peter, "PG&E Says It Probably Caused the Fire That Destroyed Paradise, Calif.", NYTimes.com (Feb. 28, 2019) available at: https://www.nytimes.com/2019/02/28/business/energy-environment/pge-camp-fire.html.

fundamental risk of breaking down. Certain weather conditions and wear-and-tear on the vehicle can amplify that risk. However, the owner can also amplify that risk by failing to change the oil and failing to bring the vehicle in for repairs when dashboard lights go on. If a person fails to change the oil or repair the car, then the risk that owner's car will break down significantly increases. However, the same make and model car with the same miles, driven in the same area, in another person's hands who gets a regular oil change and repairs the car when lights go on, will not experience that significant increase in risk.

PG&E should have been changing the oil and repairing the car. PG&E has always been responsible for delivering power safely, maintaining its lines and equipment, and trimming hazardous vegetation. If they did not fulfill their legal duties, then PG&E amplified the risk of catastrophic wildfires and cannot rely on their own failures as an excuse for not recognizing the risk that already existed of not changing the oil and repairing the car.

PARAGRAPH 3 OF PLAINTIFFS' SUBMISSION:

> "During the course of discovery in the State Court actions, PG&E has at various times identified the number of miles of its distribution line as anywhere between 81,000 miles and 115,000 miles. (See Campora Decl., Exhibit B.) This means that PG&E was accepting trees on its lines would cause between 1,377 to 1,955 outages per year. In 2016, PG&E actually had 3,299 transmission and distribution 'wires down' (outages). According to PG&E, this total number was exacerbated by 'full tree failures.' (See Campora Decl., Exhibit C.)"

RESPONSE TO PARAGRAPH 3:

PG&E admits Paragraph 3 with respect to the number of wires down in 2016 and otherwise clarifies its accuracy. The document that Plaintiffs cite in support of the number of PG&E's line miles indicates that PG&E has approximately 81,000 miles of overhead distribution lines and 26,000 miles of underground distribution lines. (*See* Campora Decl. Exhibit B, Dkt. 1008-2 at 3.) It further indicates that PG&E's electric transmission system consists of approximately 18,000 line miles, the

majority of which are overhead lines. (*Id.*) Combined, PG&E has approximately 100,000 overhead line miles.[5] PG&E's underground lines are not vulnerable to above ground vegetation contact.

In its May 2015 Safety Model Assessment Proceeding testimony, discussed in Paragraph 2, PG&E did acknowledge that "[r]isk cannot be completely driven out of PG&E's—or any—business". (Campora Decl. Exhibit A, Dkt. 1008-1 at 46.) PG&E explained that it used a risk management process to determine where resources should be allocated based on the risk assessment procedures used at that time. (*Id.*) At that time, as discussed below in response to Plaintiffs' Paragraph 50, the risk of wildfire in Northern California was understood by PG&E and other stakeholders, such as the CPUC and the California Department of Forestry and Fire Protection ("CAL FIRE"), to be significantly lower than it is today. In fact, the statewide fire maps adopted by the CPUC in 2012 classified Santa Barbara County as the only "high fire threat area" in PG&E's service territory. PG&E's 2015 risk assessment with respect to vegetation contact with power lines must be understood in that pre-October 2017 context. That is not the risk climate in which PG&E operates today, and as PG&E has set forth in its Wildfire Safety Plan and its prior submissions to this Court, PG&E has fundamentally changed its risk management approach to address increased risks, particularly as it relates to vegetation management.

Plaintiffs further state that PG&E experienced 3,299 wires down in 2016. Although Plaintiffs are accurately citing the document, the PG&E data does not refer only to wires down caused by vegetation contact with power lines. Instead, it is "the number of instances where an electric transmission or primary distribution conductor is broken or falls". (Campora Decl. Exhibit C, Dkt. 1008-3 at 4.) This can and does occur for reasons other than vegetation contact (*e.g.*, car-pole collisions or other third-party contacts with power lines).[6]

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[5] This figure is consistent with the figures PG&E represented to the Court in its January 23 Submission (Jan. 23 Br. at 37), as well as its 2020 General Rate Case (*id.* Exhibit F, Dkt. 976-6 at 99).

[6] In 2016, approximately 1,400 of the wires down were caused by vegetation contact as compared to approximately 800 caused by third-party contact (primarily vehicles) with power lines.

Finally, Plaintiffs state that the number of wires down in 2016 was exacerbated by full tree failures. In 2014, Governor Brown declared a state of emergency due to California's severe drought and associated unprecedented tree mortality.[7] As an emergency measure to mitigate the effects of the drought and further reduce the likelihood of fire ignition associated with its facilities, PG&E began its Drought & Tree Mortality Response Program ("CEMA Program") in 2014. The program includes, among other things, increased inspections and vegetation removal in higher-fire threat areas, cooperating with California agencies and organizations to increase protective measures to decrease fire response times (*e.g.*, scheduling aircraft flights to provide early detection of fires), clearing access roads, and reducing fire fuels, such as brush.

In 2016, due to drought conditions, PG&E did experience a higher number of tree failures than it had experienced in prior years. (*Id.*) 2016 was a highly unusual year for tree mortality in California. Because of the drought, which continued to worsen in the years following 2014, as well as the associated bark beetle infestation, by November 2016, the USFS estimated that 62 million trees had died in that year alone—a 100 percent increase in trees dying in California since 2015. U.S. Forest Service, News Release, *New Aerial Survey Identifies More Than 100 Million Dead Trees in California* (Nov. 18, 2016), *available at* https://www.fs.fed.us/news/releases/new-aerial-survey-identifies-more-100-million-dead-trees-california. PG&E's drought and tree mortality response program was designed to respond to this increasing volume of dead and dying trees. Between 2010 and 2013, PG&E addressed between approximately 30,000 and 39,000 Facility Protection Trees ("FPTs") per year, and in 2014, when the drought and tree mortality response program began, PG&E addressed approximately 57,000 FPTs in connection with its routine and drought response

[7] By December 2017, the U.S. Forest Service ("USFS") and CAL FIRE announced that a record-breaking 129 million trees on 8.9 million acres died due to drought and bark beetles in California from 2010 to 2017. U.S. Forest Service, News Release, *Record 129 Million Dead Trees in California* (Dec. 12, 2017), *available at* https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd566303.pdf.

programs.[8] By 2015, PG&E addressed more than 100,000 FPTs, and by 2016, PG&E addressed approximately 280,000 FPTs, nearly triple the trees it had removed the prior year.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 3:

In regard to PG&E's claim that as of May 2015, "the risk of wildfire in Northern California was understood by PG&E and other stakeholders, such as the CPUC and the California Department of Forestry and Fire Protection ("CAL FIRE") to be significantly lower than it is today", the statement contradicts the information presented in our response to Paragraph 2. Further, there are several indications that other interested stakeholders were taking the risk of wildfires seriously before 2017 and that PG&E was and/or should have been aware of the position of other stakeholders.

For example, the first sentence of CAL FIRE's 2010 Strategic Fire Plan states: "The 2010 Strategic Fire Plan is a strikingly different fire plan than those developed in the past. **This Plan recognizes that fire will occur in California and works to answer the question of 'how do we utilize and live with that risk of wildfire?'"** (Pitre Decl., Ex. 18, pg. 1). The Executive Summary of the Plan also shows that PG&E and the parties understood that trees and forested areas were becoming a large hazard for the start of wildfires that are "ready to ignite and burn with great intensity."

> Scientists have generally agreed that the Earth's climate is changing. Although the far-reaching implications of these changes are still unknown, they may have impacted weather patterns, resulting in longer fire seasons and a greater probability of intense fires in western forests. In addition, the cumulative effects of multiple years of drought along with overstocked vegetation conditions have increased fire hazards in many forests of California that prehistorically experienced frequent, low-severity fires. The reduced moisture content of drought-stressed vegetation increases flammability over a longer period of the year, resulting in an active burning period that starts earlier and lasts longer than historical patterns. Drought-stressed vegetation

[8] As discussed in more detail below, PG&E defines FPTs as "[t]rees that are dead, show signs of disease, decay or ground or root disturbance, which may fall into or otherwise impact the conductors, towers or guy wires before the next inspection cycle". (Biancardi Decl. Ex. B, at PGE-CPUC_00005483.)

is more susceptible to insects and diseases, resulting in high mortality in trees and shrubs, leaving California wildlands with high levels of tinder-dry, dead woody material ready to ignite and burn with great intensity.

(Id. at pg. 5)

Data suggests a trend toward increasing acres burned statewide, with particular increases in conifer vegetation types. This trend is supported in part by the fact that the three largest fire years since 1950 have all occurred within the last 10 years.

Looking at the fire acreage organized by decade and by life form confirms these basic trends. Fire is most common in shrublands, across all decades, with a large spike in the last decade (Figure 1). Conifer, hardwood and herbaceous (grassland) all burned at a relatively similar amount from 1970 through 2000. In the 2000s, conifer fires significantly increased in annual acres burned, averaging 193,000 acres per year, compared to an average of 48,000 acres over the previous four decades.

(Id. at pg. 8)

Notably, "[t]his [was] the first statewide fire plan developed in concert between the State Board of Forestry and Fire Protection (Board) and the California Department of Forestry and Fire Protection (CAL FIRE). The Board consulted a group of outside experts to complete a needs assessment and subsequently formed the Fire Plan Steering Committee. This Committee worked for over a year preparing this document." (Id. at pg. 1).

PG&E and CALFIRE also collaborated in 2008 to publish the Power Line Fire Prevention Field Guide. (Pitre Decl., Ex. 19, pg 1-1 ["was developed as a mutual undertaking by Cal Fire, the Pacific Gas and Electric Company, the Southern California Edison Company, San Diego Gas and Electric and the other electric utilities of California."]). It specifically instructs and advises:

> **Electrical power presents an unusual hazard which brings about a mutual concern on the part of Local, State, Federal fire protection agencies and the electric utilities for making the transmission and distribution of electrical power as fire safe as possible.** Fire protection agencies in their regulatory roles are concerned with public safety, loss and damage to natural resources and watershed as well as the costs of fire suppression. **The electric utilities, both publicly and privately owned, are concerned with minimizing potential electrical fire hazards and minimizing interruptions of service to their customers.**
>
> **This mutual concern has led to the creation of several editions of this Guide and *now, to this revision.*** This Guide will be useful to, and used by, utility employees and

the Local, State and Federal fire and resource protection agencies. **The potential exists that power line caused fires will become conflagrations during the long, hot and dry fire season commonly experienced in California. The very same weather conditions that contribute to power line faults also lead and contribute to the rapid spread of wildfire. The most critical of these weather factors is high wind, which is commonly accompanied by high temperatures and low humidity.**

High, gusty winds may cause vegetation to sway into power lines, break off limbs or fall into power lines. High winds may also create vibrations in power lines that can lead to stress failures or cause loose connections to separate. Arcing usually accompanies such faults. Automatic Reclosers re-energizing the line into the fault may cause repeated arcing and increase the probability of igniting vegetation.

(Id. at pg. 1-5).

There is also the 1996 State of California Fire Plan, which states in four separate places that CDF (i.e. California Department of Forestry and Fire Protection, a.k.a. CAL FIRE) is actively "working with" "Pacific Gas & Electric Co." along with other stakeholders to address the threat of wildfires in California.[9] ((Pitre Decl., Ex. 20). Those excerpts in their entirety are pasted below:

- "This analysis addresses two basic questions: What are the aggregate values of the assets at risk to wildfire? What are the losses, both economic and non-economic, in a fire? Where possible, estimates of values were made on a dollar-per-acre basis. The methodologies used, although exposed to some peer review, need further review and refinement that is part of the pilot projects in the three ranger units. Also, CDF is working with the Department of Fish and Game, State Water Resources Control Board staff, Department of Water Resources, USDA Forest Service, Los Angeles Flood Control District, Pacific Gas & Electric Co. and the East Bay Municipal Utility District and other stakeholders to refine our approaches to wildlife, plants, ecosystem health, watersheds and water." (Id. at pg. 27)
- "Overall, it is clear that the economic costs of intense wildfire impacts on water and watershed are greater than the benefits derived from increased water flow. CDF is working with the State Water Resources Control Board staff, Department of Water Resources, USDA Forest Service, Los Angeles Flood Control District, Pacific Gas & Electric Co., the East Bay Municipal Utility District, and other stakeholders, to improve these preliminary

[9] Quite notably, Southern California Edison and San Diego Gas & Electric are never specifically acknowledged anywhere in the document as a stakeholder that CDF is working with to refine their approach.

characterizations and valuations of water and watershed impacts." (Id. at pg. 33)

- "CDF is working with the Department of Fish and Game, State Water Resources Control Board staff, Department of Water Resources, USDA Forest Service, Los Angeles Flood Control District, Pacific Gas & Electric Co. and the East Bay Municipal Utility District to refine our approaches to wildlife, plants, ecosystem health, watersheds and water." (Id. at pg. 58)

- "The department is working with the State Water Resources Control Board staff, Department of Water Resources, USDA Forest Service, Los Angeles Flood Control District, Pacific Gas & Electric Co. and East Bay Municipal Utility District to refine our approaches to water and watersheds." (Id. at pg. 82, fn. 3).

PG&E's claim that "the statewide fire maps" were "adopted by the CPUC in 2012" is inaccurate – the first map was not adopted by the CPUC until 2016. According to the CPUC website: "In 2012, the CPUC ordered the development of a statewide map that is designed specifically for the purpose of identifying areas where there is an increased risk for utility associated wildfires." "A multistep process was used to develop the statewide CPUC Fire-Threat Map. The first step was to develop Fire Map 1 (FM 1), an agnostic map which depicts areas of California where there is an elevated hazard for the ignition and rapid spread of powerline fires due to strong winds, abundant dry vegetation, and other environmental conditions." "FM 1 was developed by CAL FIRE and adopted by the CPUC in Decision 16-05-036." ((Pitre Decl., Ex. 21). Decision 1605-036, adopting Fire Map 1, was not issued until May 2016. (See snapshot below; Pitre Decl., Ex. 22).

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AL/JTIM/ek4 **Date of Issuance 5/27/2016**

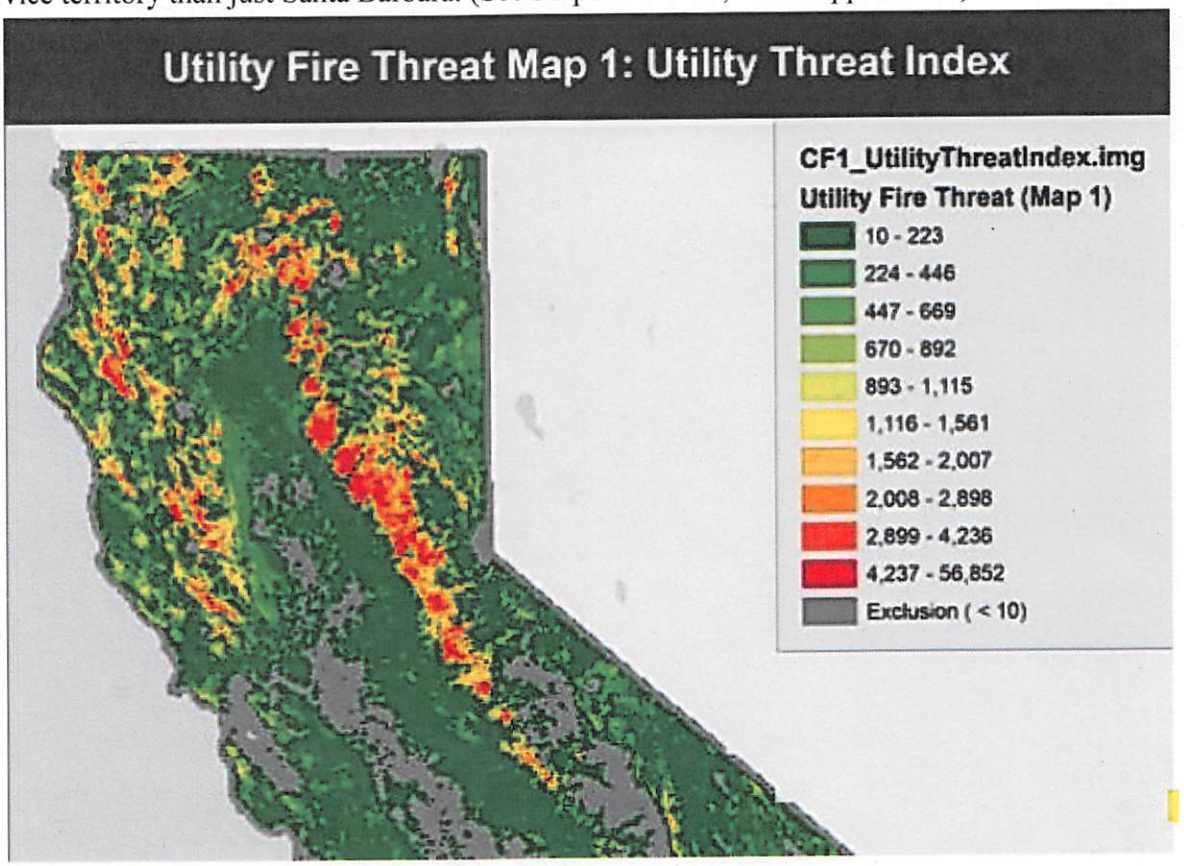
Decision 16-05-036 May 26, 2016

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop and Adopt Fire-Threat Maps and Fire-Safety Regulations.	Rulemaking 15-05-006 (Filed May 7, 2015)

DECISION ADOPTING FIRE MAP 1

On top of this, Fire Map 1—which appears on the last page of the decision—absolutely depicts elevated and extreme wildfire danger in more Northern California areas within PG&E's service territory than just Santa Barbara. (See snapshot below; Id. at Appendix A).



However, other governmental agencies had published fire maps way before 2016 that indicated elevated fire hazard areas in California, including CAL FIRE. CAL FIRE publishes the Fire Hazard Severity Zone Map. According to CAL FIRE, "Fire Hazard Severity Zones (FHSZ),

influence how people construct buildings and protect property to reduce risk associated with wildland fires. The maps were last updated in the mid-1980s and early 1990s." (Pitre Decl., Ex. 23). While we were not able to find the early versions of the map, we were able to access the 2007 CAL FIRE Fire Hazard Severity Zone Map on CAL FIRE's website at: http://frap.fire.ca.gov/webdata/maps/statewide/fhszs_map.pdf.

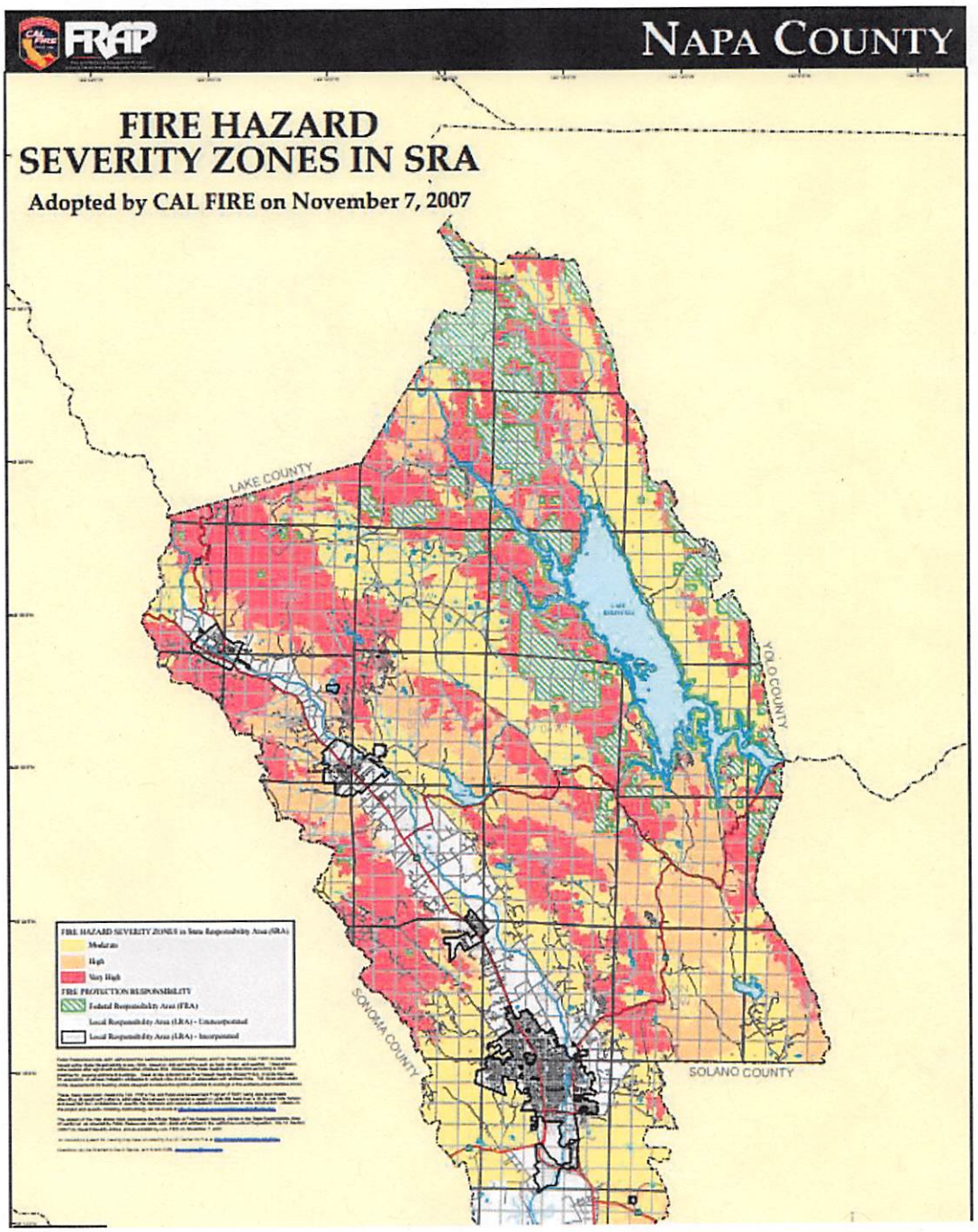
The November 7, 2007 CAL FIRE Fire Hazard Severity Zones Map identifies "very high", "high", and "moderate" fire hazard severity zones. **Several areas in Northern California and PG&E's service territory were identified as "very high" and "high" hazard severities, including where several of the North Bay Fires originated**. (Pitre Decl., Ex. 24).

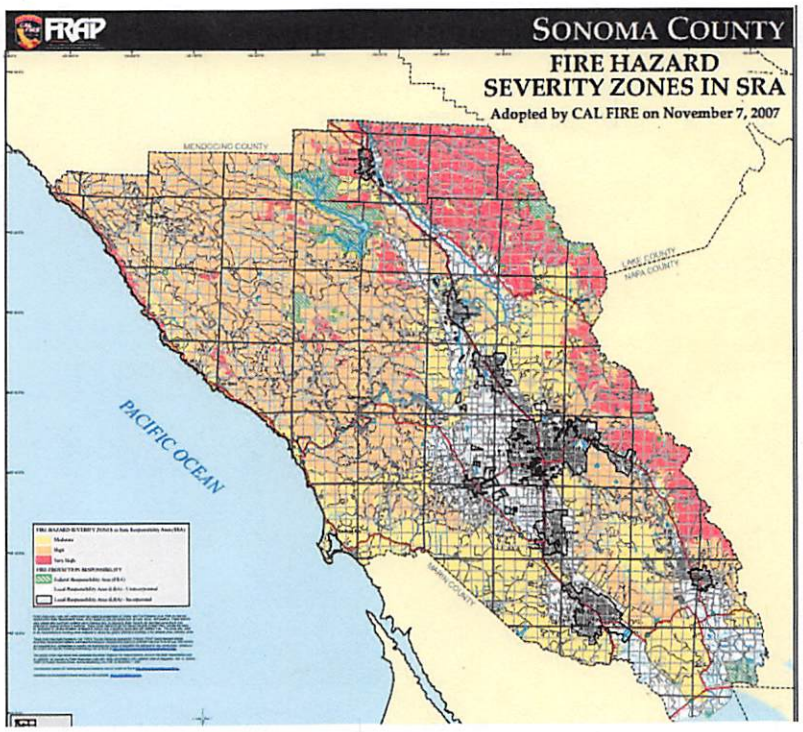
All but two North Bay Fires started in areas identified in 2007 as fire hazard zones. (Pitre Decl., ¶ 28). The only two North Bay Fires that did not start in an area identified as a fire hazard were Potter and Sullivan. In regard to Potter and Sullivan, their respective origins are less than five miles away from very high hazard severity zones. (Id.).

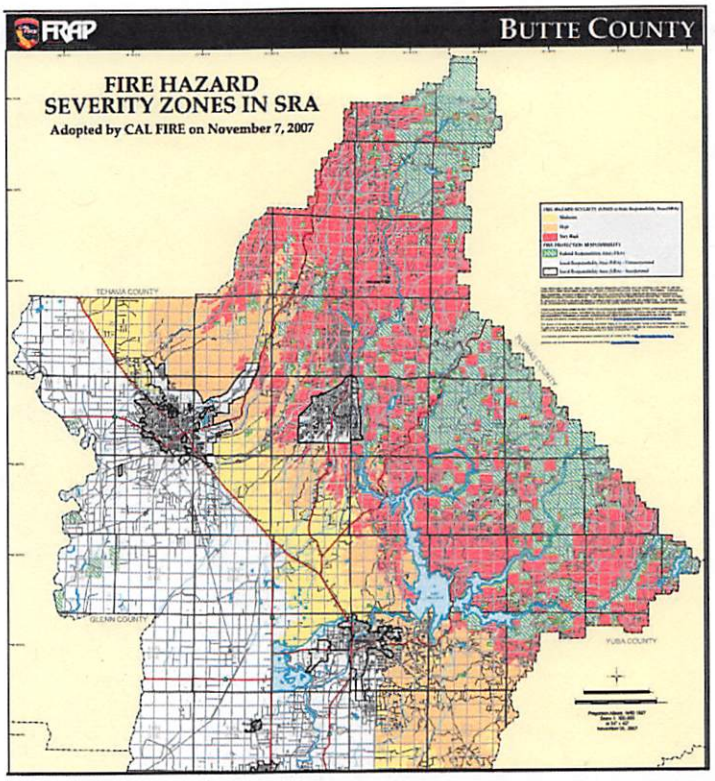
Seven North Bay Fires started in areas identified in 2007 as "very high" fire hazard severity zones, including the Nuns Complex, Cascade, Cherokee, Lobo, McCourtney, Pocket, and Point. (Id.). **Four started in areas identified as "high" fire hazard severity**, including Atlas, La Porte, Honey, and Sulphur. (Id.).

All three of the most destructive and deadly fires in the past two years where it has been alleged that PG&E is at fault, i.e. the Tubbs, Nuns and Camp Fires, started less than one mile away from a "very high" fire hazard severity zone. (Id.). The Nuns Complex Fire started in a "very high" fire hazard severity zones. And the Tubbs Fire and Camp Fire started within less than half-a-mile of a "very high" fire hazard severity zone. (Id.).

As an example pasted below are CAL FIRE's 2007 Fire Hazard Severity Zones Map for the three counties most impacted by the North Bay and Camp Fires (i.e. Napa, Sonoma and Butte), all of which have extensive areas zoned as "very high" fire hazard severity.







As stated directly on the front of the 2007 CAL FIRE Fire Hazard Severity Zones Map, **the map was meant to indicate where fire posed the greatest risk to human life** in the State of

California:

> Public Resources Code 4201-4204 direct the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard within State Responsibility Areas (SRA), based on relevant factors such as fuels, terrain, and weather. These statutes were passed after significant wildland-urban interface fires; **consequently these hazards are described according to their potential for causing ignitions to buildings. These zones, referred to as Fire Hazard Severity Zones (FHSZ), provide the basis for application of various mitigation strategies to reduce risks to buildings associated with wildland fires.**
>
> This map has been created by CAL FIRE's Fire and Resource Assessment Program (FRAP) using data and models describing development patterns, **estimated fire behavior characteristics based on potential fuels over a 30-50 year time horizon, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure to new construction.** Details on the project and specific modeling methodology can be found at http://frap.cdf.ca.gov/projects/hazard/methods.htm.
>
> The version of the map shown here represents the official "Maps of Fire Hazard Severity Zones in the State Responsibility Area of California" as required by PRC 4201-4204 and entitled in the California Code of Regulation, Title 14, Section 1280 Fire Hazard Severity Zones, and as adopted by CAL FIRE on November 7, 2007.
>
> (Pitre Decl., Ex. 24).

According to CALFIRE's description of the Fire Hazard Severity Zone map, it can assist in identifying "where **wildfire hazards could be more severe** and therefore are of greater concern":

> **What is a "Fire Hazard Severity Zone," or FHSZ?**
>
> Answer: An FHSZ is a mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high). **While FHSZ zones do not predict when or where a wildfire will occur, *they do identify areas where wildfire hazards could be more severe and therefore are of greater concern.***
>
> How are FHSZ classifications determined?
>
> Answer: **The classification of a zone as moderate, high, or very high fire hazard is based on a combination of how a fire will behave and the probability of flames and embers threatening buildings.** Zone boundaries and hazard levels are determined based on vegetation. For wildland areas, the current FHSZ model uses

burn probability and expected fire behavior based on weather, fuel, and terrain conditions. For urban areas, zone boundaries and hazard levels are based on vegetation density, adjacent wildland FHSZ scores, and distance from wildland areas. Each area of the map gets a score for flame length, embers, and the likelihood of the area burning. Scores are then averaged over the zone areas.

How are FHSZs used?

Answer: The FHSZs serve several purposes: they are used to designate areas where California's wildland urban interface building codes apply to new buildings; they can be a factor in real estate disclosure; **and local governments consider fire hazard severity in the safety elements of their general plans**.

(Pitre Decl., Ex. 25).

Again, it absolutely depicts elevated and extreme fire hazard risks in Northern California areas within PG&E's service territory, and in fact, those areas heavily correlate with the origin points of the North Bay Fires and the Camp Fire.

PARAGRAPH 4 OF PLAINTIFFS' SUBMISSION:

"In 2015, PG&E electrical equipment caused 435 fires, including the Butte Fire which burned 70,868 acres, destroyed 549 homes, and killed two people. (See Campora Decl., Exhibit D.) In 2016, PG&E reported 362 wildfires caused by its equipment. In 2017, that number was 501. (See Pitre Decl., Exhibit A [CPUC Fire Incident Data submitted by PG&E, SoCalEd, and SDG&E for 2014- 2017]). As of 2017, PG&E's own data predicted its equipment would cause '1 to 2 large fires per year (300 acres or greater).' (See Campora Decl., Exhibit C.)"

RESPONSE TO PARAGRAPH 4:

PG&E clarifies Paragraph 4. On February 5, 2014, the CPUC adopted a Fire Incident Data Collection Plan, which requires all electric utilities to submit an annual report to the CPUC of all fire-related reportable events that could include PG&E facilities meeting the following conditions: "(a) A self-propagating fire of material other than electrical and/or communication facilities, [where] (b) The resulting fire traveled greater than one linear meter from the ignition point, and (c) The utility has knowledge that the fire occurred". (CPUC Decision 14-02-015.) This reporting requirement does not include fires where the ignitions are not associated with utility facilities. (*Id.* Appendix C-3 n.4.) Many of the fires referenced in PG&E's incident reports from 2015 to 2017

were very small. For example, in 2015, 206 of the 435 fire incidents reported were less than 0.25 acres and another 121 were less than three meters. (*See* Pitre Decl. Exhibit A, Dkt. 1006-1.) Only 16 of the reported incidents were more than 10 acres.[10] (*Id.*)

Plaintiffs cite a March 2017 PG&E document that discusses the risk of wildfire in PG&E's service territory and noted that PG&E's Fire Incident Data Collection Plans from 2014 to 2016 indicated that there was a possibility that one to two large fires (300 acres or greater) could occur each year. (Campora Decl. Exhibit C, Dkt. 1008-3 at 4.) That risk assessment was performed before the 2017 and 2018 wildfires, at which point PG&E, CAL FIRE and others understood that the risk of wildfire spreading at a catastrophic rate in Northern California had significantly increased. The cited risk assessment must be understood in this pre-October 2017 context. As PG&E has set forth in its Wildfire Safety Plan and its prior submissions to this Court, PG&E has fundamentally changed its risk management approach to address increased risks, particularly as it relates to vegetation management.[11]

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 4:

In regard to PG&E's claim that "the risk assessment was performed before the 2017 and 2018 wildfires, at which point PG&E, CAL FIRE and others understood that the risk of wildfire spreading at a catastrophic rate in Northern California had significantly increased", we refer the Court to our response to PG&E's response to Paragraphs 2 and 3.

PG&E attempts to mislead the Court regarding their own document when stating "Plaintiffs cite a March 2017 PG&E document that discusses the risk of wildfire in PG&E's service territory and noted that PG&E's Fire Incident Data Collection Plans from 2014 to 2016 indicated that there was a *possibility* that one to two large fires (300 acres or greater) *could* occur each year." The exact language of PG&E's document is below and it clearly shows that 1 to 2 large fires per year was not a

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[10] 106 of the 435 fire incidents reported were caused by vegetation contact. (*Id.*)

[11] PG&E also notes that the California Department of Forestry and Fire Protection's ("CAL FIRE") data showed that at that time, only a small fraction of those one to two fires—approximately 5-10%—could become catastrophic. (Campora Decl. Exhibit C, Dkt. 1008-3 at 3.)

guess as to what *possibly could* happen in the future, but what their own data reflected was *actually happening*:

In regard to PG&E's claim that somehow its equipment causing one to two large fires (300 acres or greater) each year is not a significant enough *fact* to have warranted the mitigation measures it is now allegedly taking, requires explanation, especially when drought conditions were pervasive

Risk Score	623	791	**Driver of Change:** Frequency was increased from 30-100 years to 10-30 years, supported by PG&E ignition data and CALFIRE large fire history. PG&E ignition data shows 1 to 2 large fires per year (300 acres or greater). CALFIRE data shows ~5% to 10% of large fires become catastrophic fires (P95 events).

across Northern California before 2017. Can PG&E identify how many miles of its lines are not within 300 acres of structures? How many lives was it knowingly putting at risk one to two times each year?

Arguably, knowing that you will cause a fire one to two times a year that will put people's lives and livelihood at risk (even if not a catastrophic number) warrants taking mitigation and hardening measures in identified historic fire corridors and fire hazard areas. But because PG&E admittedly did not take those measures, the risk absolutely warranted proactively de-energizing lines when conditions in those areas indicated extreme high winds, low humidity and dry vegetation, i.e. the perfect storm for a 300 acre fire to turn into a catastrophic event.

PARAGRAPH 5 OF PLAINTIFFS' SUBMISSION:

> "Although PG&E claims that there are only 'a small number of wildfires caused by PG&E equipment each year,' the data reflects a much different story; especially when PG&E's numbers are compared to the number of wildfires caused by Southern California Edison ('SoCalEd') -- a comparable utility to PG&E. (Campora Decl., Exhibit A). SoCalEd serves 15 million people across approximately 50,000 square-miles, operating and maintaining 91,375 miles of distribution lines and 1,433,336 electric poles.* In comparison, PG&E services approximately 16 million people throughout a 70,000-square-mile service area, operating and maintaining between 81,000 miles and 115,000 miles of distribution lines and 2,400,000 electric poles.*
>
> * [FN 1]: https://www.sce.com/about-us/who-we-are.
>
> * [FN 2]: https://www.pgecurrents.com/2017/11/08/facts-about-pge-pole-management-and-maintenance/."

RESPONSE TO PARAGRAPH 5:

PG&E clarifies Paragraph 5. Plaintiffs assert that "PG&E claims that there are only 'a small number of wildfires caused by PG&E equipment each year'", but do not attribute that statement to any source. PG&E made that statement in its May 1, 2015 Safety Model Assessment Plan testimony. (*See* Campora Decl. Ex. A, at 46.) As of the date of that submission, there had been only six ignitions that year, all of which were smaller than 9.99 acres. The statement was accurate at the time it was made, before the Butte fire and long before the 2017 and 2018 wildfires. When the quote is viewed in its proper context, it confirms PG&E's statements here and in other submissions that wildfire risk in PG&E's service territory has fundamentally changed in the past few years.

Plaintiffs' attempt to draw comparisons between PG&E and Southern California Edison ("SCE") is misleading given differences between PG&E's and SCE's service territories. For example, the geography of the utilities' service territories differs significantly. According to the USFS, most of the high-density forest area in California is in Northern California. (WSP at 19 & n.19 (citing USDA Forest Service, 2017 RPA data).) PG&E therefore operates in a more heavily forested and vegetated area than SCE. (*Id.* at 71 & n.54 (citing California Forest Resources: Forest Inventory and Analysis, 2001-2010, Gen. Tech. Rep. PNW-GTR-913, Portland, OR, U.S. Dep't of Agriculture, Forest Service, Pacific Northwest Research Station (2016) at 3, 6-7, 17, available at https://www.fs.fed.us/pnw/pubs/pnw_gtr913.pdf).) This is readily evident from the number of trees in proximity to each utility's power lines: there are more than 100 million trees in proximity to PG&E's overhead power lines whereas SCE has closer to 900,000 trees in proximity to its overhead power lines. Southern California Edison, 2018 Fire Prevention Plan, Oct. 30, 2018, at 20 *available at* http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Safety/Electric_Safety_and_Reliability/Filings/2018%20SCE%20GO%20166.pdf.

Further, Plaintiffs note that SCE operates 91,375 miles of distribution lines compared to PG&E's 81,000 miles of distribution lines, apparently seeking to suggest that the two companies have a comparable number of distribution circuit miles impacting wildfire risk. PG&E, however,

has approximately 25,000 overhead primary distribution circuit miles in High Fire-Threat Districts ("HFTDs")—nearly twice as many as SCE's approximately 13,000 HFTD overhead primary distribution circuit miles.[12] Moreover, many of SCE's HFTD miles are more densely populated urban areas generally understood to represent lower wildfire risk. In fact, PG&E has more overhead distribution circuit miles in its service territory that traverse HFTD areas than SCE and SDG&E combined; about 65 percent of California investor owned utilities' overhead distribution circuits located in Tier 2 and Tier 3 HFTD areas are in PG&E's service territory.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 5:

First, PG&E claims that its statement that "there are only a small number of wildfires caused by PG&E equipment each year" is accurate because it was made in May 2015 and PG&E had only caused six ignitions so far that year. However, this entirely ignores the last two words of the sentence: *each year*. Therefore, this explanation does not appear responsive.

Second, PG&E seems to be generally claiming in this response that its territory is somehow at greater risk for catastrophic wildfires than SoCalEd. This assertion undermines PG&E's argument that it did not know there was a significant risk of catastrophic wildfires in Northern California before 2017.

Specifically, in regard to PG&E's claim that it is not comparable to SoCalEd because there are more than 100 million trees in proximity to PG&E's overhead power lines, PG&E does not cite to any evidence or support for its data. Nor is there any declaration to support the statement. However, even if we accept this alleged fact, PG&E is ostensibly using it to argue that its overhead lines are inherently more at risk to causing catastrophic wildfires due to their proximity to trees. And that only supports the conclusion that PG&E should have been diligently trimming hazardous vegetation and maintaining equipment in heavily forested areas that were known to be at risk for causing a fire.

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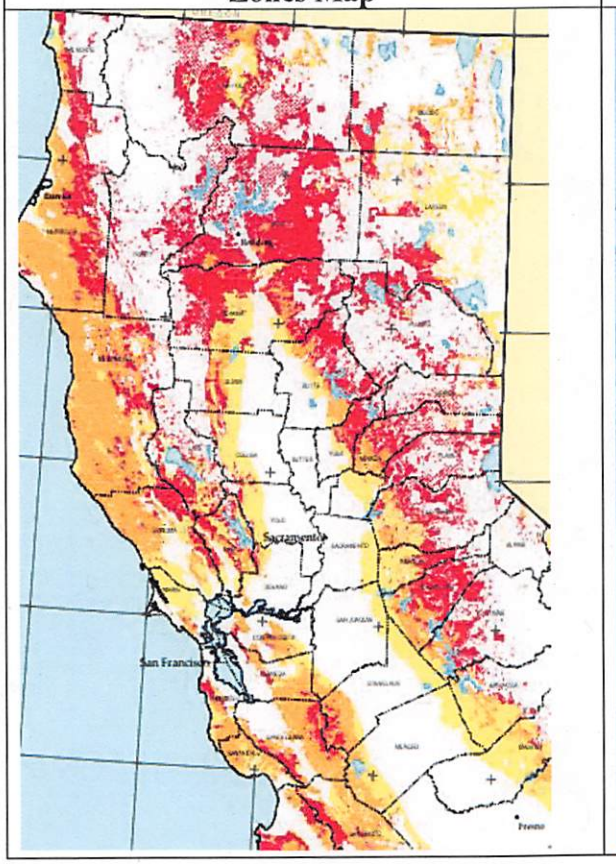
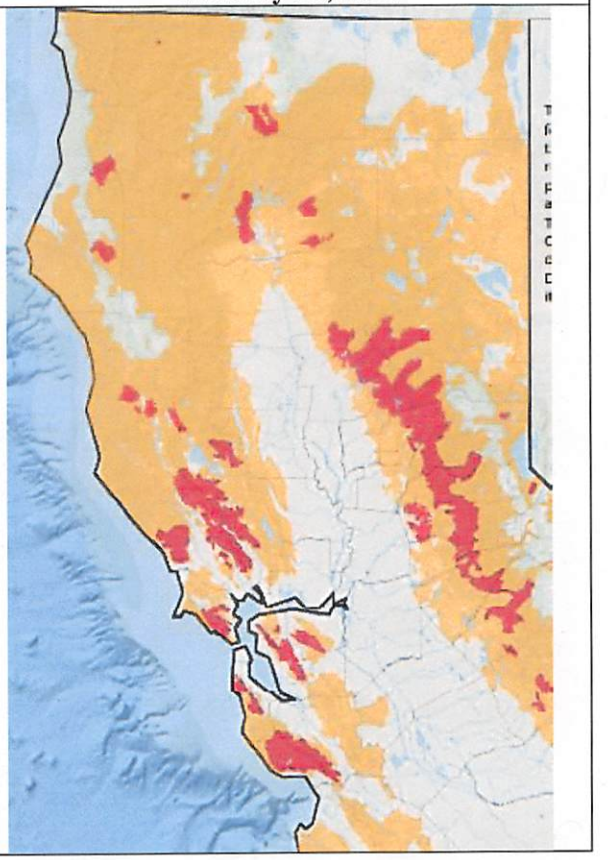
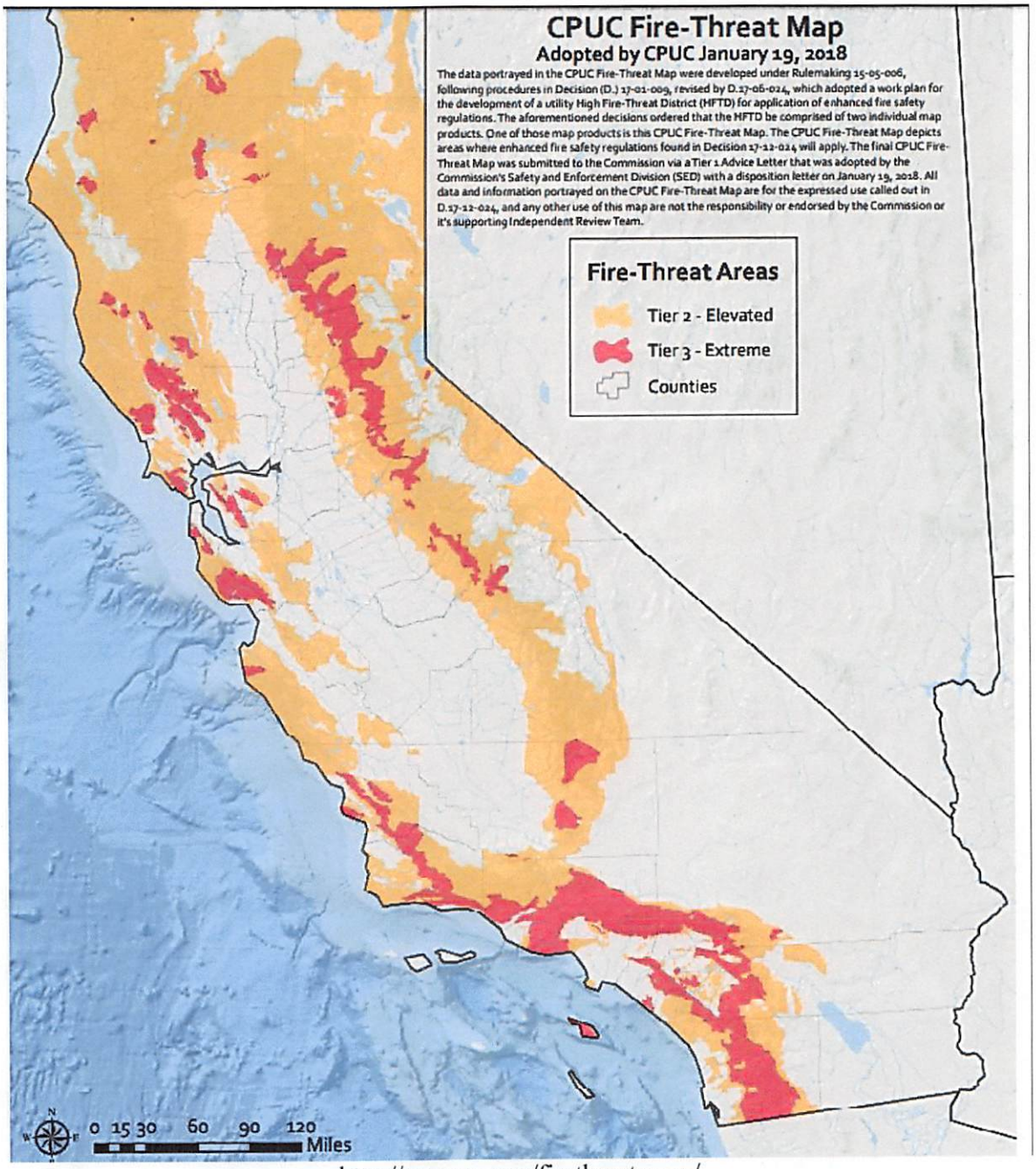
[12] In January 2018, the CPUC adopted the High Fire-Threat District Map that identified certain areas statewide as Tier 2 ("elevated") and Tier 3 ("extreme") for wildfire risk. (*See* Pitre Decl. Exhibit D, Dkt. 1006-4.)

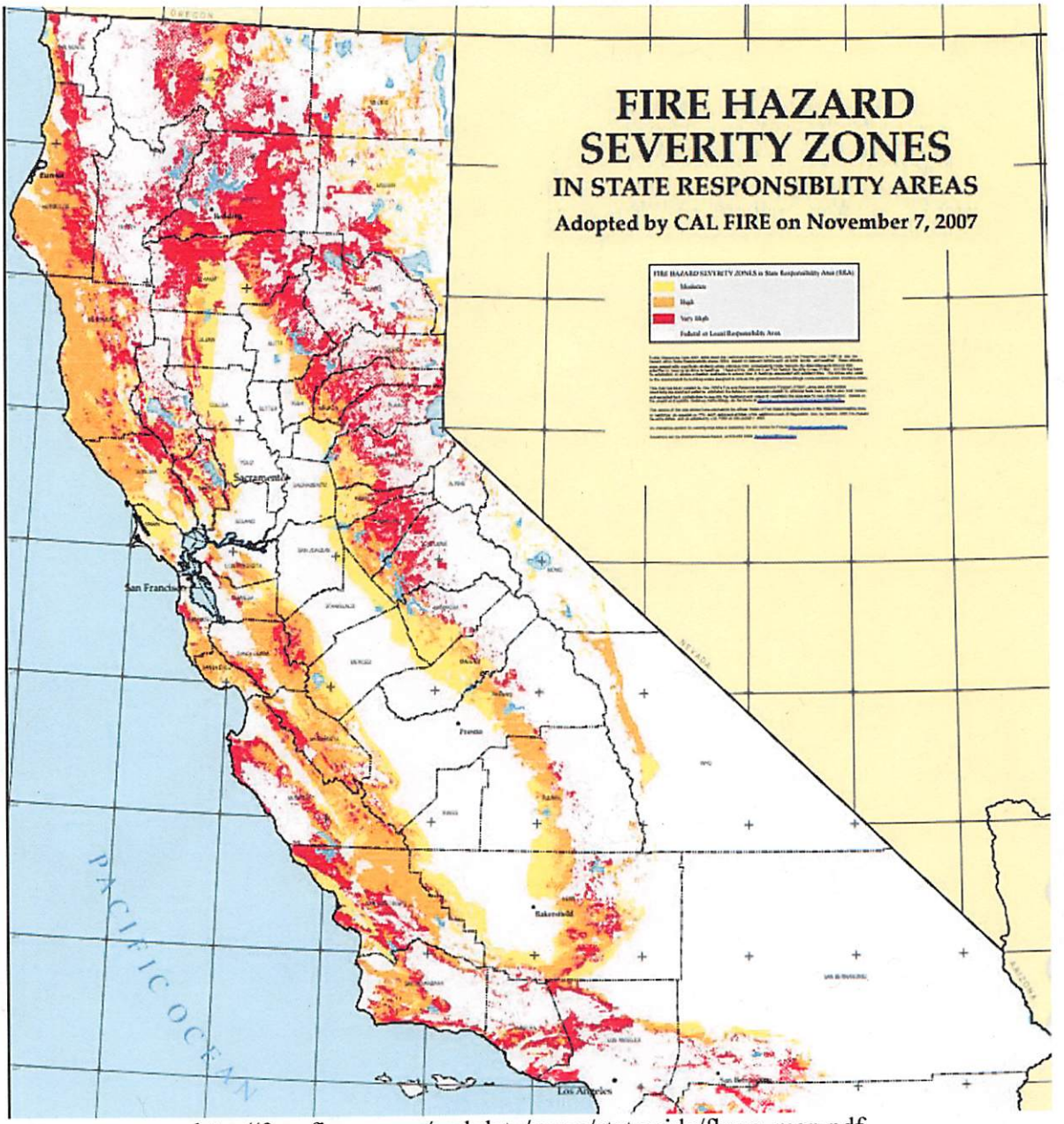
Regarding PG&E's claims that its territory has significantly more area at high risk for wildfire than Southern California, this argument completely contradicts PG&E's claim that the wildfire risk was not significant in Northern California before 2017. The world did not turn on its head in 2017. A comparison of the CAL FIRE 2007 Fire Hazard Severity Zones Map with the 2018 CPUC Fire-Threat Map demonstrates this – the maps reflect very similar hazard areas and levels of risk.

CAL FIRE 2007 Fire Hazard Severity Zones Map	**CPUC Fire-Threat Map Adopted January 19, 2018**
	

Here are the full-size maps for the Court's reference:



http://cpuc.ca.gov/firethreatmaps/



http://frap.fire.ca.gov/webdata/maps/statewide/fhszs_map.pdf

PARAGRAPH 6 OF PLAINTIFFS' SUBMISSION:

"**Despite the similarities in service size and miles of distribution lines, PG&E's electrical equipment caused 1,208 more wildfires than SoCalEd's equipment between 2014 to 2017** – as self-reported to the CPUC by the utilities. **In total, PG&E's equipment caused 1552 wildfires. While SoCalEd only caused 344 fires over the same time period. This means PG&E's equipment caused 4.5 times more wildfires than SoCalEd.** (See Pitre Decl., Exhibit A [CPUC Fire Incident Data submitted by PG&E, SoCalEd, and SDG&E for 2014-2017])."

RESPONSE TO PARAGRAPH 6:

For the reasons stated in its response to Paragraph 5, PG&E denies Paragraph 6 with respect to Plaintiffs' statement that PG&E's and SCE's service size and miles of distribution lines are comparable. PG&E also clarifies Paragraph 6 with respect to Plaintiffs' inaccurate description of the data reported to the CPUC as set forth in PG&E's response to Paragraph 4 (*i.e.*, the Fire Incident Collection Plan requires that utilities submit data concerning all fire incidents greater than one linear mile associated to a utility's facilities). From 2014 to 2017, PG&E reported nine fires greater than 300 acres. In comparison, SCE reported seven fires greater than 300 acres during that same time.[13]

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 6:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 7 OF PLAINTIFFS' SUBMISSION:

> "PG&E's equipment was also responsible for more fires of large scale, including 43 more fires than SoCalEd that burned between 10-99 acres, 3 more between 100-299 acres, and 2 more between 300-999 acres. (Id.). 'CALFIRE data shows ~5% to 10% of large fires become catastrophic fires (P95 events).' (See Campora Decl., Exhibit C.)"

RESPONSE TO PARAGRAPH 7:

PG&E admits that Paragraph 7 accurately summarizes the utilities' respective Fire Incident Data Collection Plans and accurately quotes the language in Campora Decl. Exhibit C, Dkt. 1008-3. PG&E also refers to its response to Paragraph 4.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 7:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 8 OF PLAINTIFFS' SUBMISSION:

> "What is more troubling is that PG&E's numbers do not include the North Bay Fires, as PG&E admitted to this Court that it did not include those fires in its submission of 2017 Fire Incident Data to the CPUC. (See document 971, Case No. 14-CR-00175-WHA, 'Response to Request for Clarification', pg. 2 ['Fire incidents that apparently occurred as part of the

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[13] As discussed in Response to Paragraph 8, PG&E's 2017 Fire Incident Data Collection Plan did not include the North Bay Fires, and SCE's 2017 Fire Incident Data Collection Plan did not include the Thomas fire.

October 2017 Northern California Wildfires have been excluded from this report were the cause of the ignition is under investigation or may be disputed.']).”

RESPONSE TO PARAGRAPH 8:

PG&E admits Paragraph 8 to the extent that its 2017 Fire Incident Data Collection Plan does not include the North Bay Fires, as the causes of the ignitions were under investigation and/or disputed. These fires collectively burned about 230,000 acres. PG&E notes that SCE's 2017 Fire Incident Data Collection Plan does not include the Thomas fire, which occurred in SCE's service territory in December 2017 and burned approximately 282,000 acres.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 8:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 9 OF PLAINTIFFS' SUBMISSION:

“While PG&E may not be able to mitigate all risk, it should be able to at least keep pace with its counter-part SoCalEd, which serves more extreme wildfire prone areas. Roughly a quarter of SoCalEd's service territory is categorized as a high fire risk area.* (See also Pitre Decl., Exhibit B [Utility Service Territories Overlaid onto CPUC Fire Map]).

* [FN 3]: https://www.sce.com/safety/wildfire.”

RESPONSE TO PARAGRAPH 9:

PG&E denies Paragraph 9 to the extent Plaintiffs assert that SCE currently serves more extreme wildfire prone areas than does PG&E. As stated in response to Paragraph 5, PG&E has more overhead distribution circuit miles in its service territory that traverse HFTD areas than SCE and SDG&E combined; about 65 percent of California investor owned utilities' overhead distribution circuits located in Tier 2 and Tier 3 HFTDs are in PG&E's service territory. Approximately 52 percent of PG&E's service territory is characterized as an HFTD area as compared to roughly a quarter of SCE's.

PG&E accepts and acknowledges that with respect to wildfire mitigation measures, there are certain areas in which SDG&E and SCE are more advanced than PG&E. This is because, as discussed in response to Paragraph 50, historically, Southern California faced a higher wildfire risk. The wildfire risks in Northern California were not comparable to those seen in Southern California

in the 2007-2008 time period, which is when the Southern California utilities began developing their wildfire reduction programs. At that time, Northern California had not yet experienced the confluence of weather events that led to a dramatic increase in wildfire risk that culminated in the October 2017 North Bay Wildfires. PG&E is working diligently to adopt similar aggressive and effective programs given the new risk level present in PG&E's service territory.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 9:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 10 OF PLAINTIFFS' SUBMISSION:

> "III. **IT IS WELL-UNDERSTOOD THAT UTILITY CAUSED WILDFIRES OCCUR IN PREDICTABLE LOCATIONS, DURING EXTREME HIGH WIND EVENTS, AND ARE PRIMARILY CAUSED BY TREE FAILURES**
>
> A. High Wildfire-Prone Areas Are Identifiable Based On Fire History, Vegetation And Topography
>
> First, it is important to note that '[l]arge wildfires are not new to California's landscape.' (See Pitre Decl., Exhibit C, pg. 1). CAL FIRE statistics dating back to 1933 confirm that the number of wildfires and the acreage burned by those fires is not the 'new' normal, but has been occurring for decades. (See Pitre Decl., Exhibit U)."

RESPONSE TO PARAGRAPH 10:

PG&E admits that the first sentence of Paragraph 10 accurately quotes a line from a 2018 study by the National Oceanic Atmospheric Agency and the National Weather Service Storm Prediction Center titled "The 2017 North Bay and Southern California Fires: A Case Study", but denies that the study supports the general proposition for which Plaintiffs cite it—that the October 2017 North Bay Wildfires and the 2018 Camp Fire do not represent a "new normal" of large, catastrophic wildfires. Instead, that very same study found that the October 2017 fires "featured key fire-weather metrics that were unprecedented in the observational record that followed a sequence of climatic conditions that enhanced fine fuel abundance and fuel availability". (*See* Pitre Decl., Exhibit C, Dkt. 1006-3 at 2.) According to the report, this confluence of abnormal weather events, including an exceptionally wet winter, preceded by a severe four-year drought and the delayed onset

of autumn precipitation, meant that the conditions in October 2017 were uniquely preconditioned for intense and quickly moving wildfires. (*Id.*)

Plaintiffs have also chosen to exclude data from 2016, when 3,233 fires in California burned 250,956 acres of land. (Pitre Decl. Exhibit U, Dkt. 1006-21 at 3). In sharp contrast, the last two years have seen a doubling in wildfire frequency and severity with 7,117 fires burning over 505,956 acres in 2017 and 6,284 fires burning over 876,147 acres in 2018. (CAL FIRE Incident Information, Number of Fires and Acres for 2017 and 2018, available at: http://cdfdata.fire.ca.gov/incidents/incidents_stats?year=2018.)

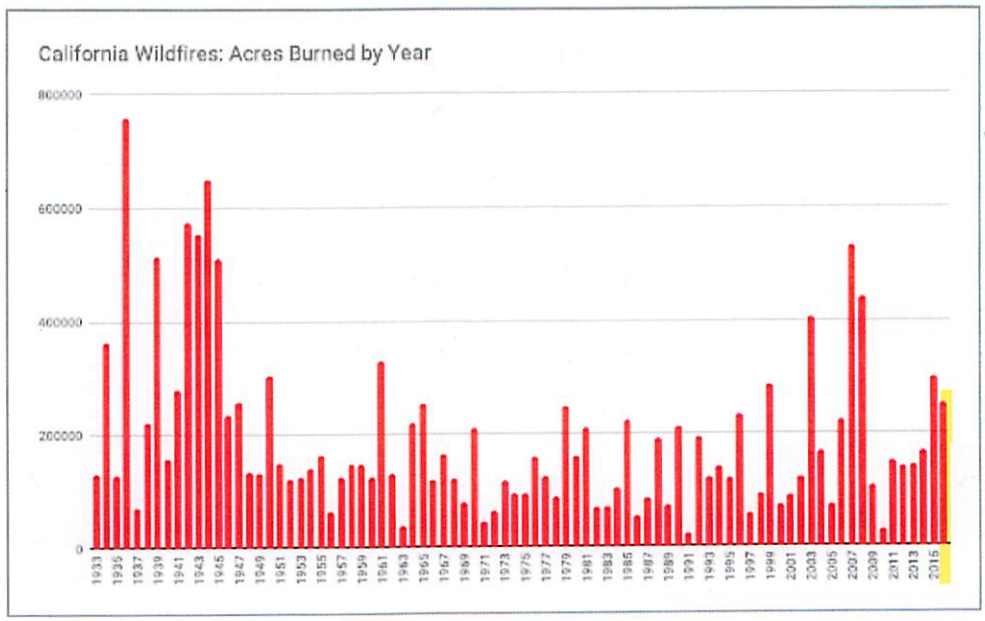
The dramatic increase in the frequency and destructiveness of wildfires in recent years has been recognized by key government stakeholders. As CAL FIRE stated following the October 2017 North Bay Wildfires, "California now often experiences a year-round fire season, with an increase in both the number and the intensity of large, damaging wildfires over the last decade. This is the 'new normal' of the State's wildfire environment." (CAL FIRE, News Release, "Board of Forestry and Fire Protection and CAL FIRE Working to Increase Pace and Scale of Wildfire Prevention Activities (Dec. 19, 2017) *available at* http://calfire.ca.gov/communications/downloads/newsreleases/2017/2017_BOF_CALFIRE_VTPPEIR_newsrlease.pdf.) In August of last year, Governor Brown echoed these comments, stating that a busy fire season is "the new normal that [California] will have to face", and he expected that over the next decade, California would see "more destructive fire". (Mireya Villarreal, "Devastating wildfires a 'new normal' for California, Gov. Jerry Brown says", CBS News, August 1, 2018, *available at* https://www.cbsnews.com/news/devastating-wildfires-a-new-normal-for-california-gov-brown-says/.)

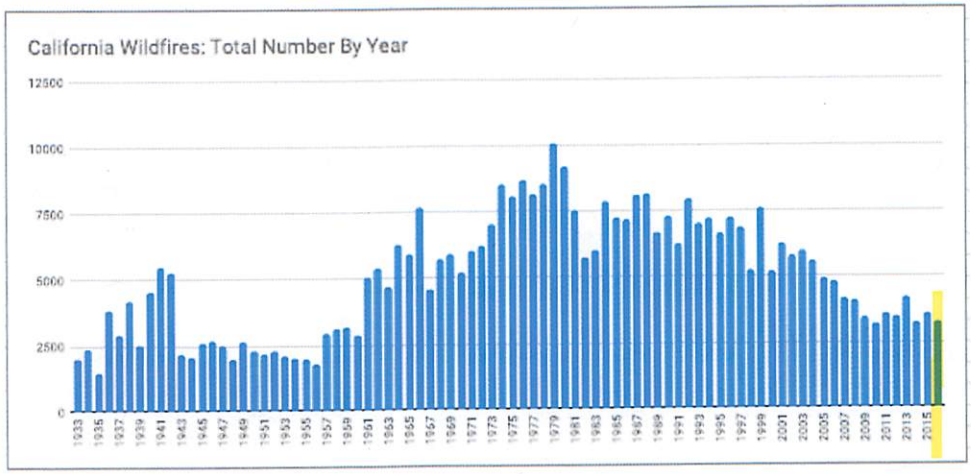
REPLY TO PG&E'S RESPONSE TO PARAGRAPH 10:

Refer to Paragraphs 2, 3, 4 and 5 responses.

Further, PG&E's claim that Plaintiffs chose to "exclude data from 2016" is not true. The graphs and tables reflected 2016. See highlighted bar on far right of each graph below. PG&E seems to have been confused because the graphs only list odd years on the x-axis. This is because there is

not enough room to list each year between 1933 and 2016, but as the Court can see, there is a bar for each year, including 2016.





This is also clear from the table next to the graphs which lists the acres and number of fires each year (i.e. the data points for the graph). Here is a snapshot of the end of the table showing 2016 was included:

2014	3215	167852
2015	3543	297647
2016	3233	250996

PARAGRAPH 11 OF PLAINTIFFS' SUBMISSION:

> "The areas in California at high and/or extreme risk for utility associated wildfires are identifiable and predictable. (See Pitre Decl., Exhibit D [CPUC Press Release, CPUC Approves Statewide Fire-Threat Map, which states: 'The map, approved by the CPUC's Safety and Enforcement Division following a public process, **delineates areas in the state where there is an elevated risk and an extreme risk** (including likelihood and potential impacts on people and property) **from utility associated wildfires. The Fire-Threat Map helps prioritize fire hazard areas** to allow for implementation of new fire-safety regulations adopted by the CPUC in December 2017.']; see also Pitre Decl., Exhibit E [a May 2014 study done at Duke University, Nicholas School of the Environment titled 'Quantifying the Economic Risk of Wildfires and Power Lines in San Diego County' revealed 'clear spatial patterns in the distribution of [] fire history … .'])."

RESPONSE TO PARAGRAPH 11:

PG&E agrees that the High Fire Threat Maps are useful tools for predicting fire prone areas, but disagrees with Plaintiffs' suggestion that such maps somehow predicted the October 2017 North Bay Wildfires or the 2018 Camp Fire.

The High Fire-Threat Map that Plaintiffs cite in support of their claim was adopted by the CPUC on January 18, 2018, after the October 2017 North Bay Wildfires. (*See generally* Pitre Decl. Exhibit D, Dkt. 1006-4.) In the previous iteration of this map, adopted by the CPUC in 2012, the only portion of PG&E's service territory that was classified as a "high fire threat area" was Santa Barbara County and just 15 percent of PG&E's territory was identified as having an elevated wildfire risk. (Jan 23 Br. at 16.) In the 2018 maps, more than 50 percent of PG&E's territory is now identified as having an elevated or extreme wildfire risk. (*Id.* at 17.) These changes, which were implemented after a years-long process involving input from various stakeholders, including PG&E, other utilities and CAL FIRE, demonstrate the innate complexity in identifying and mapping wildfire risk in a changing climate.

The 2014 Duke University study that Plaintiffs cite looks only at SDG&E's service territory and speaks only to "clear spatial patterns in the distribution of both fire history and property values" in San Diego County. (Pitre Decl. Exhibit E, Dkt. 1006-5 at 22.) As discussed in PG&E's response to Paragraphs 9 and 46, the conditions in Southern California are significantly different than those

present in PG&E's Northern California service territory. That was true in 2014, before the risk of extreme wildfires grew in Northern California.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 11:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 12 OF PLAINTIFFS' SUBMISSION:

"According to a study by the Department of Environmental Science, Policy and Management at the University of California, Berkeley, titled 'Spatial Variation in Extreme Winds Predicts Large Wildfire Locations in Chaparral Ecosystems', (hereinafter the 'Berkeley Study'),

> **'Based on modeled fire weather patterns, we found that large October wildfires consistently occur in locations experiencing higher fire weather severities**, compared to distributions from all shrublands available to burn during Santa Ana events (i.e., distributions shifted rightward in Figure 4). Across the chaparral-dominated ecosystems of the region, only about one quarter (~24%) of the area experiences very high fire weather severities (e.g., index > 25) during the wind episodes we examined. Nonetheless, almost half (45%) of the large fires > 500 have occurred in these regions prone to the highest fire weather severities, and the relationship is stronger in terms of area burned (65%).'
>
> (Pitre Decl., Exhibit F, pg. 4)."

RESPONSE TO PARAGRAPH 12:

PG&E admits that Paragraph 12 accurately quotes from page 1 of a 2010 U.C. Berkeley study titled "Spatial Variation in Extreme Winds Predicts Large Wildfire Locations in Chaparral Ecosystems", but denies that this study supports Plaintiffs' claim that the October 2017 North Bay Wildfires were predictable. The 2010 U.C. Berkeley study does not review Northern California weather or fire data, but provides "the first detailed analysis of fire weather severity patterns during Santa Ana wind events and how they relate to past fire activity, particularly large fire events, in the chaparral ecosystems of Mediterranean-climate southern California". (Pitre Decl. Exhibit F, Dkt. 1006-6 at 2.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 12:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 13 OF PLAINTIFFS' SUBMISSION:

"According to a 2018 Study by the National Oceanic Atmospheric Agency and the National Weather Service Storm Prediction Center:

> 'California's fire history is littered with fast-moving, destructive wildfires adjacent to populated areas. Many wind-driven fires that occur in the coastal ranges of California burn across steep terrain with fuels shaped by a Mediterranean climate during periods of strong foehn winds in early autumn when fuels remain dry prior to the onset of cool-season precipitation. The coincidence of land development in areas prone to wind driven extreme fire weather (i.e., Diablo winds, Santa Ana winds) results in fire-related hazards for a large number of people.'
>
> (See Pitre Decl., Exhibit C, pg. 1)."

RESPONSE TO PARAGRAPH 13:

PG&E admits that Paragraph 13 accurately quotes from page 1 of a 2018 study by the National Oceanic Atmospheric Agency and the National Weather Service Storm Prediction Center titled "The 2017 North Bay and Southern California Fires: A Case Study", but denies that the study supports Plaintiffs' claim that the October 2017 North Bay Wildfires were predictable. As explained in PG&E's Response to Paragraph 10, the study found that the October 2017 North Bay Wildfires were unprecedented and the result of a confluence of abnormal weather events.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 13:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 14 OF PLAINTIFFS' SUBMISSION:

"B. **Catastrophic Wildfires Are Associated With Extreme High Wind Events**

'Across Mediterranean-climate ecosystems – those highly fire-prone regions experiencing cool, wet winters and warm, dry summers – devastating fires are often associated with short episodes of severe fire weather generated by hot and dry winds.' (Pitre Decl., Exhibit F, pg. 1). The Berkeley Study notes that Santa Ana winds in Southern California 'have long been linked to large wildfire occurrence,' citing to several academic publications dating back to 1964. (Id.)."

RESPONSE TO PARAGRAPH 14:

PG&E admits that Paragraph 14 accurately quotes from page 1 of a 2010 U.C. Berkeley study titled "Spatial Variation in Extreme Winds Predicts Large Wildfire Locations in Chaparral Ecosystems". As detailed in PG&E's response to Paragraph 12 above, this 2010 Berkeley study concerns Southern California and does not review Northern California weather or fire data.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 14:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 15 OF PLAINTIFFS' SUBMISSION:

> "And the CPUC and CAL FIRE agree, noting that: '[w]ind data is indeed critical for wildfire mitigation and response.' (See Pitre Decl., Exhibit G [CPUC Safety and Enforcement Division Rulemaking 15-05-006 SED-CAL FIRE Joint Assessment and Recommendation Report (Sept. 19, 2018)] pg. 2). This is why as of September 2018, the CPUC's Safety and Enforcement Division ('SED') along with CAL FIRE recommended:
>
> > 'in light of the great potential public benefit of and the current expenditures already underway for deployment of weather stations throughout the HFTD and other high-risk fire areas, **SED and CAL FIRE recommend that, to the extent reasonable, the Commission encourage and support utility efforts to install weather stations and gather high-quality weather data**. Furthermore, we also recommend the Commission, to the extent reasonable, encourage studies for potential uses of such high-quality weather data to develop and implement operational and predictive tools that enhance utility situational awareness and allow for improved detection and response, thus increasing system resiliency and further growing mitigating wildfire risk.'
> >
> > (Id. at 3)."

RESPONSE TO PARAGRAPH 15:

PG&E admits that Paragraph 15 accurately quotes from the September 19, 2018 CPUC Safety and Enforcement Division Rulemaking 15-05-006 SED-CAL FIRE Joint Assessment and Recommendation Report, but denies that the SED and CAL FIRE comments in the quotation are agreeing with the 2010 Berkeley study concerning wildfires in Southern California or that the 2018 Joint Assessment has any connection to that study. PG&E agrees with SED's and CAL FIRE's finding that the Commission should encourage and support utility efforts to install weather stations. PG&E notes that the report went on to recognize that several utilities, including PG&E, "have taken

heed to the issue of increasing wildfire risk and preemptively began dedicating resources to implement systems and programs to better understand local conditions throughout the service territory and the potential impacts on the system". (Pitre Decl. Exhibit G, 1006-7 at 21.) The SED and CAL FIRE cited in particular PG&E's installation of over 100 weather stations since 2017 and its plan to install an additional 100 by the end of 2018. (*Id.* at 19.) PG&E is committed to making significant investments to continue to enhance its situational awareness in HFTDs, as PG&E agrees that monitoring local conditions in HFTDs can be an important tool in preventing and responding to wildfires. That is precisely why PG&E already has implemented measures to enhance its situational awareness in HFTDs, including:

- Installing 200 weather stations in its service territory in 2017 and 2018 with plans to install an additional 400 weather stations by September 1, 2019, and approximately 1,300 weather stations in total within five years. (WSP at 91.)
- Installing nine high-definition cameras in 2018 with plans to install approximately 70 more in 2019, and nearly 600 cameras (90 percent HFTD coverage) by 2022. (*Id.*)
- The development of forecast models that use data and information from the National Weather Service ("NWS") and the European Center for Medium Range Forecasting ("ECM"), which will then be input into PG&E's proprietary in-house mesoscale forecast model, PG&E Operational Mesoscale Modeling System ("POMMS") to generate short- and medium-term fire danger forecasts across PG&E's service area down to a 3-km resolution. (*Id.* at 90.)
- Deploying advanced fire spread modelling technology that will produce hourly fire spread risk scores for overhead distribution and transmission circuits in HFTDs by running hundreds of millions of fire spread simulations daily, designed to provide PG&E with an hour-by-hour understanding of the risk of asset-related wildfires and help inform de-energization and recloser disabling decisions in real time. (*Id.*)
- The creation, in 2018, of PG&E's Wildfire Safety Operations Center ("WSOC") which operates as a central wildfire-related information hub for PG&E and coordinates PG&E's wildfire prevention and response efforts throughout its service area. (*Id.* at 93-94.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 15:

Refer to Paragraphs 2, 3, 4 and 5 responses.

Further, nothing in PG&E's response provides evidence as to what PG&E has actually done. Even the language PG&E uses in its response shows that it is presently attempting and/or

contemplating action – not that any action has actually been completed: "*installing* 200 weather stations", "*installing* nine high-definition cameras", "the *development* of forecast models that use data and information", and "*deploying* advance fire spread modelling technology that *will* produce".

In addition, PG&E provides no evidence to support that its installation of weather stations was not slow or that funding was not delayed for the project historically. Nor does PG&E provide evidence as to how many weather stations have been installed in the North Bay Counties, and whether a weather station close to Paradise was providing PG&E with real-time data to assist it with its decision not to proactively de-energize lines that fateful day.

PARAGRAPH 16 OF PLAINTIFFS' SUBMISSION:

> "C. **Wildfires Are Overwhelmingly Caused by Tree Failures**
>
> 'Based on a review of existing data and information, [the CPUC Safety and Enforcement Division ('SED')] and CAL FIRE have concluded that **most utility-caused fire ignitions are due to (1) contact with vegetation and (2) failure of conductors**.' (See Pitre Decl., Exhibit G, pg. 2-3)."

RESPONSE TO PARAGRAPH 16:

PG&E admits that Paragraph 16 accurately quotes from the September 19, 2018 CPUC Safety and Enforcement Division Rulemaking 15-05-006 SED-CAL FIRE Joint Assessment and Recommendation Report. As PG&E has stated to the Court, our Wildfire Safety Plan includes enhanced vegetation management ("EVM") measures designed to mitigate potential ignitions caused by vegetation contact. (WSP at 70-86.) In addition, PG&E is implementing system hardening measures as well as enhanced inspections of its distribution, transmission and substation assets. (*See* Resp. to ¶ 16; WSP at 52-69.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 16:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 17 OF PLAINTIFFS' SUBMISSION:

> "PG&E also reported to the CPUC in March 2018 that **'vegetation contact with conductors' was the leading cause of the 486 fire ignitions associated with PG&E facilities during 2015-2016, causing 37% of the fires.** (See Pitre Decl., Exhibit H [Risk and

Safety Aspects of Risk Assessment and Mitigation Phase Report of PG&E Investigation 17-11-003 (March 30, 2018)], pg. 84)."

RESPONSE TO PARAGRAPH 17:

PG&E admits Paragraph 17.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 17:

None.

PARAGRAPH 18 OF PLAINTIFFS' SUBMISSION:

"In February 2013, Charles Filmer of Pacific Gas & Electric Company prepared a report based on PG&E Vegetation Management fire investigations, which he testified to receiving 50 to 100 such investigations per year.* (See Campora Decl., Exhibit E.) Four findings are of particular note.

1. **Over 85% of vegetation-related fire incidents involved high-voltage distribution lines and almost 90% of those fires were caused by tree failures;**
2. Ignitions are most frequent during the 'conventional fire season of 'mid-April through October;'
3. PG&E was aware that during the May-October time frame, Blue Oak, Valley Oak, and Blue Gum trees suffered branch failures and, **'it could be cost effective fire-risk reduction work to remove overhanging branches of these species in high-risk areas'**; and
4. 'Gray pine located in high-risk areas that are tall enough to hit the powerlines should be considered for removal or lowering in height to protect facilities.'

*[FN 4]: Although the report references 'ignitions,' Mr. Filmer made it clear in his deposition that, he was referring only to ignitions referenced in Vegetation Management investigative reports for the years 2007 to 2012. He did not know how many vegetation related PG&E fires occurred each year. (See Campora Decl., Exhibit E, Filmer Depositions, pages 44- 46.)"

RESPONSE TO PARAGRAPH 18:

PG&E admits Paragraph 18 to the extent that Mr. Filmer made the statements at his deposition and in his February 2013 report that Plaintiffs attribute to him. PG&E notes, however, that for over ten years, as one facet of its vegetation management program, it has performed additional foot patrols and tree work on its distribution lines as part of the Public Safety & Reliability Program. The patrols are focused on areas that have a higher rate of vegetation-caused outages and vegetation-caused wires down. As part of this program, in 2017, over 26,000 additional

trees were either pruned or removed in these higher-risk areas. By focusing on areas with a higher rate of vegetation-caused outages, the patrols are designed to address wildfire risk. In addition, another facet of PG&E's vegetation management program, the Drought and Tree Mortality Program, was implemented in 2014 to respond to the effects of the drought, including increased tree fatality. This program also resulted in additional patrols in higher-risk areas as well as the removal of tens of thousands of potentially hazardous trees. (*See* Resp. to 3.)

As the Court has noted, the problem today is that a single ignition can result in a catastrophe. That was not the environment in Northern California in 2013 when the document Plaintiffs cite was created. Mr. Filmer's findings must be considered in that context. Given the increased level of wildfire risk in Northern California, PG&E has implemented several measures to address these issues. PG&E's EVM program includes clearing all overhanging branches above the four-foot radial clearance zone of electric distribution lines in HFTD areas. Its EVM program also includes an initiative in HFTD areas to remove or trim trees from the ten species that have been responsible for approximately 75 percent of the vegetation-related fire ignitions that are tall enough to strike distribution lines, have a clear path to strike, and/or exhibit other potential risk factors such as leaning toward a line or being weighted toward a line. Black Oak, Coast Live Oak/Valley Oak, Blue Gum and Grey Pine are four of the ten species covered by this program. (WSP at 79-80.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 18:

Refer to Paragraphs 2, 3, 4 and 5 responses, especially in regard to PG&E's claim that "the problem today is that a single ignition can result in a catastrophe. That was not the environment in Northern California in 2013 when the document Plaintiffs cite was created."

PARAGRAPH 19 OF PLAINTIFFS' SUBMISSION:

> **"IV. PG&E CAN TAKE TARGETED MEASURES TO MITIGATE AND/OR PREVENT THE RISK**
>
> **A. PG&E Can Harden Its Equipment In Wildfire Prone Areas.**
>
> After the 2007 wildfires, SDG&E 'fire-hardened' its electrical equipment in high fire prone areas, including **replacement of wooden poles with steel poles and installation of heavier conductors.** (Pitre Decl., Exhibit E, pg. 4). According to SDG&E:

'Steel poles are generally stronger and thus better able to withstand extreme wind gusts associated with high fire risk Santa Ana wind conditions. Stronger steel poles can support a wider spacing of conductors, which, when combined with heavier conductors, lowers the likelihood of high winds causing contact between conductors that could result in line faults, sparking, and potential ignitions of ground vegetation. The installed steel poles are taller than the wooden poles they replace, so conductors are raised higher above potential ground fires which have the potential to damage line insulation or cause excessive line sag. Finally, steel poles are more resistant to damage from ground fires than wooden poles.'

(Pitre Decl., Exhibit E, pg. 4, *citing to* San Diego Gas & Electric Company. (2013). *Application of San Diego Gas & Electric Company for a Permit to Construct The Tie-Line 637 Wood-to-Steel Project (A13-03-003).* San Diego, CA: SDG&E.).

SDG&E prioritizes the maintenance of poles in each power line in high-risk fire areas according to the existing vegetation and fuel conditions, the history of high-speed winds, and the age and condition of existing infrastructure as part of a strategy to strengthen power lines connecting substations for improved reliability. (Pitre Decl., Exhibit I [San Diego Gas & Electric Company Tie Line 649 Wood-to-Steel Replacement Project: Chapter 2 – Project Purpose and Need (Aug. 2015)] pg. 2-3)."

RESPONSE TO PARAGRAPH 19:

PG&E admits that Paragraph 19 accurately quotes from a May 2014 Master's Project titled "Quantifying the Economic Risk of Wildfires and Power Lines in San Diego County" and an August 2015 chapter from SDG&E's Tie Line 649 Wood-to-Steel Replacement Project. To the extent that Plaintiffs quote from these sources to suggest that PG&E can take similar measures, PG&E agrees and following the 2017 and 2018 wildfires, PG&E is taking these steps to harden its system. Among other measures, PG&E is implementing the following in HFTD areas:

- Replacement of bare overhead primary (high voltage) conductor as well as lower voltage conductor with insulated conductor.
- Replacement of existing primary line equipment such as fuses/cutouts and switches with equipment that CAL FIRE has certified as low fire risk.
- Installation of non-wood poles to support the additional weight of insulated wire, which will also further reduce the likelihood of pole failures during extreme weather events.

(WSP at 52-69.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 19:

Refer to Paragraphs 2, 3, 4 and 5 responses. Further, nothing in PG&E's response provides evidence as to what PG&E has actually done.

PARAGRAPH 20 OF PLAINTIFFS' SUBMISSION:

"Furthermore,

> As part of its Community Fire Safety Program, **SDG&E has undertaken one of the largest deployments of state-of-the-art pulse reclosers, focusing heavily on the [High Fire Threat District]**. This equipment allows SDG&E to operate its system with significantly reduced energy flows during reclosing operations and be able to sectionalize various elements of its distribution system to better manage system operations and reliability. ... In addition, SDG&E has implemented more sensitive relay settings to all SCADA reclosers in the [High Fire Threat District]. These sensitive relay settings provide very fast clearing of faults on distribution circuits and are remotely operated via SCADA, allowing for real-time adjustments triggered by adverse weather conditions.
>
> (Pitre Decl., Exhibit J [San Diego Gas & Electric Company Fire Prevention Plan (Oct. 31, 2018)] pg. 12)."

RESPONSE TO PARAGRAPH 20:

PG&E admits that Paragraph 20 accurately quotes from SDG&E's October 31, 2018 Fire Prevention Plan. To the extent that Plaintiffs quote from this source to suggest that PG&E can take similar measures, PG&E notes that it is continuing to automate recloser devices to enable selective reclosing functionality as well as installing additional line reclosers at HFTD area boundaries. PG&E's Wildfire Reclosing Disable program includes nearly 2,800 reclosing devices on PG&E's distribution lines in Tier 2 and Tier 3 HFTD areas. At the end of 2018, approximately 2,100 of the distribution devices in the program were SCADA-enabled and capable of being disabled remotely. If a protection zone does not have SCADA capability in Tier 2 or Tier 3 HFTD areas, PG&E manually disables automated reclosing on these devices throughout fire season. These locations are identified and scheduled for disablement prior to the projected beginning of elevated wildfire risk exposure. These manual devices will remain disabled for reclosing until wildfire risk is significantly lower during the year.

PG&E is working to SCADA-enable all line reclosers in Tier 2 and Tier 3 HFTD areas by June 1, 2019. In addition, devices located on nearly 400 transmission lines with voltages of 115 kV and below were included in the 2018 program. Over 95 percent of the transmission line devices are SCADA-enabled and can be disabled remotely, and similar to the distribution devices that are not SCADA-enabled, PG&E will manually disable the remaining devices for the duration of wildfire season. PG&E also is implementing two pilot programs to evaluate alternative technologies to further reduce potential ignitions: (1) Rapid Earth Fault Current Limiter Technology that immediately reduces the voltage on a line experiencing a line to ground fault to reduce the energy available for an ignition; and (2) Enhanced Wires Down Technology Detection Project to identify when one of the lines in a distribution system is down and to help pinpoint the location of any outages to enable PG&E and first responders to respond more quickly. (*See* WSP at 109-112.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 20:

Refer to Paragraphs 2, 3, 4 and 5 responses. Further, nothing in PG&E's response provides evidence as to what PG&E has actually done.

PARAGRAPH 21 OF PLAINTIFFS' SUBMISSION:

"B. **PG&E Can Identify and Remove Hazard Trees in Wildfire Prone Areas.**

i. PG&E Is Required by Law to Remove Hazard Trees

According to PG&E:

> [Public Resource Code section] 4293 requires a 4-foot clearance be maintained at all times for power lines between 2,400 and 72,000 volts, and a 10-foot clearance for conductors 115,000 volts and above. GO 95, Rule 35 also requires the removal of dead, diseased, defective and dying trees that could fall into the lines. The clearance requirements increase as the voltage increases. This applies in the SRA during designated fire season.
>
> (See de Ghetaldi Decl., Exhibit 1)"

RESPONSE TO PARAGRAPH 21:

PG&E admits Paragraph 21.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 21:

None.

PARAGRAPH 22 OF PLAINTIFFS' SUBMISSION:

"In PG&E's parlance, 'dead, diseased, defective and dying trees' are known as 'hazard' or 'facility protect' trees. The statutory clearance requirements apply whether a tree is a 'hazard' tree or not. As PG&E recognizes, the required clearances must be maintained 'at all times'. (See de Ghetaldi Decl., Exhibit 1)."

RESPONSE TO PARAGRAPH 22:

PG&E generally admits Paragraph 22, but clarifies that if a tree or branch fails and contacts a line—where that tree or branch was healthy (not dead, old decadent or rotten, or weakened by decay or disease) and was outside the clearance requirements prior to the contact—there is no Public Resource Code § 4293 violation.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 22:

PG&E's "clarification" is not supported by the plain language of Public Resources Code § 4293 that imposes a duty on owners and operators of power lines to prevent contact between power lines and unhealthy trees as well as contact between power lines and otherwise healthy trees that are leaning toward a line or that might fall on or contact a line: "Dead trees, old decadent or rotten trees, trees weakened by decay or disease and trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line shall be felled, cut, or trimmed so as to remove such hazard."

PG&E is fully aware that trees that are otherwise green and healthy can be hazardous. In 2014, PG&E published videos on its website showing Eric Woodyard, PG&E's Vegetation Program Manager for Technology and Innovation, stating that it is working to predict failures of even seemingly green healthy trees. Mr. Woodyard stated in one of the videos, "We want to hopefully get the one three that has the possibility of failing and causing a catastrophic fire." He testified at his deposition that includes "even seemingly green and healthy trees." (Supplemental Declaration of Dario de Ghetaldi ("Supp. de Ghetaldi Decl."), ¶¶4-8; Woodyard Depo. TX, Ex. 7, pp. 81:1-82:22, 85:12-86:15; and Exs. 8-11; see also Reply to PG&E's Response to Paragraph 32.)

Stephen Tankersley, PG&E's former Senior Manager of Vegetation Management Operations, testified that a "green, healthy tree" can be a Facility Protect Tree (i.e., a tree with the potential of falling into PG&E's lines or poles). (Supp. de Ghetaldi Decl., ¶ 9; Tankersley Depo. TX, Ex. 12, pp. 235:4-236:5.)

Geisha Williams, PG&E's former CEO, testified that PG&E sought increased incremental funding in its General Rate Case for added additional mitigation measures in 2014 to increase vegetation work at historic outage locations and analyze failure characteristics of otherwise healthy trees in high-risk locations. She described PG&E's Hazard Tree Rating System that first formulated by Niel Fischer in 2007:

> "My recollection was that our vegetation management program tended to focus, when it had to do with trees themselves, focused on dead and diseased trees. And this was a mitigation that said, We've got to look at otherwise healthy trees to see if there is a hazard tree potential. So this was an incremental, a new mitigation, really, taking our vegetation management program to a higher level. . . . My understanding is that we put in place a process with specific guidelines in terms of, again, when our patrollers are out there to look for certain attributes, to look for certain characteristics of these otherwise healthy trees from the perspective of could they fail, could they fall, could there be an impact to our conductor, to our lines."

(Supp. de Ghetaldi Decl., ¶ 12, Williams Depo. TX, Ex. 15, pp. 77:6-79:25.)

PARAGRAPH 23 OF PLAINTIFFS' SUBMISSION:

> "The CPUC interprets the statutory requirements in the same way: 'It's the LAW. State law requires utility companies to maintain specific clearances (depending on voltage running through the line) between electric power lines and all vegetation.' (See de Ghetaldi Decl., Exhibit 2)."

RESPONSE TO PARAGRAPH 23:

PG&E admits that Paragraph 23 accurately quotes from a web page concerning tree trimming safety on the CPUC's website.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 23:

PG&E's "response" is evasive and equivocal. It admits Paragraph 23 "accurately quotes from a web page" but does not admit or deny that the CPUC interprets the statute to require "utility

companies to maintain specific clearances ... between electric power lines and ***all vegetation***. [Emphasis added.]"

PARAGRAPH 24 OF PLAINTIFFS' SUBMISSION:

> "Public Resources Code § 4293 operates in conjunction with rules and orders promulgated by the CPUC. Originally adopted in March 1929, General Order ('GO') 95, Rule 11 provides:
>
> > 'The purpose of these rules is to formulate, for the State of California, requirements for overhead line design, construction, and maintenance, the application of which will ensure adequate service and secure safety to persons engaged in the construction, maintenance, operation or use of overhead lines and to the public in general.'"

RESPONSE TO PARAGRAPH 24:

PG&E admits Paragraph 24.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 24:

Public Resources Code § 4293 would not "ensure" safety to the public if it did not apply to all trees that could fall into or contact a line, and, as PG&E would have it, only applied to dead, diseased, or dying trees.

PARAGRAPH 25 OF PLAINTIFFS' SUBMISSION:

> "Thus, one of the citations issued by the CPUC to PG&E for the 2015 Butte Fire was for 'One violation of GO 95, Rule 35, for failing to maintain the minimum required clearance between the 12 kV conductor and the subject grey pine tree, which lasted for at least one (1) day.' (See de Ghetaldi Decl., Exhibit 3, pp. 1-2.)"

RESPONSE TO PARAGRAPH 25:

PG&E admits Paragraph 25, to the extent that it accurately quotes the citation issued by the CPUC. PG&E denies that it was out of compliance with GO 95, Rule 35 when the Butte Fire ignited. PG&E also notes that the CPUC stated in the citation that "[t]here [wa]s no evidence available to determine when the 18-inch minimum clearance was breached/violated, other than the day of the incident, when the subject tree contacted the 12 kV overhead conductor". (de Ghetaldi Decl. Exhibit 3, Dkt. 1007-3 at 2.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 25:

PG&E's denial that it was "out of compliance with GO 95, Rule 35 when the Butte Fire ignited" is an unsupported argument completely at odds with the Superior Court's findings and PG&E's judicial admissions in the *Butte Fire Cases*, JCCP 4853. It is utterly false and tantamount to a revival of PG&E's disproved contention that the 44-foote tall grey pine tree did not contact PG&E's distribution line and ignite the Butte Fire.

On June 22, 2017, the Superior Court in the *Butte Fire Cases* issued an order granting Plaintiffs' motion under Code of Civil Procedure § 1260.040 and holding PG&E liable inverse condemnation for damages caused by the Butte Fire. (Supp. de Ghetaldi Decl., ¶ 11, Ex. 14.) The Superior Court found that the "Butte Fire was caused by contact between a tree and PG&E's power line" and specifically pointed to PG&E's discovery admissions that supported that finding:

> "First, PG&E responded to Plaintiffs' Special Interrogatory No. 17 in part as follows: 'At this time, PG&E does not contend that tree-line contact was not a cause of the fire. PG&E accepts Cal Fire's finding that a tree made contact with a power line, but PG&E does not believe it is clear what caused the tree to fail.'" [PG&E's Supplemental Responses to Special Interrogatories, Set One, SI No. 16.]
>
> "Second, PG&E stated it 'accepts and admits the Cal Fire report's finding that the tree described by Plaintiffs as the Subject Tree made contact with a power line ....' [PG&E's Amended Response to Plaintiffs' Request for Admissions, Set One, RFA Nos. 17-19.]
>
> "Third, PG&E stated it 'does not contend that tree-line contact was not a cause of the fire.' [PG&E's Response to Plaintiffs' Request for Production, Set 16, RFP No. 248.]
>
> "Finally, and most clearly, PG&E stated, "PG&E accepts Cal Fire's finding that a tree made contact with a power line and that tree-line contact was a cause of the fire.']PG&E's Supplemental Responses to Special Interrogatories, Set One, SI No. 17.]"

(Supp. de Ghetaldi Decl., ¶ 11, Ex. 14, pp. 8:6-9:15.)

The CPUC cited PG&E for violation of General Order 95, Rule 31.1 "for failing to maintain its 12KV [sic] overhead conductors safely and properly. The violation began on January 6, 2015, when PG&E and/or its contractors failed to identify a gray pine tree as a hazard or as needing trimming or removal to prevent contact with a PG&E 12 kV overhead conductor. Such contact occurred on September 9, 2015 and started the Butte Fire." (de Ghetaldi Declaration, Dkt. 1007, Ex 3, p. 1.)

In the "Statement of Facts," the CPUC found: "SED's [Safety and Enforcement Division] investigation found that neither PG&E nor its contractors took appropriate steps to remedy the condition and consequences when two grey pine trees in a stand were removed. The appropriate steps were not taken to prevent a remaining grey pine tree from leaning and contacting the 12 kV overhead conductor. This failure created an unsafe and dangerous condition that resulted in the subject tree leaning and making contact with the 12 kV overhead conductor, thus causing a fire." (*Id.*, at p. 2.)

It is unclear why the CPUC chose to cite PG&E for a violation of General Order 95, Rule 31.1 instead of a violation of Public Utilities Code § 4293 on which GO 95, Rule 31.1 is based. However, the factual findings by the SED would be sufficient for a charge under Section 4293.

Indeed, Geisha Williams, former CEO of PG&E, admitted at her deposition that one of the violations relating to the Butte Fire for which PG&E was cited by the CPUC "was ultimately the gray pine made contact with the electric line. ***So by having made contact it absolutely violates the clearance requirement.*** [Emphasis added.]" (Supp. de Ghetaldi Decl., ¶ 12, Williams Depo. TX, Ex. 15, p. 93:5:22.)

The CPUC's General Order 95, Rule 35, Case No. 13, requires PG&E to maintain clearance 18 inches of "radial clearance of bare line conductors from tree branches or foliage." As Ms. Williams admitted, that clearance requirement was violated when the gray pine came within that 18-inches and contacted the line.

It exceeds the bounds of reason and zealous advocacy for PG&E to now deny "that it was out of compliance with GO 95, Rule 35 when the Butte Fire ignited."

PARAGRAPH 26 OF PLAINTIFFS' SUBMISSION:

> **"ii. As Of June 2017, PG&E Failed To Remove Or Otherwise Trim More Than 6000 Hazard Trees Which It Had Identified In 2016**
>
> As of June 7, 2017, there were more than 6000 Facility Protect Trees (FPT), identified by inspectors during 'routine patrol' in 2016 which had not been addressed. Of that number, 888 were in the divisions where fires occurred in 2017. (See Campora Decl., Exhibit F [Depo of Biancardi - Exhibit 007-006])."

RESPONSE TO PARAGRAPH 26:

Paragraph 25 requires clarification. Plaintiffs cite to a June 6, 2017 email attaching a screenshot taken from PG&E's Vegetation Management Database. The number reflected in the June 6, 2017 email does not accurately reflect the number of FPTs identified in 2016 that had not yet been worked as of that date because PG&E's Vegetation Management Database does not register work as "complete" until the tree contractor has submitted all required invoicing paperwork. (Biancardi Decl. ¶ 21.) As of June 6, 2017, there were 3,962 FPTs (not 6,000) identified by PG&E pre-inspectors in 2016 that remained pending. (*Id.* at ¶ 27) Moreover, by October 8, 2017, when the October 2017 North Bay Wildfires began, 131 of the 6,000 FPTs referenced in the June 6, 2017 email were still pending, and 50 of those trees were in divisions affected by the October 2017 North Bay Wildfires. (*Id.* at ¶ 28.) PG&E's records indicate there was no FPT work remaining to be performed at any of the alleged origin points associated with the October 2017 North Bay Wildfires. (*Id.* Exhibit E, PGE-CPUC_DR-112117_Common_Q69 at 2.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 26:

Mr. Biancardi's deposition testimony is not consistent with his declaration. Plaintiffs have produced portions of Mr. Biancardi's deposition which show that he was first questioned about an email that identified 22,000 FPT trees. (See Biancardi Deposition Exhibit 0070-005, Exhibit M to the Campora Declaration.) At that time, he testified that he thought some of those FPT trees might be related to budgeting or invoicing. (*Id.*) As a result, Plaintiffs questioned Mr. Biancardi about the email which referenced 6,000 FPT trees. He then testified as follows:

> Q Okay. And it says: "Team: The 2016 work is still not done and I wanted to bring it to your attention."
> Did I read that accurately?
> A You did.
> **Q Okay. So we're not talking about budgeting now; we're talking now about work not being done, right?**
> **A Yes.**
> MS. NORTH: Objection. Vague.
> THE WITNESS: **That's very clear.**
> BY MR. CAMPORA:

Q Okay. It says --
MS. NORTH: Outside the scope.
BY MR. CAMPORA:
Q -- "There are still over" 6,000
"outstanding 1st patrol FPTs from 2016."
Did I read that accurately?
A You did.
Q Any reason to believe that's not true?
A No.

Biancardi Deposition, pages 73:6-74:1, Exhibit M to Campora Declaration.

However, even if we now assume there were only 3,962 FPT trees, which had been carried over from one year to the next, these are trees which PG&E identified has posing a risk to its lines. As of June 2017, PG&E admits that 3,962 trees identified in 2016 had not been worked. As of October, PG&E admits that 131 trees had not been worked.

Mr. Biancardi was PG&E's Person Most Qualified to testify as to the danger posed by an FPT tree posed the risk of death. (See Biancardi Deposition, pages 77:3-81:8, Exhibit M to the Campora Declaration.)

PG&E's response ignores the import of Plaintiffs' evidence. Plaintiffs did not state that the FPT trees, which had existed for more than a year, caused the fire. Plaintiffs offered evidence of the condition of PG&E's system, as it was being operated by PG&E, immediately prior to the fires. Apparently, PG&E seeks to excuse the fact that FPT trees were identified for work in 2016, but still not worked as of June and October of 2017. Even assuming PG&E's representation that as of June 6, 2017, 3,962 FPT existed, PG&E had allowed trees, which it had identified as posing a risk to the line, to exist from one year to the next fire season and beyond.

PARAGRAPH 27 OF PLAINTIFFS' SUBMISSION:

"A Facility Protect Tree is a tree which, because of a disease, defect or condition, poses a danger of falling into the line. A green healthy tree can be an FPT tree. (See Campora Decl., Exhibit F [Depo of Biancardi], pgs. 43-55 and Exhibit G [Depo of Tankersley], pgs. 235-236)."

RESPONSE TO PARAGRAPH 27:

PG&E denies Paragraph 27 to the extent that Plaintiffs assert that a green and healthy tree can be an FPT. PG&E defines FPTs as "[t]rees that are dead, show signs of disease, decay or ground or root disturbance, which may fall into or otherwise impact the conductors, towers or guy wires before the next inspection cycle".[14] (Biancardi Decl., Exhibit B, at PGE-CPUC 00005483; *see id.* Exhibit A, at 44:1-6.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 27:

Mr. Biancardi is the only PG&E employee to state that an FPT tree cannot be a green healthy tree.

Mr. Tankersley was the former head of Vegetation Management. At PG&E he was referred to as the Godfather of Vegetation Management. (See Declaration of Steven M. Campora, paragraph 1.) He testified that an FPT tree can be a green healthy tree. (Tankersley Deposition, May 23, 2017, pages 231:12-24 and 236:3-5, Exhibit N to the Campora Declaration.)

In his deposition, Mr. Oldford stated that he would "defer" to Mr. Tankersley. (See Oldford Deposition, pages 29-30, Exhibit E to the Campora Declaration.) In addition, Mr. Woodyard, a PG&E forester, specifically testified that in fact PG&E was looking for the green healthy trees which pose risk to the line. (See Woodyard Deposition, pages 81-87, Exhibit O to Campora Declaration.)

PARAGRAPH 28 OF PLAINTIFFS' SUBMISSION:

> "On October 3, 2017, 5 days before the fires in the North Bay, an email exchange between PG&E employees, read as follows:
>
> > Employee One: 'Looks like we got creamed yesterday in North Bay assuming due to wind. Luckily no Wires Down on any of the outages.'
> > Employee Two: 'We did. Unfortunately, a line clearance job was cancelled today

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[14] PG&E's definition of FPT is based on state regulations governing vegetation management. Public Resource Code Section 4293 requires that all utilities trim or remove "[d]ead trees, old decadent or rotten trees, trees weakened by decay or disease and trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line." CPUC General Order 95, Rule 35 similarly requires utilities to trim or remove "dead, rotten or diseased trees or dead, rotten or diseased portions of otherwise healthy trees overhang or lean toward and may fall into a span of supply or communication lines."

because there were no available PG&E line crews.'
Employee One: '2016 work?' Employee Two: 'Yes, expired units.*'

(Campora Decl., Exhibit F [Depo of Biancardi - Exhibit 0070-007]).

*[FN 5]: An 'expired unit' is a tree schedule for work, which 'has gone past one year.' (See Campora Declaration, Exhibit C.)"

RESPONSE TO PARAGRAPH 28:

Paragraph 28 requires clarification. As Plaintiffs quoted, in an October 3, 2017 email, a PG&E employee wrote, "Unfortunately, a line clearance job was cancelled today because there were no available PG&E line crews." A "line clearance job" in this context refers to a job requiring PG&E to de-energize its lines prior to performing trimming or removal. Federal regulations require power conductors and equipment to be de-energized and grounded before any employee approaches or takes any conductive object closer than the minimum approach distance prescribed by the Occupational Safety and Health Administration ("OSHA"). 29 C.F.R. 1910.268(b)(7). PG&E's records indicate that the tree at issue in this email was inspected and prescribed for work in 2016, but upon arrival at the site in 2016, the crew members who were to perform the work found that the job required de-energization of the line. The contractor was unable to perform the work during this initial visit, but put in a request with the local Vegetation Program Manager ("VPM") to schedule a date when the line could be de-energized. Because de-energization requires coordination among numerous departments, the job was scheduled for October 2, 2017. As indicated in the email exchange, the job was rescheduled due to a wind storm on October 2, 2017, and was ultimately completed on December 29, 2017.

The tree at issue (which was located several miles away from any of the October 2017 North Bay Wildfire fire perimeters) presented a low potential for wildfire ignition because it was in the vicinity of a secondary conductor, which operates at a lower voltage than primary distribution or transmission lines and therefore poses a lower risk of ignition if contact occurs. For this reason, California law actually permits contact between vegetation and secondary lines below a certain voltage. Cal. Pub. Res. Code § 4293; CPUC General Order 95 Rule 35. Further, the tree was in a Tier 1 area, which presents a lower fire risk than Tier 2 or Tier 3.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 28:

PG&E's response ignores the import of Plaintiffs' submission. The point of Plaintiffs' submission was that there were in fact "expired units." "2016 work," which had existed for more than one year. Plaintiffs' submission is meant to provide the Court with information concerning PG&E "plan," i.e. to inspect and perform work within 2016, and its actual performance, i.e. identified tree work not being completed within one year.

The tree was marked for work because it posed a risk to a line. By PG&E's own admission, the tree was "expired work." PG&E simply ignores this fact. (See Biancardi Deposition, Exhibit M, page 92:7-21, Exhibit M to Campora Declaration.)

PARAGRAPH 29 OF PLAINTIFFS' SUBMISSION:

"PG&E did not complete this work despite admitting that it knew FPT trees posed the risk of death to the public.

> Q. And PG&E knew, in October of 2017, that an FPT tree could come down, cause a fire that could kill people, true?
>
> A. That's correct.
>
> (See Campora Decl., Exhibit F [Depo of Biancardi] pg. 81:5-8.)"

RESPONSE TO PARAGRAPH 29:

PG&E denies Paragraph 29 to the extent it asserts that PG&E did not complete the work referenced in the October 3, 2017 email exchange despite knowing that the tree in question posed a risk of death to the public. *First*, as noted above, the work was completed on December 29, 2017. *Second*, the tree in question did not pose a high risk of wildfire ignition because it was located near a secondary conductor in a Tier 1 area (several miles away from the fire perimeters of all October 2017 North Bay Wildfires).[15]

PG&E further denies Paragraph 29 to the extent it asserts that all FPTs pose the same level of risk. Rather, the level of risk depends upon the location of the tree and conditions on the ground.

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[15] As discussed in Response to Paragraph 28, California law permits contact between vegetation and secondary lines below a certain voltage. Cal. Pub. Res. Code § 4293; CPUC General Order 95 Rule 35.

(Biancardi Decl. Exhibit A, at 84:10-20.) For example, as noted above, the risk of wildfire ignition is significantly lower for trees in near secondary conductors.

PG&E's vegetation management program is designed to take risk, including wildfire risk, into account and is intended to schedule work on the highest risk trees first. In fact, when a pre-inspector identifies a tree for work, he or she must assess the risk of wildfire posed by that individual tree. If a tree poses an imminent threat, the pre-inspector must immediately notify the Supervising Vegetation Program Manager ("SVPM") or local VPM and remain on site until a tree crew arrives to trim or remove the tree. (Biancardi Decl. Exhibit C, at PGE-CPUC 00005996.) If a tree "requires urgent mitigation but does not pose an imminent threat," the pre-inspector may not leave the site until they receive confirmation from either the SVPM or VPM that notice of the hazard was received. (*Id.* at PGE-CPUC 00005994-96.) Given the high volume of vegetation management work PG&E performs—which in 2016 included removing approximately 280,000 FPTs—prioritizing risk is a critical aspect of its vegetation management program. PG&E supervisors and managers also track all pending work on an ongoing basis by, for example, issuing regular reports of FPTs to SVPMs and VPMs in their divisions and districts. SVPMs and VPMs may also independently track pending FPTs. (Biancardi Decl. ¶ 20-22.)

Moreover, PG&E's vegetation management program is designed to manage external factors that may delay work. PG&E is required to abide by numerous state and federal regulations that may delay FPT work. For example, as noted above, OSHA imposes de-energization requirements for tree work that puts workers within a certain proximity to live conductors, and numerous other federal agencies restrict vegetation management work that may interfere with protected or endangered species. Customers may also refuse to allow PG&E on their property or otherwise prevent PG&E from performing necessary vegetation management work. In 2016, for example, there were more than 40,000 instances in which work was delayed because a customer refused to permit PG&E to conduct necessary vegetation management work, and more than 1,200 instances in which work was

delayed because a protected bird's nest was found in a tree prescribed for work.[16] Where such conditions exist, PG&E has procedures to address the issue, which may include obtaining any necessary permits or de-energizing the area until work is completed.

In short, PG&E's vegetation management program is designed to prioritize work posing the highest risk to public safety, and additional measures have been implemented to allow PG&E employees to monitor all delayed and low-risk tree work over time.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 29:

Without acknowledging that the tree was "expired," PG&E seeks to minimize its failure by stating that work must be done on a priority basis. Plaintiffs do not dispute this fact. However, PG&E's position ignores the fact that the work was identified as an FPT tree, a tree which was identified as posing a risk of falling into the line. (See Biancardi Deposition, page 76:8-15, Exhibit M, to Campora Declaration.) In response to paragraph 28, PG&E actually acknowledges that the tree posed a fire risk.

Brian Biancardi, PG&E's Person Most Qualified testified that PG&E understood that the risk posed by an FPT tree, was the risk of death. Apparently, PG&E seeks to justify failing to actually work the subject tree ***within one year***, on the basis that it posed less of a risk of death.

PARAGRAPH 30 OF PLAINTIFFS' SUBMISSION:

> **"iii. PG&E Officers Ignored Audit Results Showing 'Statistically Significant Sample' Of Hazard Trees Near Powerlines Were Missed by Tree Inspectors**
>
> "In 2016, PG&E auditors inspected 1,539 miles of line in SRA. In that distance they evaluated 102,502 trees and identified 3,603 FPT trees. 0.035% of the trees its auditors inspected posed a danger to its lines. (See Campora Decl., Exhibit H [Depo of Oldford - Exhibit 0052-006]). Despite finding ***that after its Pre-Inspectors and Tree Trimmers had done their work***, more than 3 trees out of 100 still posed a risk to its lines. PG&E chose not to extrapolate its 'statistically significant sample.' (See Campora Decl., Exhibit H [Depo of Oldford], pgs. 78-79, 85-90, and 128-129)."

[16] The Migratory Bird Treaty Act makes it unlawful to pursue, hunt, take, capture, kill or possess any migratory bird or their eggs, nest and body parts without allowance via regulation or federal permit.

RESPONSE TO PARAGRAPH 30:

PG&E admits Paragraph 30 to the extent that Plaintiffs assert that in 2016, PG&E inspected 1,539 miles of line in state responsibility areas ("SRAs") through PG&E's Quality Assurance ("QA") audits and identified 3,603 FPTs within that audit mileage. The remainder of Paragraph 30 requires clarification, however, as Plaintiffs suggest that once PG&E identified these FPTs it should have extrapolated this number across its entire service territory to determine the total number of FPTs that could exist.[17]

PG&E's QA audits are designed to obtain a "real-time" assessment of PG&E's vegetation management program and whether the conditions in its service territory are consistent with PG&E's legal obligations.[18] To ascertain a true "real-time" condition of the program, audits are performed throughout the year. Unlike QC reviews, QA audits are not scheduled to follow inspections and tree trimming/removal work, but are instead scheduled independently. The audits indicate whether any identified issues pose compliance violations or potential violations (*e.g.*, potential violation may

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[17] Plaintiffs also appear to imply that the trees identified in these audits were "missed" by pre-inspectors and tree workers. This is not correct. Auditors conduct a root cause analysis for all FPTs identified during the audit, including whether the tree appeared to have declined before or after the last inspection. For example, the 2016 QA audit for the North Bay Division (which includes parts of PG&E's service territory affected by the October 2017 North Bay Wildfires) found that out of 16 FPTs identified, eight did not begin to decline until after the last inspection and therefore they were not "missed" by the pre-inspector who patrolled that line. (Biancardi Decl., Exhibit D, at PGE-CPUC 00006639.)

[18] In addition to these inspections, PG&E also conducts system-wide quality control ("QC") reviews, designed to assess whether the vegetation management contractors are performing according to PG&E's expectations, including whether they are complying with the applicable regulations. The QC reviews assess whether pre-inspection contractors identify and prescribe the proper work, as well as whether the tree workers' performance is consistent with contractual requirements (*e.g.*, completing work prescribed by pre-inspectors). The reviewers pull random samples of work performed by pre-inspectors and tree workers from all locations recently worked within a given date range. The reviewers use a set of criteria to measure each pre-inspector's or tree worker's performance in that random sample of work. Because reviewers use the same set of criteria, the expectation is that a reviewer working in one division would make the same assessment of contractor work product as a reviewer in another division. Assigned corrective actions are documented by VPMs, who help track whether the corrective actions are fully implemented. The SVPM, VPM, and VM-Operations Manager monitor and track compliance, quality control results, and corrective actions.

occur within 90 days). The auditors perform a root-cause analysis of any actual or potential compliance issues, identify trends and report the results to the VM-Operations Managers and the VPM for the area. The VPM is responsible for taking short-term action to correct identified deficiencies and for communicating any required corrective actions to the contractors. If an auditor identifies a recurring or systemic issue, the VM Operations group, working in conjunction with the QA Specialists, develops long-term action plans to reduce or prevent the issue from recurring.

The QA audits are not intended to determine the number of non-compliant trees or FPTs throughout the system. Instead, the QA audits are designed to assess contractors' compliance in a given area with internal PG&E Vegetation Management policies, standards, and work procedures, as well as the applicable laws. To the extent the auditors identify any actual or potential compliance issues, those issues are communicated to the contractors who are then responsible for implementing any assigned corrective actions. If the auditors identify systemic or recurring issues, preventive actions may be implemented, designed to prevent the deficiency or non-conformance from happening again. Reporting on-going and relevant QA information to PG&E's contractors provides them with the opportunity to take appropriate corrective action to maintain compliance with the applicable laws.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 30:

PG&E does not dispute that they fail to extrapolate the findings of their "statically significant samples."

As set forth in the Plaintiffs' Response to Court's Question Concerning Percentage of Contact Trees, the audits are done to assess contractor performance. However, as previously set forth, the audits are supposed to be statistically significant samples of PG&E's system. Plaintiffs have provided the Court with the Declaration of Nicholas Jewell, PhD. (See Exhibit F to the Declaration of Steven M. Campora.) PG&E has the ability to evaluate its entire system, based on its "statically significant" samples, but it chooses not to do so. (See Declaration of Nicholas Jewell, paragraphs 7, 9, 10, and 31, Campora Declaration, Exhibit F.) PG&E uses the percentages of

compliance, set forth in the audits, to judge contractor compliance, but then fails to apply the number of trees to the percentage to assess risk. (See Jewell Declaration, paragraph 7, Campora Declaration, Exhibit F.) The failure to apply the percentage to the number of trees results in a false sense of security. (*Id.*) For example, if we assume the contractor is performing at the 99.0% performance rate accepted by PG&E, and there are 100,000,000 trees, as stated by PG&E, there would be 1,000,000 non-compliant trees.

PARAGRAPH 31 OF PLAINTIFFS' SUBMISSION:

> **"iv. PG&E Ignored Lessons from the 2015 Butte Fire Which Evidenced Clear Failures by Its Vegetation Management Contractors to Perform Their Job Duties Responsibly and Adequately**
>
> First and foremost, it is important to note that PG&E contracts out all of its vegetation management responsibilities, including tree inspections, tree removals, and LiDAR. From depositions in the Butte Fire case, it is apparent the **employees of the tree inspection and removal companies are not sufficiently trained, experienced, or knowledgeable about their job responsibilities**."

RESPONSE TO PARAGRAPH 31:

PG&E denies Paragraph 31 to the extent Plaintiffs state that the pre-inspectors and tree workers employed by PG&E's contractors are not sufficiently trained, experienced or knowledgeable. PG&E contracts with a limited number of well-established, large scale vendors who employ qualified and trained pre-inspectors, many of whom hold industry certifications. Although PG&E relies on these vendors to conduct contractor training, PG&E requires that its contractors annually review PG&E's policies to drive consistency across their vegetation management work. PG&E also provides two days per year of training to all pre-inspectors to align on safety practices and relevant procedures. Throughout their training and once deployed, pre-inspectors follow an established set of procedures for consistency in how their pre-inspection work is performed, and pre-inspectors' findings and tree prescriptions (*i.e.*, whether a tree needs to be pruned or removed) are recorded.

Additionally, for pre-inspectors to move up in their career paths, they are required to acquire professional certifications from outside authorities. Specifically, the International Society of

Arboriculture grants Certified Arborist and Utility Specialist certifications that directly support and validate proficiency in this kind of work. Maintaining these certifications also requires completing continuing education requirements as well as recertification every three years. Arborists can also be certified as a Registered Professional Forester from the California State Board of Forestry and Fire Prevention. A pre-inspector cannot attain the third or fourth step of their career progression without validating their proficiency through acquiring one or more of these certifications.

PG&E agrees that it is important both for efficacy and for safety that tree inspectors and workers be adequately trained. Not only is logging and felling one of the most hazardous industries in the nation, but the Northern California forests pose unique challenges. Safely removing a 200+ foot tall tree in the proximity of a high voltage distribution line takes a significant degree of skill that not all tree workers possess, and, absent adequate training, there is a risk that contractors can be fatally injured. PG&E's agreements with its contractors require that the tree workers used for each job be trained for the type of work involved with that particular job.[19] This is why the most significant challenge to the EVM program schedule is the limited availability of a qualified work force, in particular, limited qualified tree workers.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 31:

PG&E provides no evidence for its claims regarding the training, experience and/or knowledge of its tree contractors. Of note, as Paragraph 1 response shows, PG&E's tree contractors have been liable for several wildfires in Northern California along with PG&E for their negligence in tree trimming. Further, we refer the Court to Paragraphs 22-30 and 32-37 of our replies herein.

[19] Different types of tree work require different training. For example, pursuant to regulations promulgated by the California Department of Industrial Relations, before a tree worker can remove vegetation within 10 feet of a power line, he or she must be certified by his or her company for such work, which requires the tree worker to complete 18 months of training and related on-the-job experience. Cal. Code Regs. tit. 8, §§ 2950, 2951 (establishing minimum approach distances and excepting qualified line clearance tree trimmers); § 2700 (defining "qualified line clearance tree trimmer"). Trainees are also permitted to do this work under the direct supervision and instruction of certified individuals. Cal. Code Regs. tit. 8, § 2951.

PARAGRAPH 32 OF PLAINTIFFS' SUBMISSION:

"In 2014-2015, PG&E used foot patrols to inspect its distribution circuits. In October 2014, an employee of a company PG&E used to conduct inspections marked two 'edge trees' near the Electra 1101 circuit in southern Amador County. The inspector did not mark for removal a top heavy 44-foot grey pine that was being supported by the edge trees the inspector marked for removal. **The inspector admitted to not using any measuring device to determine the height of the tree or its distance from the power lines, nor did the inspector walk around the grey pine to inspect whether it was diseased or dying.**"

RESPONSE TO PARAGRAPH 32:

PG&E denies paragraph 32 to the extent that Plaintiffs allege that a closer inspection would have identified any issues. PG&E's pre-inspectors and tree workers were on site three times in the year before the Butte fire, and the evidence does not establish that the grey pine had defects requiring its removal at the time those inspections occurred.

- October 2014: A pre-inspector patrolled the area and marked two nearby trees for removal but did not prescribe any work for the grey pine.
- January 2015: Tree workers removed the two nearby trees. The tree workers did not identify any condition with respect to the grey pine. If tree workers identify a condition that does not conform to legal requirements, including required clearances, they are required to notify PG&E and abate the condition if it exists on the same property as the trees for which the work request was issued.
- July 2015: A pre-inspector patrolled the area and did not identify the grey pine as leaning.

PG&E further denies that the grey pine was being supported by the two trees marked for removal and that removing those trees caused the grey pine to fall. Additionally, Plaintiffs do not contend that the grey pine was diseased or dying or that it displayed any visible sign of defect, and there is no evidence of any such defect.

PG&E admits that the pre-inspector did not use a measuring device, nor was she required to do so under PG&E policies. The pre-inspector was trained to use her judgment to determine whether a tree could fall into the lines, which is the same way that the pre-inspector identified the two trees near the grey pine for removal. The pre-inspector did not mark the grey pine for removal because she did not believe it required removal given its condition, not because she concluded the tree was too short to strike the line even if it were diseased, dying or defective.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 32:

PG&E does not cite any evidence to support its revived denials of fault relating to the cause and origin of the Butte Fire because there is no such supporting evidence.

Throughout the many depositions taken over almost two years in the Butte Fire Cases, no evidence came forward to refute the conclusions of the defective nature of the gray pine contained in the Arborist Report that was prepared for Cal Fire by Michael Mahoney. (Supp. de Ghetaldi Decl., ¶¶ 13-14, Mahoney Depo. TX, Ex. 16, at p. 86:17-87:13, and Mahoney Report, Ex. 17.)

Mr. Mahoney concluded: (a) "The subject tree was defective and prone to failure"; (b) "the tree lacked reaction wood and was unable to stand on its own"; (c) "Recent tree/line maintenance activities caused the tree to fall"; (d) "Trees that are captured within the confines of a dense stand do not develop reaction wood, have poor trunk taper, and are inherently unstable"; (e) "Stable trees were removed exposing the weak interior trees to the elements"; (f) "The fallen pine tree was tall enough to reach the conductor at least 1 year prior to the incident"; (g) "Orientation of the stand of Gray pines and its proximity to energized conductors guaranteed the failure would result in tree/line contact"; (h) "Prevailing winds are to the south in the Jackson CA vicinity predisposing the unstable Gray pine to fall toward the conductors"; (i) "Primary growth developing in the subject tree's canopy and other recently exposed tree canopies would be the most prolific on their southern side – facing the energized conductors"; and (j) "Gravitational leverage resulting from new foliage and tip growth causes the tree to fall to the south." (Supp. de Ghetaldi Decl., ¶ 14, Mahoney Report, Ex. 17 at p. 7.)

The effect of removing edge trees that support previously supported interior trees is well-known to practicing arborists.

One of the documents PG&E would expect its subcontracts to be familiar with and to execute is entitled "A Handbook of Hazard Tree Evaluation for Utility Arborists" (the "Handbook"). (Supp. de Ghetaldi Decl., ¶¶ 9 - 10, Tankersley Depo. TX, Ex. 12 at pp. 324:5-330:9, and Handbook, Ex. 13.) The Handbook is a step-by-step guide to help utility arborists evaluate trees for their potential to fall onto a utility facility. It graphically and textually makes the following relevant points:

"Health and hazard are not the same."
"Trees that look healthy can fail due to decay, weak branch attachments, and other structural defects.
"Any tree that could strike a target should be evaluated.
"Identify the 'inspection area' that includes any tree that would strike the target if it failed (fig. 2).
"Individual tree species tend to fall in certain ways, characteristics called failure patterns.
"Knowledge about tree failure patters helps the evaluator 'key' in on specific characteristics of a species that are common to most failures.
"Site factors to consider include:
"Site management history
"Unmanaged forests may be overly dense and composed of tall trees with poor trunk taper that fail when exposed (see Stand Considerations, p. 14)
"Site changes
"Increasing exposure of individual trees when surrounding vegetaion is cleared can increase failure (see Stand Considerations, p. 14)
"Stand Considerations
"Trees in closed forest stands have different canopy structure and trunk development than open-grown trees (fig. 9). They usually:
"Are taller, with narrower crowns
"Have less trunk taper
"Have branches and foliage concentrated at the top of the tree
"When closed stands are opened during development or right-of-way clearance, the failure potential increases (fig. 10). Typical examples of failure include:
"Whole tree failure of understory and suppressed trees
"Trees with poor taper may bend over, especially under snow loads and interfere with lines without actually failing.
"Evaluation hint: Failure of newly exposed stands occur rapidly after site change. Such locations should be evaluated shortly after clearing."

(Supp. de Ghetaldi Decl., ¶ 10, Handbook, Ex. 13, pp. 4-5 and 10-15.)

More extensive discussions of the same topics are contained in "Best Management Practices, Tree Risk Assessment," a companion publication to the "ANSI A300 Part 9: Tree, Shrub, and Other Woody Plant Management – Standard Practices (Tree Risk Assessment a. Tree Structure Assessment" (BMP Tree Risk Assessment"). Niel Fischer, who developed PG&E's Hazard Tree Rating System in 2007, testified that he used the BMP Tree Risk Assessment in his work. (Supp. de Ghetaldi Decl., ¶¶ 15-16; Fischer Depo. TX, Ex. 18 at pp. 132:14-134:22; and BMP Tree Risk Assessment, Ex. 19, pp. 5-7, 10-11, 27-28, 59, 65-68.)

The inspector, Joy Mellera, determined after what must have been only a cursory inspection that the gray pine was not going to be "newly exposed" after the two nearby edge trees were removed. She estimated the gray pine was "35-ish feet tall" and 12-20" in diameter at breast height. She did not know at the time that the tree was tall enough to strike the line. (Supp. de Ghetaldi

Decl., ¶ 17, Mellera Depo. TX, Ex. 20, at pp. 40:6-41:13, 123:19-124:4, 135:17-136:22.) These erroneous beliefs Ms. Mellera formed were based on tragic misperceptions.

PARAGRAPH 33 OF PLAINTIFFS' SUBMISSION:

> "In January 2015, employees of another company that contracted with PG&E removed the two edge trees supporting the grey pine. Over the next nine months, the grey pine leaned further and further over toward the sun in the direction of the power lines."

RESPONSE TO PARAGRAPH 33:

PG&E admits Paragraph 33 to the extent that the tree workers, who were employed by one of PG&E's contractors, removed two trees in the vicinity of the grey pine, but denies that the two trees were "supporting" the grey pine or that the grey pine leaned towards the line as a result of the removal of the two trees. PG&E further refers to its response to Paragraph 32.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 33:

There is no factual basis to support PG&E's denial. See Reply to PG&E's Response to Paragraph 32.

PARAGRAPH 34 OF PLAINTIFFS' SUBMISSION:

> "**In July 2015, PG&E hired a tree inspection contractor who used uncertified and unqualified persons to conduct vegetation management inspections.** The three men sent to conduct the supplemental CEMA foot patrol inspection of the Electra 1101 circuit were a Walmart greeter, a dog catcher, and a man who had worked in a plant nursery. When asked at their depositions, none of the three could recall patrolling the Electra 1101 circuit."

RESPONSE TO PARAGRAPH 34:

Paragraph 34 requires clarification. The July 2015 vegetation management inspections were conducted by three pre-inspectors from one of PG&E's contractors. One of the pre-inspectors had, at one time, worked as an automobile technician at Walmart, but he also had previously worked as a firefighter. Prior to his employment as a pre-inspector, that individual had received training on the identification of tree species and trees that have the potential for failure. At his deposition, he did recall patrolling the relevant circuit.[20] The second pre-inspector had, at one time, worked in

[20] He referred to a July 2015 patrol of the Martell 1102 circuit, which is another name for the Electra 1101 circuit. Power lines run from the Electra to the Martell substation, and vegetation

landscaping. PG&E admits that individual was unable to recall patrolling the relevant circuit during his deposition, but notes that his deposition occurred two years later, in July 2017. The third pre-inspector had most recently worked as an animal cruelty investigator, but had also worked for the California Department of Fish and Game in state refuges, pruning and removing trees that were dead or otherwise hazardous to the public. That individual testified that he did remember patrolling the relevant circuit.[21] All three individuals received vegetation management training from ACRT when they were hired as pre-inspectors. As discussed in response to paragraph 31, PG&E denies that its pre-inspectors are unqualified.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 34:

The three CEMA "inspectors" were unqualified by their own admission, and none of them could testify with even a faint semblance of memory that they had actually inspected the subject property.

Art Ferrario, one of the three "inspectors" identified by PG&E as having possibly worked on the July 2015 CEMA patrol of the subject property, is the only one who testified that he recognized the name "Martell 1102." However, he could not remember what portion of the line he walked, nor could he remember if he walked any portion of the property where the subject tree was located. (Supp. de Ghetaldi Decl., ¶ 18; Ferrario Depo. TX, Ex. 21, at pp. 38:14-43:44, and 62:24-63:1.)

The only details of his training and instructions that Mr. Ferrario could remember was that he was supposed to look for "50% dead" trees, and felt he was only qualified to identify trees that are "50% dead." (*Id.*, at pp. 27:1-38:13, and 60:18-62:13.)

Kenneth Pirtle, another of the three "inspectors," testified that his inspections covered areas other than the subject property. He also testified that he had "serious doubts" about whether the

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management companies refer to it as the Martell 1102 circuit because they historically worked from the Martell substation to the Electra substation.

[21] As with the first pre-inspector, at his deposition, this pre-inspector referred to a patrol of the Martell 1102 circuit.

training he received qualified him sufficiently to do the work he was supposed to do. (Supp. de Ghetaldi Decl., ¶ 19; Pirtle Depo. TX, Ex. 22, at pp. 76:16-83:25, and 152:17-153:17.)

Nicholas Perkins, the third "inspector," testified that he does not recall "back then" whether he felt qualified to do his job, but did feel "underqualified" to do the work he was asked to do. Mr. Perkins does not remember being at the subject property. (Supp. de Ghetaldi Decl., ¶ 20; Perkins Depo. TX, Ex. 23, at pp. 45:19-20, 59:17-60:8, and 105:17-20.)

PARAGRAPH 35 OF PLAINTIFFS' SUBMISSION:

> "PG&E started using LiDAR ('Light-detecting and Ranging') remote sensing technology on a limited scale in 2014 to help identify hazard trees near high voltage lines. In 2015, PG&E contracted with Quantum Spatial to obtain LiDAR scans of 9,547 miles of its distribution system and orthoimagery of 15,320 miles of its distribution system, including the portion of the Electra 1101 circuit where the Butte Fire started. The 'deliverables' included: (a) the use of hyperspectral data processing to identify individual grey pine and black oak trees; (b) graphic identification of individual grey pine and black oak 'risk trees' with 'tree polygons'; and (c) a 'fall-in analysis' to identify trees with the potential to strike conductors."

RESPONSE TO PARAGRAPH 35:

Paragraph 35 requires clarification. PG&E started using LiDAR in 2014 to measure compliance with the then-governing NERC reliability standard regarding vegetation management on transmission lines, FAC-003-1. PG&E admits that it expanded its use of LiDAR in 2015 as stated in Paragraph 35 but notes that it surveyed approximately 13,450 distribution circuit miles in 2015 using LiDAR and spectral imagery technologies.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 35:

PG&E does not cite the factual basis for its clarification as to number of distribution circuit miles surveyed by LiDAR in 2015.

PARAGRAPH 36 OF PLAINTIFFS' SUBMISSION:

> "**Aerial surveys of the selected circuits in high fire risk areas began in July 2105 and delivery of the results was scheduled for October 31, 2015--only weeks after the Butte Fire ignited**. The orthoimagery results identify the grey pine that hit the line as a hazard tree with the potential to strike the line. (de Ghetaldi Decl., Exhibit 4 and 5)."

RESPONSE TO PARAGRAPH 36:

PG&E admits Paragraph 36 with respect to the dates and locations of aerial surveys, but clarifies that they began in July 2015. PG&E denies that the orthoimagery results could or do alone identify the grey pine that hit the line as a hazard tree with the potential to strike the line. PG&E defines "hazard tree" as a tree that is dead or shows signs of disease, decay or ground or root disturbance and which may fall into or otherwise impact conductors, towers or guy wires before the next inspection cycle. (*See* Biancardi Decl. ¶ 11.) The orthoimagery results did not indicate that the grey pine was "dead or show[ed] signs of disease, decay or ground or root disturbance and" may have failed, only that the crown of the grey pine was within six feet of the circuit.[22]

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 36:

Mr. Biancardi's definition of "hazard tree" reflects the artificially narrow definition espoused by some at PG&E to deflect attention from the plain language of Public Resource Code § 4293 that requires PG&E prevent contact between its power lines and "trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line."

As set forth in Paragraph 23, the CPUC interprets the statute to require "utility companies to maintain specific clearances ... between electric power lines and ***all vegetation***. [Emphasis added.]" (See also Replies to PG&E's Response to Paragraphs 22 and 32.)

PARAGRAPH 37 OF PLAINTIFFS' SUBMISSION:

> "Manipulation of the July 2015 'point cloud' data shows the grey pine leaning toward and within six feet of the circuit, demonstrating the incompetence of the July 2015 foot patrol inspectors who failed to identify the grey pine as in violation of Public Resources Code § 4293. (de Ghetaldi Decl., Exhibits 5 and 6)."

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[22] Orthoimagery does not identify leaning trees, because it is taken aerially and captures trees' crowns, not their bases. The location of the grey pine's base, depicted by the dot marked on Exhibit 6 to the Declaration of Dario de Ghetaldi, was obtained by GPS surveys and scans taken after the Butte Fire. (de Ghetaldi Decl. Exhibit 4, Dkt. 1007-4 at 5-7.) The location of a tree's base, and therefore whether a tree is leaning, would not have been identifiable using the orthoimagery results. As noted in response to Paragraph 32, the inspectors who visited the location a few weeks prior to the date on which the LiDAR image was taken did not note any abnormality with the subject tree requiring its removal.

RESPONSE TO PARAGRAPH 37:

PG&E admits that the data shows the crown of the grey pine within six feet of the circuit. (de Ghetaldi Decl. Exhibit 4, Dkt. 1007-4 at 23.) For the reasons set forth in its response to Paragraph 34, PG&E denies that its contractors were "incompetent". PG&E also denies that it was in violation of Public Resources Code § 4293. Section 4293 required four feet of clearance around the 12 kV conductor that the grey pine contacted. In its Investigation Report regarding the Butte Fire, CAL FIRE, which investigated the potential cause of the Butte fire, did not allege that PG&E violated Public Resources Code § 4293.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 37:

Geisha Williams, former CEO of PG&E, admitted at her deposition that one of the violations that the CPUC cited PG&E for relating to the Butte Fire "was ultimately the gray pine made contact with the electric line. ***So by having made contact it absolutely violates the clearance requirement.*** [Emphasis added.]" (Supp. de Ghetaldi Decl., ¶ 12, Williams Depo. TX, Ex. 15, p. 93:5:22.)

The Cal Fire Investigation Report did not contain the legal conclusion that PG&E violated Public Resources Code § 4293. However, the probative value or even the relevance of that fact is highly questionable given that the CPUC cited PG&E for violation of GO 95, Rule 31.1, stated facts in its citation that would have supported a citation for violation of Public Resources Code § 4293, and fined PG&E $8 million. (de Ghetaldi Decl., Dkt. 1007, pp. 1-2; see Reply to PG&E's Response to Paragraph 25.)

PARAGRAPH 38 OF PLAINTIFFS' SUBMISSION:

> "C. **PG&E Can Develop Ways to Monitor Local Conditions in Wildfire Prone Areas**
>
> After the 2007 wildfires, SDG&E significantly increased its ability to monitor local conditions and assess those conditions for fire risk. **SDG&E installed 167 anemometers, or wind measuring devices. It hired three meteorologists 'who provide operational weather information' and 'four experienced fire professionals who provide advice about fire risk and mitigation**.' (Pitre Decl., Exhibit I, pg. 2-1)."

RESPONSE TO PARAGRAPH 38:

PG&E admits that Paragraph 38 accurately paraphrases and quotes from an SDG&E

document related to Wood-to-Steel pole replacement. (Pitre Decl., Exhibit I, Dkt. 1006-9 at 3.). As detailed in Response to Paragraph 15, as part of its Wildfire Safety Plan, PG&E is implementing several measures designed to enhance its situational awareness in HFTDs.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 38:

Refer to Paragraphs 2, 3, 4 and 5 responses. Further, nothing in PG&E's response provides evidence as to what PG&E has actually done. Instead PG&E simply claims it "is implementing" measures.

PARAGRAPH 39 OF PLAINTIFFS' SUBMISSION:

> "**According to the CPUC and CAL FIRE, these efforts have been successful**: '[the CPUC Safety and Enforcement Division] and CAL FIRE have evaluated the benefits achieved by San Diego Gas & Electric (SDG&E) through the use and implementation of information learned from its network of weather stations and concluded that it provides substantial benefit to wildfire risk mitigation, system planning and hardening, operational awareness and emergency response.' (See Pitre Decl., Exhibit G, pg. 2)."

RESPONSE TO PARAGRAPH 39:

PG&E admits that Paragraph 39 accurately quotes from the CPUC Safety and Enforcement Division Rulemaking 15-05-006 SED-CAL FIRE Joint Assessment and Recommendation Report (Sept. 19, 2018).

PG&E agrees that monitoring local conditions in HFTDs can be an important tool in preventing and responding to wildfires. As detailed in Response to Paragraph 15, as part of its Wildfire Safety Plan, PG&E is implementing several measures designed to enhance its situational awareness in HFTDs.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 39:

Refer to Paragraphs 2, 3, 4 and 5 responses. Further, nothing in PG&E's response provides evidence as to what PG&E has actually done. Instead PG&E simply claims it "is implementing" measures.

PARAGRAPH 40 OF PLAINTIFFS' SUBMISSION:

> "Regrettably, it **was not until after the North Bay Fires that PG&E announced it would install around 200 new weather stations in its service territory** that would feed real-time weather data to a wildfire safety team that would interpret the data relative to wildfire risk.

But PG&E did not plan to complete the installation of the new weather stations until 'the end of the year', i.e. after the Camp Fire hit.* However, PG&E certainly understood, and has understood historically, the importance of local weather conditions in assessing fire danger, as Kevin Dasso, PG&E Vice President of Electric Asset Management in July 2018 stated:

> We saw first-hand last year how extreme weather events driven by climate change are causing unprecedented and unanticipated wildfires. Adding new weather stations in high fire-threat areas across our service area enhances our weather forecasting and modeling to help bolster wildfire prevention and response efforts and keep our customers safe.
>
> ...
>
> PG&E has historically used weather forecast data for many purposes, mainly for predicting storm damage and for assessing fire danger. Its team of meteorologists, which includes fire-weather specialists, performs daily monitoring of current and forecast weather patterns and fire threat projections using in-house and publicly available data from the National Weather Service, CAL FIRE, US Forest Service and more. This information helps PG&E predict when and where the fire threat will be high or extreme so additional steps can be taken to keep critical infrastructure, utility crews and communities safe.
>
> With these new weather stations, PG&E will be able to capture additional real-time data related to temperature, wind speeds and humidity levels to provide improved awareness of current fire danger conditions. PG&E's meteorologists will feed information to the company's new Wildfire Safety Operations Center team to review data and determine any needed action to help reduce wildfire risks.*
>
> *[FN 6]: https://www.pge.com/en/about/newsroom/newsdetails/index.page?title=20180716_pge_adds_over_50_new_weather_stations_to_advance_forecasting_abilities_better_predict_extreme_weather_and_wildfire_potential.
>
> *[FN 7]: Id."

RESPONSE TO PARAGRAPH 40:

PG&E admits that Paragraph 40 accurately paraphrases and quotes from a July 16, 2018 press release announcing that PG&E would install approximately 200 new weather stations by the end of 2018. The quoted material accurately reflects that monitoring weather is an important part of PG&E's work, and PG&E has long had a team of meteorologists using internal and external data and modeling to assess storm and fire danger. PG&E denies Plaintiffs' suggestion that PG&E was slow to install additional weather stations. As discussed below, the scope of the threat of catastrophic fires in Northern California changed with the October 2017 North Bay Wildfires. (*See* Response to

Paragraph 50.) PG&E responded by developing a comprehensive set of additional fire mitigation tools and continues to implement and improve and those measures today.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 40:

Refer to Paragraphs 2, 3, 4 and 5 responses. Further, PG&E provides no evidence to support that its installation of weather stations was not slow or that funding was not delayed for the project historically. Nor does PG&E provide evidence as to how many weather stations have been installed in the North Bay Counties, and whether a weather station close to Paradise was providing PG&E with real-time data to assist it with its decision not to proactively de-energize lines that fateful day.

PARAGRAPH 41 OF PLAINTIFFS' SUBMISSION:

> **"D. PG&E Can De-Energize Lines In Wildfire Prone Areas When Local Conditions Indicate an Extreme Risk for a Catastrophic Wildfire**
>
> **"i. In 2008, SDG&E Began Shutting Off Power to Protect Public Safety**
>
> In October 2007, Santa Ana winds caused SDG&E's overhead power lines to ignite the Witch Fire, the Guejito Fire, and the Rice Fire. (Pitre Decl., Exhibit N, CPUC Decision 09-09-030 at pg 24). Together, those fires burned more than 200,000 acres and 1,800 buildings and killed two people. (Id.)"

RESPONSE TO PARAGRAPH 41:

PG&E admits that the CPUC's September 2009 Decision 09-09-030 states that the Witch, Guejito and Rice fire combined burned more than 200,000 acres and 1,800 buildings and killed two people, but notes that the decision states that Santa Ana winds "reportedly" caused SDG&E lines to ignite the fires, and the CPUC specified that its decision "does not prejudge any issues being addressed in [the Witch, Guejito and Rice fire] Investigations". (Pitre Decl. Exhibit N, Dkt. 1006-14 at 27, n. 26.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 41:

As PG&E is aware, SDG&E paid enormous fines and settlements related to the Witch, Guejito and Rice Fires due to findings that its equipment caused those fires. On April 22, 2010, the CPUC announced: "The California Public Utilities Commission (CPUC) today approved two settlement agreements that resolve its investigations into the Witch, Rice, and Guejito fires of

October 2007 in the San Diego area. The CPUC approved a settlement between its Consumer Protection and Safety Division (CPSD) and San Diego Gas and Electric Company (SDG&E) under which SDG&E will pay $14.4 million to the state's General Fund." (Pitre Decl., Ex. 26). ¶

PARAGRAPH 42 OF PLAINTIFFS' SUBMISSION:

> "A year later, in December of 2008, SDG&E submitted an Emergency Power Shut-Off Plan for review by the CPUC. SDG&E sought permission to turn off electricity during periods of extreme fire danger in order to prevent its overhead power lines from igniting potentially catastrophic wildfires. (Pitre Decl. Exhibit N [Decision 09-09-030] pgs. 3-4)."

RESPONSE TO PARAGRAPH 42:

PG&E admits that Paragraph 42 accurately summarizes information in CPUC Decision 09-09-030.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 42:

None.

PARAGRAPH 43 OF PLAINTIFFS' SUBMISSION:

> "Although the CPUC rejected SDG&E's plan at that time, the CPUC made clear that it believed all utilities were presently legally obligated to de-energize lines that would present a safety risk under extreme weather conditions pursuant to Public Utility Code Section 451 and 399.* (Id. at pg 61).
>
> SDG&E's statutory obligation to operate its system safely requires SDG&E to shut off its system if doing so is necessary to protect public safety. For example, there is no dispute that SDG&E may need to shut off power in order to protect public safety if Santa Ana winds exceed the design limits for SDG&E's system and threaten to topple power lines onto tinder dry brush. (Id. at pgs 61-62)
>
> * [FN 8]: The Commission noted that in 2003 SCE implemented a temporary program to shut off power to rural areas to protect against the possibility of strong winds causing dead trees to fall onto its power lines and igniting a wildfire. (Pitre Decl. Exhibit N [Decision 09-09-030] pg. 40). SCE did not wait for the CPUC's permission to initiate the program. (Id.) It put the program in place then got the CPUC's blessing later. (Id.). During the time SCE's power shut-off program was in effect, SCE shut off power one time. (Id. at 41). When SCE inspected its power lines prior to re-energization, it found six locations where trees had fallen onto the lines. (Id.). SCE credited the de-energization with preventing a catastrophic wildfire. (Id. at 41)."

RESPONSE TO PARAGRAPH 43:

PG&E admits that Plaintiffs' quotation from CPUC Decision 09-09-030 at pages 61-62 is accurate but otherwise disputes Plaintiffs' characterization of the decision. In its application, SDG&E sought pre-approval to turn off electricity to certain regions during periods of high fire danger.[23] (Pitre Decl. Exhibit N, Dkt. 1006-14 at 5-6.) The CPUC rejected SDG&E's request. The CPUC noted that if SDG&E exercised its discretion and shut off power in an emergency situation to protect public safety, the CPUC could subsequently review whether that decision was reasonable based on its prudent operator standard. (*See id.* at 64-65.)

The portion of the CPUC's decision Plaintiffs quote states that "SDG&E *may* need to shut off power in order to protect public safety if Santa Ana winds exceed the design limits for SDG&E's system and threaten to topple power lines onto tinder dry brush", (*id.* at 61-62 (emphasis added)), not that it is legally obligated to do so. Indeed, Plaintiffs' next paragraph recognizes that in 2012, the CPUC felt compelled to clarify that Decision 09-09-030 should not be interpreted "as an outright rejection of the option of shutting off power to prevent fire", (*see infra* ¶ 44), which is inconsistent with Plaintiffs' claim that Decision 09-09-030 stated that utilities were legally obligated to de-energize under extreme weather conditions.[24]

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[23] PG&E notes that "[a]ll the intervening parties except SCE oppose[d] SDG&E's Power Shut-Off Plan". (Pitre Decl. Exhibit N, Dkt. 1006-14 at 10.) The intervening parties included the Mussey Grade Road Alliance, Pacific Bell Telephone Company d/b/a AT&T California and affiliated entities, the California Cable and Telecommunications Association, the California Farm Bureau, CoxCom, Inc., and Cox California Telecom, L.L.C., the CPUC's Consumer Protection and Safety Division, CTIA-The Wireless Association, the CPUC's Division of Ratepayer Advocates, Disability Rights Advocates, the San Diego County Superintendent of Schools, a consortium of six municipal water districts (Valley Center Municipal Water District, Ramona Municipal Water District, Padre Dam Municipal Water District, Rainbow Municipal Water District, Fallbrook Public Utilities District, and Yuima Municipal Water District), and Utility Consumers Action Network. (*Id.* at 33.)

[24] Moreover, much of Decision 09-09-030 discusses why de-energization itself poses significant safety risks, including a potentially increased risk of wildfire ignitions. (*See id.* at 45.) The CPUC stated that it would approve SDG&E's Power Shut-Off Plan only if SDG&E could demonstrate that "shutting off power results in a net reduction in wildfire ignitions during hazardous fire conditions" and "the benefits of SDG&E's Power Shut-Off Plan outweigh the adverse impacts". (*Id.* at 44.) The CPUC decided that SDG&E did not satisfy that standard. (*Id.* at 71.)

With respect to footnote 8, PG&E admits that Plaintiffs accurately summarize the CPUC's statements in Decision 09-09-030 regarding SCE's temporary program to shut off power in effect from 2003 to 2005.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 43:

PG&E contends that the CPUC Decision 09-09-030 does not support a clear statement from the CPUC that a utility has a legal obligation to shut off power if safety reasons necessitate it. This contradicts the exact language of the CPUC decision, which states: "SDG&E's statutory obligation to operate its system safely requires SDG&E to shut off its system if doing so is necessary to protect public safety."

PARAGRAPH 44 OF PLAINTIFFS' SUBMISSION:

> "ii. **Investor Owned Utilities were Notified by the CPUC that they Could Include Proactive De-energization as Part of Their Fire Prevention Plans Five Years Before the 2017 North Bay Fires**
>
> In 2012, the CPUC revisited its decision to deny SDG&E's plan, clarifying that it should not have been interpreted as an outright rejection of the option of shutting off power to prevent fires. (Pitre Decl. Exhibit O [Decision 12-01-032] pg. 53). The Commission explained that a utility could include de-energization as part of its fire-prevention plan but must first file an application for authority to do so. (Id. at 51). 'The application shall demonstrate with a cost-benefit analysis developed in accordance with the guidance provided by D.09-09-030 that the benefits of shutting off power in terms of a net reduction in wildfire ignitions outweigh the substantial costs, burdens, and risks that shutting off power would impose on customers and communities affected by the shut off. The application must also include mitigation measures to reduce or eliminate the inevitable adverse impacts caused by shutting off power.' (*Id.* at 51-52; *see also* Ordering Paragraph 6 at pg 175)."

RESPONSE TO PARAGRAPH 44:

PG&E admits that Paragraph 44 accurately quotes from pages 51 to 52 of the CPUC's January 2012 Decision 12-01-032 and that the CPUC states in the decision that Decision 09-09-030 should not be interpreted as a rejection of the option of shutting off power to prevent fires. PG&E disputes Plaintiffs' characterization of the decision as "revisiting" the CPUC's decision to deny SDG&E's proactive de-energization plan. As described by the CPUC, Disability Rights Advocates "represent[ed] that SDG&E . . . refused to commit to any plan for notifying customers when

SDG&E anticipate[d] that it w[ould] shut off power for safety reasons pursuant to its statutory authority, or for helping customers to cope with statutory shut offs by providing shelter, evacuation assistance, generators, or financial assistance." (Pitre Decl. Exhibit P, Dkt. 1006-16 at 9.) Disability Rights Advocates was "concerned that shutting off power without notice or mitigation w[ould] place SDG&E's residential customers at serious risk, especially those with disabilities". (*Id.*) Disability Rights Advocates therefore petitioned the CPUC to modify Decision 09-09-030 to address these issues.

In Decision 12-01-032, the CPUC thus considered and decided whether to adopt additional regulations "to reduce the fire hazards associated with overhead power-line facilities and aerial communication facilities in close proximity to power lines" as a part of the CPUC's Order Instituting Rulemaking to Revise and Clarify Commission Regulations Relating to the Safety of Electric Utility and Communications Infrastructure Provider Facilities ("Safety OIR"). (Pitre Decl. Exhibit O, Dkt. 1006-15 at 9.)

Notably, the CPUC found in Decision 12-01-032 that the wildfire risk in Northern California was not comparable to that in Southern California, holding that "we will require investor-owned electric utilities (electric IOUs) in Southern California to develop plans to reduce the risk of severe windstorms igniting power-line fires during periods of high fire danger" (*id.* at 55), but that "[u]nlike Southern California, the need for electric utilities to develop fire-prevention plans in Northern California is not clear cut. To our knowledge, there has never been an instance in Northern California where strong winds have caused power lines to ignite large-scale wildfires". (*Id.* at 56 (footnote omitted)).

When the conditions in Northern California changed with the October 2017 North Bay Wildfires, PG&E developed a comprehensive de-energization program—its Public Safety Shutoff ("PSPS") program—in advance of the 2018 fire season. (*See* WSP at 94-109 (describing development of PG&E's PSPS program, scope of current program and planned enhancements).) As discussed in more detail below, that program was modeled on SDG&E's proactive de-energization program after performing extensive benchmarking with SDG&E in a variety of areas, including

meteorology, operational processes, emergency response, restoration, communications and customer support. (*See* Response to Paragraph 50.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 44:

In regard to PG&E citation to CPUC Decision 12-01-032 regarding the CPUC's knowledge of a prior instance "in Northern California where strong winds have caused power lines to ignite large-scale wildfires," we refer the Court (and the CPUC) to Paragraphs 2, 3, 4 and 5 responses where these wildfires had been clearly documented by federal, state, and local government agencies. Not to mention, PG&E caused several of them and paid significant fines and settlements related to those fires. Therefore, to claim ignorance of these events is not forthright.

PARAGRAPH 45 OF PLAINTIFFS' SUBMISSION:

> "**Approximately four months later, the CPUC issued a decision authorizing SDG&E to proactively shut off power in emergency situations when necessary to protect public safety**. (Pitre Decl. Exhibit P [Decision 12-04-024] pg. 35)."

RESPONSE TO PARAGRAPH 45:

PG&E denies Plaintiffs' characterization of the CPUC's April 2012 Decision 12-04-024 and clarifies that Decision 12-04-024 reviewed a petition by the Disability Rights Advocates to modify Decision 09-09-030, (*see supra* ¶¶ 42-43), "to provide notice and mitigation, to the extent feasible and appropriate, whenever SDG&E shuts off power for public-safety reasons." (Pitre Decl. Exhibit P, Dkt. 1006-16 at 4.) The decision did not mandate that SDG&E proactively shut off power but provided additional guidance with respect to the CPUC's earlier determination (in Decision 09-09-030) that SDG&E had the statutory authority to shut off power in order to protect public safety. (*Id.*)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 45:

None.

PARAGRAPH 46 OF PLAINTIFFS' SUBMISSION:

> "**Since 2014, SDG&E's electrical equipment has only caused 109 wildfires with only ONE wildfire being over 10 acres, and even that fire was contained before it reached 300 acres.** (See Pitre Decl., Exhibit A [CPUC Fire Incident Data submitted by PG&E, SoCalEd, and SDG&E for 2014-2017]). **Compare that to PG&E who caused 1552 wildfires during the same timeframe with 68 of those fires burning over 10 acres.** (Id.)"

RESPONSE TO PARAGRAPH 46:

PG&E admits that Paragraph 46 accurately calculates the number of fire incidents reflected in the CPUC Fire Incident Data for 2014-2017, but otherwise denies the accuracy of Paragraph 46 and offers the following additional clarification. *First*, the data Plaintiffs cite excludes the 2018 fire season, during which SDG&E reported two fire incidents over ten acres. (*See* CPUC Feb. 6 Br., Dkt. 1010 at 4.) *Second*, a direct comparison does not take into account the significant differences between SDG&E's and PG&E's territories. As the CPUC explained in its supplemental submission to the Court, "SDG&E's history and development of its de-energization program must be understood in the context of SDG&E's service territory, which is considerably smaller and less geologically diverse than PG&E's." (*Id.* at 3.) PG&E's territory covers more than 17 times the acreage of SDG&E's territory, and PG&E has approximately five times the number of transmission and distribution line miles of SDG&E.[25] (*Id.*) PG&E's territory includes more dense vegetation in more rural areas than SDG&E's territory and, not surprisingly given its size, covers a far wider range of climatic and topographical conditions. (*See id.*; WSP at 18-19.) *Third*, the fact that an ignition does not spread and result in a catastrophic wildfire is also a function of conditions on the ground where the ignition occurs (*e.g.*, whether the location contains dry fuel).

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 46:

Refer to Paragraphs 2, 3, 4 and 5 responses.

PARAGRAPH 47 OF PLAINTIFFS' SUBMISSION:

> "iii. **The CPUC Outlined Basic Factors for SDG&E to Consider Prior to De-energization and Ordered SDG&E to Submit A Report Each Time It Shut Off Power to Prevent A Wildfire**
>
> In its decision authorizing SDG&E to proactively de-energize power lines, the CPUC made clear that the utility should first deploy other measures as an alternative to shutting off power. '**These measures include reliance on sensitive relay settings to shut off power in milliseconds if there is an electrical failure caused by power lines falling to the ground**

[25] SDG&E serves two counties in Southern California covering approximately 4,100 square miles with 2,090 transmission and 23,479 distribution line miles. PG&E serves 44 counties in Northern California covering approximately 70,000 square miles with 18,466 transmission and 106,681 distribution line miles. *Id.*

and disabling reclosers to keep power off until SDG&E can inspect its facilities to determine if it is safe to re-energize its power lines.' (Pitre Decl. Exhibit P [Decision 12-04-024] pgs. 30-31)."

RESPONSE TO PARAGRAPH 47:

PG&E admits that Plaintiffs accurately quote from the CPUC's April 2012 Decision 12-04-024 at pages 30 to 31, but denies Plaintiffs' characterization of the decision as authorizing SDG&E to proactively de-energize (*see supra* Response to ¶ 45), and clarifies that the decision states that SDG&E should rely on other measures "to the extent available" as an alternative to de-energization (Pitre Decl. Exhibit P, Dkt. 1006-16 at 32.). PG&E notes that, consistent with the CPUC's guidance, PG&E relies on alternatives to de-energization where possible because de-energization is a tool of last resort and refers to its response to Paragraph 20.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 47:

None.

PARAGRAPH 48 OF PLAINTIFFS' SUBMISSION:

"SDG&E thereafter submitted a 39-page Fire Prevention Plan to the CPUC that provided 'a comprehensive inventory of the organizational and operational activities SDG&E undertakes in order to address the risk of fire in the SDG&E service territory.' (Pitre Decl. Exhibit Q [Attachment A to SDG&E Supplemental Advice Letter 2429-E-A 6/3/13 Fire Prevention Plan] pg. 4)."

RESPONSE TO PARAGRAPH 48:

PG&E admits that SDG&E submitted a Fire Prevention Plan to the CPUC in June 2013 and that Plaintiffs accurately quote from page 4 of that plan, but clarifies that SDG&E submitted the plan as required by Decision 12-01-032 (the CPUC's order in the Safety OIR), not in response to Decision 12-04-024 (the CPUC's review of its earlier decision regarding SDG&E's de-energization program).

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 48:

None.

PARAGRAPH 49 OF PLAINTIFFS' SUBMISSION:

"With respect to de-energization, SDG&E explained that **when the National Weather Service declared a Red Flag Warning, the utility would activate its Emergency Operations Center** – 'a secure and dedicated facility which serves as a command center for SDG&E operations under high- threat conditions.' (Pitre Decl. Exhibit Q [Attachment A to SDG&E Supplemental Advice Letter 2429-E-A 6/3/13 Fire Prevention Plan] pg. 27). That triggering event would also require certain senior managers and operating personnel to report to the Emergency Operations Center. (*Id.* at pg 27). **Those persons would then closely monitor the electrical system and, if necessary, shut off power 'in order to protect the public safety and defend against the threat that SDG&E's electrical facilities will become a source of ignition.'** (Id. at pg 27)."

RESPONSE TO PARAGRAPH 49:

PG&E admits that Plaintiffs accurately summarize and quote portions of SDG&E's June 2013 Fire Prevention plan at page 27, but clarifies that the cited section does not concern SDG&E's Power Shut-Off Program specifically. Instead, de-energization is identified as one of a number of "appropriate and timely actions" SDG&E might take "as necessary in order to protect the public safety and defend against the threat that SDG&E's electrical facilities will become a source of ignition". (Pitre Decl. Exhibit Q, Dkt. 1006-17 at 33-37.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 49:

None.

PARAGRAPH 50 OF PLAINTIFFS' SUBMISSION:

"iv. PG&E Resisted the Notion of Utilizing De-energization to Prevent Wildfires Until After the North Bay Fires

PG&E did not follow SDG&E's lead and implement a comprehensive approach to prevent wildfires. After the October 2017 fires erupted, the CPUC asked the following question as part of its post-fire investigation:

> Some utilities, for example SDG&E, have procedures in place to proactively de-energize power lines when weather conditions indicate extremely high risks of fires (based on temperature, humidity, wind-speed and other factors). Does PG&E have similar procedures in place?

(Pitre Decl. Exhibit R [10/17/17 PG&E Response to Safety and Enforcement Division Question No. 5])"

RESPONSE TO PARAGRAPH 50:

PG&E admits that Plaintiffs accurately quote the CPUC Safety and Enforcement Division's Question 5, but denies Plaintiffs' suggestion that PG&E should have implemented a proactive de-energization program at the time that SDG&E did so. PG&E refers to its response to Paragraph 44 with respect to wildfire risk in Northern California.

In its 2012 Safety OIR decision, the CPUC found that the need for fire prevention plans in Northern California was "not clear cut" as it was in Southern California and noted that to its knowledge "there has never been an instance in Northern California where strong winds have caused power lines to ignite large-scale wildfires". (Pitre Decl. Exhibit O, Dkt. 1006-15 at 56.) It was not until July 2018 that the CPUC expanded its de-energization regulations to apply to all investor owned utilities, which it did because "[r]ecent California experience with wildfires demands that we enhance existing de-energization policy and procedures". CPUC Resolution ESRB-8 (July 16, 2018), at 5, *available at* http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M218/K186/-218186823.PDF.[26] As the CPUC has reiterated in each of its decisions concerning de-energization, shutting off the power poses significant public safety risks and should only be used as a last resort after carefully balancing the relative risk of wildfire ignitions against the substantial costs, burdens and risks that shutting off power imposes. (*See id.* at 4; Pitre Decl. Exhibit N, Dkt. 1006-14 at 5, 63-64; Pitre Decl. Exhibit P, Dkt. 1006-16 at 32-33.) PG&E respectfully submits that the calculus for determining that a de-energization program was a necessary additional wildfire mitigation measure in Northern California did not shift until after the October 2017 fires.

[26] The CPUC noted in its press release that prior to that time "regulations regarding de-energization applied only to San Diego Gas & Electric. Today's decision extends the existing regulations to all electric investor-owned utilities in California and also strengthens the requirements." CPUC Press Release, "CPUC Strengthens Utility Public Notice Requirements for De-energizing in Emergencies" (July 12, 2018), available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M217/K918/217918600.PDF.

Following the October 2017 North Bay Wildfires, PG&E developed a comprehensive de-energization program—its Public Safety Power Shutoff ("PSPS") program—in advance of the 2018 fire season. (*See* WSP at 94-109 (describing development of PG&E's PSPS program, scope of current program and planned enhancements).) PG&E's PSPS program was modeled on SDG&E's proactive de-energization program after performing extensive benchmarking with SDG&E in a variety of areas, including meteorology, operational processes, emergency response, restoration, communications and customer support. (*Id.* at 95.) In particular, PG&E utilized SDG&E's methodology for determining the circumstances under which it would initiate a PSPS, its early stakeholder communication strategy (including with customers) and its methods for determining readiness for post-event patrols and verifying the safety of overhead facilities before re-energization. (*Id.* at 95-96.)

Consistent with SDG&E's de-energization plan, before making the decision to de-energize, PG&E considers numerous real-time factors, including red flag warnings, wind, weather and fuel conditions, ignition spread modeling and on-the-ground observations from its Emergency Operations Center teams. (*Id.* at 97-98.) PG&E also developed (based on SDG&E's practices) a comprehensive notification system designed to provide early and continuous communications with customers, local communities, first responders, health care facilities and other critical service providers, including in-person notification as needed for Medical Baseline customers.[27] (*Id.* at 100-109.)

In addition, like SDG&E, PG&E is implementing several key enhancements to its de-energization program in 2019, including increased density of weather stations and improved base meteorological modeling. (*Id.* at 87-88.) PG&E has also engaged the same company that SDG&E used to develop an advance fire ignition spread model tailored to PG&E's service area to help focus on the areas of highest risk. (*Id.* at 96.)

[27] Medical Baseline customers are customers who rely on life-sustaining medical equipment that requires electricity or who require life-sustaining temperature control from heat and/or air conditioning.

To be clear, PG&E did not—and cannot—adopt SDG&E's program wholesale because each system is different both in terms of its construction and the risks confronting the utility based on environmental, geographic and human factors; rather, using SDG&E's best practices, PG&E developed its de-energization program to fit the attributes of PG&E's service territory.[28] (*Id.*) In fact, in 2019, PG&E will expand its program's scope to include high voltage transmission lines (500 kV and below) in the Tier 2 and Tier 3 HFTD areas. (*Id.*)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 50:

Refer to Paragraphs 2, 3, 4, 5 and 44 responses. Further, nothing in PG&E's response provides evidence as to what PG&E has actually done. Instead PG&E simply claims it "is implementing" measures.

PARAGRAPH 51 OF PLAINTIFFS' SUBMISSION:

> "PG&E replied, in pertinent part: 'PG&E does not have a procedure to de-energize power lines and thereby disable power service to its customers in advance of weather conditions that indicate extreme fire risk.' (Pitre Decl. Exhibit R [10/17/17 PG&E Response to Safety and Enforcement Division Question No. 5])"

RESPONSE TO PARAGRAPH 51:

PG&E admits that Plaintiffs accurately quote the first sentence of PG&E's response to the SED's Question No. 5 and refers to its Response to Paragraph 50 for further clarification.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 51:

Refer to Paragraphs 2, 3, 4, 5 and 44 responses. Further, nothing in PG&E's response provides evidence as to what PG&E has actually done. Instead PG&E simply claims it "is implementing" measures.

PARAGRAPH 52 OF PLAINTIFFS' SUBMISSION:

> "In response to the 2017 North Bay Fires, PG&E created a Community Wildfire Safety Program. (Pitre Decl. Exhibit S [Sept. 2018 PG&E Public Safety Power Shutoff Policies and Procedures] pg. 1) One component of that program was the 'Public Safety Power Shutoff' –

[28] For example, SDG&E's de-energization decision factors include a Santa Ana Wildfire Threat Index. However, because Santa Ana winds are not prevalent in PG&E's Northern California service territory, PG&E's de-energization decision factors do not include a similar index.

PG&E's 'policies and procedures related to proactively turning off power for safety – and later restoring power – when necessary due to extreme weather and wildfire danger.' (Id.)"

RESPONSE TO PARAGRAPH 52:

PG&E admits Paragraph 52.

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 52:

None.

PARAGRAPH 53 OF PLAINTIFFS' SUBMISSION:

"v. **In the Days and Hours Leading Up to the Camp Fire, PG&E Notified Paradise That It Was Considering De-Energization, But Never Turned the Power Off**

PG&E was aware in advance of the Camp Fire of the extreme fire danger presented by weather conditions on November 8, 2018. Two days earlier, on November 6, PG&E activated its Emergency Operations Center (EOC) 'due to forecasted weather conditions with increasing fire risk.' (Pitre Decl., Exhibit K [PG&E 11/2/7/2018 ESRB-8 Compliance Report for Potential Proactive De-energization]). PG&E then began notifying customers that it might be shutting down power in certain Northern California counties, including Butte County, on November 8 due to forecasted high winds and low humidity."

RESPONSE TO PARAGRAPH 53:

PG&E admits that it was monitoring the risk of extreme weather conditions and the potential for extreme fire danger presented by those weather conditions in advance of November 8, 2018. PG&E activated its EOC on November 6, 2018, and the same day, initiated communications regarding a potential PSPS event to state agencies (the CPUC, Cal OES, CAL FIRE and the Governor's Office), local first responders and community leaders, then initiated out-bound communications to approximately 70,000 customers across portions of nine counties, including Butte County, where the forecasted weather and wildfire potential indicated a high likelihood of impact to PG&E's equipment and facilities. (Pitre Decl. Exhibit K, Dkt. 1006-11 at 4.) PG&E continued to issue communications to potentially impacted customers multiple times from November 6 through November 8, as discussed in PG&E's response to Paragraph 54. (*Id.* at Appendix Table A-2.)

For a complete and accurate description of the potential PSPS events of November 6 to 8, 2018, PG&E directs the Court to the PG&E Public Safety Power Shutoff Report to the CPUC. (*See generally id.* Exhibit K, Dkt. 1006-11.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 53:

None.

PARAGRAPH 54 OF PLAINTIFFS' SUBMISSION:

> "PG&E followed up with 17 additional warnings over the next two days advising that it was going to shut off power on the morning of November 8. PG&E's warnings referenced forecasts of sustained winds of 20 to 30 miles per hour, with gusts of 40 to 50 mph overnight Wednesday into Thursday and lasting until late afternoon.*
>
> *[FN 9]: https://www.mercurynews.com/2018/11/09/pge-power-lines-may-have-sparked-deadly-buttecounty- wildfire-according-to-radio-transmissions/."

RESPONSE TO PARAGRAPH 54:

PG&E denies the accuracy of Plaintiffs' description of "17 additional warnings over the next two days" in Paragraph 54. PG&E issued multiple notifications regarding the potential PSPS event from November 6 to November 8, 2018, via telephone messages, emails, texts, website notices, news releases and social media. (Pitre Decl. Exhibit K, Dkt. 1006-11 at 4-6.) The notifications' content varied over time and by location, and different language was used for different notification modes. (*Id.* at Appendix Table A-2.) A November 7, 2018 PG&E press release advised of a potential power shutoff on the morning of November 8, 2018, and stated that "sustained winds of 20 to 30 miles per hour, with gusts of 40 to 45 miles per hour, are forecasted overnight Wednesday into Thursday". (PG&E News Release (Nov. 7, 2018), *PG&E Continues to Closely Monitor Weather Conditions Ahead of Possible Public Safety Power Shutoff in Parts of Eight Counties, available at* https://www.pge.com/en/about/newsroom/newsdetails/index.page?title=20181107_pge_continues_to_closely_monitor_weather_conditions_ahead_of_possible_public_safety_power_shutoff_in_parts_of_eight_counties.) Other notifications did not specify the timing of a potential shutdown or detail wind speeds. (*See, e.g.*, Pitre Decl. Exhibit K, Dkt. 1006-11 at Appendix Table-A2.)

For a complete and accurate description of the potential Public Safety Power Shutoff events of November 6 to 8, 2018, PG&E directs the Court to the PG&E Public Safety Power Shutoff Report to the CPUC. (*See generally id.* Pitre Decl. Exhibit K., Dkt. 1006-11.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 54:

None.

PARAGRAPH 55 OF PLAINTIFFS' SUBMISSION:

> **"At 7:56 a.m. on the morning of November 8 - over an hour after the Camp Fire had already started - PG&E was still reporting that it may be shutting off power due to the 'potential extreme fire danger'. Unfortunately, PG&E never did turn off the power and 86 people died."**

RESPONSE TO PARAGRAPH 55:

PG&E denies Paragraph 55 and objects to Plaintiffs' suggestion that its decision not to de-energize its distribution lines on November 8, 2018 was the reason that the town of Paradise was tragically destroyed in the Camp Fire.

PG&E activated its Emergency Operations Center on November 6, 2018, "due to forecasted weather conditions with increasing fire risk, including forecasted high winds and extremely low humidity". (Pitre Decl. Exhibit K, Dkt. 1006-11 at 4.) That same day, PG&E initiated out-bound communications across nine counties notifying customers of a potential PSPS event. (*Id.*) On November 7, weather conditions remained consistent, nearing but not reaching forecasted levels that would warrant a PSPS event. (*Id.*) By 1:00 p.m. on November 8, winds were decreasing, and conditions were no longer forecast to approach levels warranting a PSPS event; consequently PG&E did not shut off its lines. (*Id.* at 5.) Plaintiffs do not point to any evidence indicating that PG&E's data were wrong or that the factors it considered in making its decision not to de-energize were wrong.

For a complete and accurate description of the potential Public Safety Power Shutoff events of November 6 to 8, 2018, PG&E directs the Court to the PG&E Public Safety Power Shutoff Report to the CPUC. (*See generally id.* Pitre Decl. Exhibit K., Dkt. 1006-11.)

REPLY TO PG&E'S RESPONSE TO PARAGRAPH 55:

First, PG&E provides no evidence to contradict Plaintiffs' claims. Second, PG&E's claim that "Plaintiffs do not point to any evidence indicating that PG&E's data were wrong or that the factors it considered in making its decision not to de-energize were wrong," was not forthright at the time it was made, as PG&E just announced on February 28, 2019 that its equipment probably caused the Camp Fire. (https://www.nytimes.com/2019/02/28/business/energy-environment/pge-camp-fire.html). PG&E had to have had some indication of fault before it made the announcement yesterday. Further, 86 deaths should be enough data to understand that PG&E made the wrong decision not to de-energize.

* * *

Although the Court did not order PG&E to respond to Plaintiffs' summary recommendations, PG&E is committed to significantly reducing the ignitions caused by its power lines and agrees that it must enhance its wildfire reduction programs to address the increased wildfire risk in Northern California. It is focused on doing just that. To that end, PG&E already has taken many of the measures Plaintiffs suggest it could take to mitigate wildfire risk and is continually working to improve on those measures. PG&E thus addresses each of Plaintiffs' summary recommendations below.

A. PG&E's Response to Plaintiffs' Short-Term Recommendations

i. Immediate adoption of SDG&E's policies, practices and procedures for de-energizing conductors during prescribed high wind and high fire danger conditions.

As PG&E stated to the Court at the January 30 hearing, after performing extensive benchmarking with SDG&E in a variety of areas relating to de-energization, including meteorology, operational processes, emergency response, restoration, communications and customer support, PG&E modeled its proactive de-energization processes and technologies on SDG&E's. In particular, PG&E utilized SDG&E's methodology for determining the circumstances under which it would initiate a PSPS, its early stakeholder communication strategy (including with customers) and

its methods for determining readiness for post-event patrols and verifying the safety of overhead facilities before re-energization. (*See* WSP at 95-96.)

Consistent with SDG&E's de-energization plan, before making the decision to de-energize, PG&E considers numerous real-time factors, including red flag warnings, wind speeds and gusts, weather and fuel conditions, ignition spread modeling[29] and on-the-ground observations from its Emergency Operations Center teams. (*Id.* at 97-98.) SDG&E and PG&E both share similar methodologies for making de-energization decisions, with neither relying on a set algorithm, but instead making the decision based upon an analysis of all relevant factors and criteria. (*Id.*)

PG&E also developed (based on SDG&E's practices) a comprehensive notification system designed to provide early and continuous communications with customers, local communities, first responders, health care facilities and other critical service providers, including in-person notification as needed for Medical Baseline customers and the use of multiple methods of notification, including phone, text, email, social media, local news and radio, to provide a wide reach of any notices. (*Id.* at 100-109.) PG&E's practice, similar to SDG&E's, is to provide 48 hours' notice to potentially impacted customers when and where possible.[30] (*Id.* at 6.)

In addition, like SDG&E, PG&E is implementing several key enhancements to its de-energization program in 2019, including increased system sectionalization, increased density of weather stations and improved base meteorological modeling. (*Id.* at 95-96.) PG&E has also engaged the same company that SDG&E used to develop an advance fire ignition spread model tailored to PG&E's service area to help focus on the areas of highest risk. (*Id.* at 96.)

To be clear, PG&E did not—and cannot—adopt SDG&E's program wholesale because each system is different both in terms of its construction and the risks confronting the utility based on environmental, geographic and human factors; rather, using SDG&E's best practices, PG&E

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[29] SDG&E's ignition spread modeling is based on current climate conditions. In 2018, PG&E's ignition spread modeling was based on historic climatology, but in 2019, PG&E is developing its ignition spread modeling on current climate conditions, consistent with SDG&E.

[30] Because weather conditions can change rapidly, 48 hours' notice is not always feasible.

developed its de-energization program to fit the attributes of PG&E's service territory. (*Id.*) In fact, in 2019, PG&E will expand its program's scope to include high voltage transmission lines (500 kV and below) in the Tier 2 and Tier 3 HFTD areas. (*Id.*)

PG&E notes as well that its de-energization program is the current focus of SB 901 and the CPUC-initiated Rulemaking 18-12-005 and respectfully submits that the Court permit the various stakeholders the opportunity to review and comment on PG&E's program.

ii. Immediate concentration of inspections, tree removal and trimming focused on Tier 3 – Extreme areas identified in the CPUC Fire-Threat Map.

Although PG&E agrees that vegetation work should be prioritized based on areas of high wildfire risk, PG&E does not agree that this work should focus only on Tier 3 HFTD areas. That is why the various wildfire reduction measures that PG&E implemented following the 2017 and 2018 wildfires are focusing on both Tier 2 and Tier 3 HFTDs. It is not enough to focus only on Tier 3 as the Tier 2 HFTD areas also present an elevated risk of wildfire and this risk must be addressed. PG&E is focused on both Tier 2 and Tier 3 HFTD areas, and is taking a nuanced, data-driven approach to prioritizing wildfire reduction work, including vegetation management, within those areas, as even within each area the risk may vary. As discussed in its Wildfire Safety Plan, PG&E analyzed historical outages and corrective maintenance notifications to inform the type of asset conditions that could lead to wildfire risk, and used this analysis to assess wildfire risk for individual circuits considering three components: (1) likelihood of asset failure; (2) risk of wildfire spread and consequence; and (3) egress risk (*i.e.*, ease of entering/exiting a town in the event of an evacuation). (WSP at 32-34.)

This updated wildfire risk circuit prioritization presents a more robust approach to assessing potential wildfire risk across PG&E's service territory—not just those portions of its territory that are classified as Tier 3—and therefore should be more effective at reducing wildfire risk than Plaintiffs' proposal. For example, PG&E used its findings to shift the timing of its 2019 enhanced and accelerated inspection schedules (when each circuit will be inspected and subsequently worked), including vegetation management inspections. Similarly, PG&E is using this information to develop

a new vegetation management distribution routine inspection cycle, which will take into consideration relative wildfire risk, regrowth patterns and local weather and environmental conditions throughout the year. PG&E anticipates that this will result in a substantially realigned routine vegetation management plan that schedules the highest risk circuits in both Tier 2 and Tier 3 HFTD areas for inspection and work prior to the peak of the wildfire season, while at the same time scheduling inspection and work for other circuits such that they are inspected in accordance with relevant state laws and regulations.

iii. Any prior ambiguity over clearing of hazard trees near lines must be clarified to specifically include overhanging branches.

As CAL FIRE stated in its February 6, 2019 submission, Public Resource Code § 4293 requires that utilities remove overhanging branches that are *within* the applicable clearance area. (*See* CAL FIRE Br., Dkt. 1012 at 3.) Regardless of what the regulation requires, however, in Tier 2 and Tier 3 HFTD areas, PG&E, as part of the Enhanced Vegetation Management Program, is removing overhanging branches around electric power lines even if they do not fall within the applicable clearance area. In 2019, PG&E plans to clear overhangs in approximately 2,450 distribution circuit miles in Tier 2 and Tier 3 HFTD areas. On the electric transmission system, all circuits are planned to be inspected and worked in 2019 to remove overhangs.[31]

B. PG&E's Response to Plaintiffs' Long-Term Recommendations

i. Evaluation and re-structure of the process used to assess and manage wildfire risk.

As stated above in response to Plaintiffs' short-term recommendation two, in response to the increased wildfire risk in Northern California, PG&E's process to assess and manage wildfire risk has evolved since the October 2017 North Bay Wildfires, and PG&E continues to refine

[31] Due to the historically broader clearances maintained between transmission lines and vegetation and a practice of preventing direct overhangs of transmission lines, the number of trees anticipated to require work to align the electric system with this scope will be significantly less than for the distribution system.

its process. PG&E agrees that it cannot continue to use its prior risk approach in light of the significantly increased risk of wildfire in its service territory. Accordingly, since October 2017, PG&E has made some significant refinements to its risk model. *First*, PG&E revised the number of overhead circuit miles considered to be exposed to wildfire risk based on the CPUC's January 2018 HFTD Map. (WSP at 21.) In addition, PG&E began using wind-related outage data from certain wind events and the data collected in connection with its Fire Incident Data Collection Plan for the CPUC to further expand its understanding of the highest risk areas within the HFTD areas. (*Id.* at 25.) *Second*, PG&E updated its assumptions regarding the likelihood of various factors to cause ignitions (*e.g.*, vegetation, equipment failure) based on this change in overhead circuit miles as well as more recent fire incident data. (*Id.* at 21.) This demonstrated to PG&E that the primary drivers for ignition risk varied between distribution lines (vegetation) and transmission lines (animal actions), providing insight into how risk mitigation options may need to be deployed. (*Id.* at 27-28.) *Third*, PG&E has taken a more comprehensive evaluation of wildfire risk mitigation options, including a detailed assessment of the likelihood that specific measures could have reduced past fire incidents. (*Id.* at 22.) *Finally*, PG&E Meteorology's Fire Potential Index is applied to 91 locations across the entire HFTD area to capture sections of the service area with consistent fuel, topography and exposure to meteorological conditions at a more granular level for more accurate weather forecasting. (*Id.* at 30.)

Following the 2017 and 2018 wildfires, PG&E used its updated analysis to help design and implement additional programs intended to address the increased wildfire risks as well as improve situational awareness, mitigation and response. (*Id.* at 22.) This revised methodology, in conjunction with benchmarking results from several other utilities, informed the basis for the EVM and system hardening programs that PG&E has implemented. (*Id.* at 31.)

In addition, PG&E is partnering with the B. John Garrick Institute for the Risk Sciences, University of California Los Angeles to leverage the rigorous modeling used in the nuclear power industry to perform thorough and complex wildfire risk assessments and management planning. (*Id.* at 35.) PG&E has used a probabilistic risk assessment model for over 30 years at its

Diablo Canyon Nuclear Power Plant. (*Id.*) The model is regularly updated with, among other inputs, state of the art analysis methodologies, and is capable of performing quantitative assessment of risks from a multitude of complex factors (*e.g.*, seismic events, fire and flooding). (*Id.*) The model can also quantitatively risk rank over 3,000 individual system components. (*Id.*) PG&E is planning to develop a similar model for wildfire risks for its electrical assets within HFTD areas. (*Id.*)

ii. Adoption of a mandatory process for training and certification of individuals assigned to identify trees that pose a hazard to electrical conductors, in addition to required continuing education and re-certification of inspectors every three years.

As stated in response to Paragraph 31, PG&E contracts with well-established, large scale vendors who are qualified and trained. Although PG&E relies on these contractors to train their workers, PG&E requires that its contractors annually review PG&E's policies to drive consistency across its vegetation management work. In 2018, PG&E began requiring each contractor to submit a roster verifying that its employees were trained on the required PG&E procedures. PG&E also provides two days per year of training to all pre-inspectors to align on safety practices and relevant procedures and, in 2019, PG&E began implementing additional training modules for its vegetation management contract employees. For 2019, the first of these modules, covering key policies related to vegetation management patrols and tree work, is currently underway and will continue through May 2019.

Historically, PG&E has required supervising contract employees who oversee pre-inspectors to become certified arborists or certified utility specialists within one year of becoming a supervisor. Beginning in 2019, PG&E is also requiring that the pre-inspectors themselves become certified arborists or certified utility specialists within an allotted time frame.[32] Many of these pre-inspectors

[32] Pre-inspectors have a range of minimum qualifications depending on their seniority, and pre-inspector rank ranges from Levels I through IV. New pre-inspectors (CUF-I) must have, at a minimum, one year of arboricultural experience or certifications as an arborist or utility specialist or a two-year degree or higher in a related field. CUF III pre-inspectors are required to become certified arborists or utility inspectors within one year, and a CUF-IV pre-inspector must already have said qualifications.

hold industry certifications. PG&E plans to implement a program to verify and record contractor certifications later this year. Maintaining these certifications already requires completing continuing education requirements as well as recertification every three years.

PG&E is also continuing to explore all available options to hire additional trained pre-inspectors who will be employees of PG&E, including by exploring partnerships with the relevant unions and contractors to create new training programs so that additional qualified workers can be deployed as soon as possible.

iii. Prohibition against Facility Protection work being carried over from year to year.

PG&E has already implemented plans to significantly reduce the percentage of trees that are carried over from one year to the next; these plans apply to all trees identified for work, not only facility protection trees.

All trees identified for work by pre-inspectors are evaluated for the urgency of the required tree work. If tree failure is judged to be possibly imminent, a crew will be dispatched the same day. Trees can also be flagged for immediate follow up work, while trees that require work but show no near-term risk factors are scheduled following the standard process. The standard cycle time for trees exhibiting no near-term risk factors would be expected to be in the 60- to 90-day range after the completion of the pre-inspection activity. This means that some trees identified for work in one period (year, quarter, etc.) will not be worked on until the next period. Although these trees are sometimes referred to as "carryover" trees, they do not represent a higher risk or a risk left un-addressed; they are simply trees where the normal work cycle resulted in them falling on the other side of a particular date.

Given the current risk environment and PG&E's understanding that vegetation contact is the primary risk driver with respect to ignitions on its distribution lines, PG&E has taken steps to significantly reduce the percentage of trees that are carried over from one year to the next.[33] To that

[33] Because of external factors beyond PG&E's control, such as customer refusals and certain environmental restrictions, it may be the case that PG&E has to carry over a limited number of trees

end, PG&E recently entered into new contracts in vegetation management services indicating that if any contractor is unable to complete all of the work assigned to them, they are required to inform PG&E and PG&E will, at the contractor's expense, locate additional resources to complete any remaining work. PG&E is monitoring contractor compliance at both a regional and system-wide level.

iv. Establishing budgets and timetables for burying lines underground or insulating lines in areas of higher fire danger.

PG&E already has a forecasted budget and timeline for burying lines underground or insulating lines in HFTD areas and is already replacing overhead distribution primary and secondary conductor with insulated conductor or engaging in targeted undergrounding in HFTD areas. (*See* WSP at 63, 66-67; 2020 General Rate Case, Dkt. 976-6 at 397-400.) In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, and to develop best practices. PG&E completed initial insulated conductor projects on approximately 17 circuit miles of distribution lines in 2018.

PG&E's target for 2019 is to complete 150 circuit miles, and in 2020-2022, PG&E forecasts completing work on approximately 600 circuit miles per year. (WSP at 63.) The precise scope of hardening work (*e.g.*, whether to install insulated conductor or underground lines) will be site-specific and dependent on local conditions. Where appropriate, PG&E may perform some undergrounding of select overhead lines. PG&E intends to complete this work on 7,100 circuit miles and expects that completion will take approximately ten years due to the constraints on available qualified personnel and materials.

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from one year to another. For example, there may be instances in which work is delayed because a customer refuses to permit PG&E to conduct necessary vegetation management work or because a particular environmental permit is required prior to the work's commencement. Where such conditions exist, PG&E may be required to obtain permits or discontinue electric service to the area until the issue is resolved.

v. Corporate Governance: creation of a wildfire safety and risk management committee composed of three qualified process safety and risk management officers.

PG&E does not believe that the creation of an additional committee is the most effective way to further mitigate wildfire risk. As PG&E has previously discussed with the Court, there are several layers of regulatory oversight—both state and federal—of its activities. In addition to oversight from these state and federal agencies, PG&E also has the oversight of the Monitor, whom PG&E has invited to take a more active role in reviewing and monitoring the progress of PG&E's wildfire mitigation work. PG&E does not object to expanding the Monitor's remit, and is willing to consider other enhanced controls in addition to those it is already implementing, but does not agree that an additional oversight committee is a necessary or efficient control.

Further, in 2018, PG&E initiated the Community Wildfire Safety Program ("CWSP") to work closely with first responders, customers and communities, to implement new and enhanced safety measures to help reduce wildfire risk and to improve situational awareness and emergency response. (WSP at 12.) The CWSP utilizes a risk-based approach to identify and address the assets most at risk of wildfire ignition and in areas with greatest potential fire spread to inform the development of wildfire and safety programs. (*Id.*)

To support this recommendation, Plaintiffs state that "independent analysis continues to confirm that PG&E's safety culture and governance are lacking". (Plf. Br. at 15-17.) Two of the three documents Plaintiffs cite in support of that claim, however—excerpts from a deposition discussing PG&E's risk management program in 2007 and a 2011 report of the CPUC's Independent Review Panel following the San Bruno gas explosion—do not speak to PG&E's safety culture and governance today. The only recent review of PG&E's safety culture that Plaintiffs cite is the May 2017 report of NorthStar Consulting Group ("NorthStar"), whose recommendations PG&E actively supports.

In August 2015, the CPUC opened a proceeding to review PG&E's safety culture and engaged NorthStar to evaluate PG&E's "organizational culture, governance, policies, practices, and accountability metrics in relation to PG&E's record of operations, including its record of safety

incidents, and to produce a report on the issues and questions contained in this order". (Pitre Decl. Exhibit M, Dkt. 1006-13 at 5.) NorthStar began its review in April 2016 and conducted detailed fieldwork from May to December 2016. In its report, NorthStar notes that it was provided "unfettered access to PG&E personnel and executive management", including Board committee meetings, executive management meetings and internal self-assessments. (*Id.* at 10.)

First and foremost, NorthStar affirmed "PG&E employees at all levels are committed to safety". (*Id.*) NorthStar noted that both "PG&E executive management" and "field employees" are committed to safety. (*Id.*) NorthStar also found that "PG&E has made positive strides in embedding a safety consciousness throughout the workforce" and "has placed a heavy emphasis on training to improve safety performance and promote a positive safety culture". (*Id.* at 12.)

At the same time, NorthStar identified opportunities for improvement, including the need for a comprehensive company-wide health and safety plan and lack of clarity regarding the roles and responsibilities of PG&E's Corporate Safety organization and Chief Safety Officer. NorthStar made 60 recommendations for PG&E to address these and other safety and governance issues. PG&E embraced NorthStar's work and advocated for the CPUC to adopt its recommendations. In fact, PG&E began implementing NorthStar's safety culture recommendations immediately and had implemented the vast majority of them by the end of 2018. PG&E intends to implement the remainder of NorthStar's recommendations by this July.

C. Reply to PG&E's Response to Plaintiffs' Long-Term Recommendations

Plaintiffs agree that PG&E's stated proposals for future enhanced policies and procedures for wildfire prevention address several of the suggestions included in the Responding Parties submission dated February 6, 2019. However, the most critical component of any future Wildfire Safety Plan is missing, as history has repeatedly demonstrated that PG&E is incapable of policing itself to ensure that its promises to have learned from past mistakes are kept. Too many times since The San Bruno explosion, catastrophic consequences have resulted from the same root cause - - management's inability to perform a self-critical analysis of how well it is assessing safety risks (i.e. gas

transmission line explosions and wildfires) and auditing what it believes to be controls over those risks to assure they are being implemented effectively.

The solution to avoiding both problems is continued monitoring by independent experts to ensure that: (1) established benchmarks for hardening the system are met within clear deadlines; (2) all potential wildfire risks are identified, properly assessed, controls developed and independently audited to verify that they are effectively implemented; (3) budgets for infrastructure upgrades and safety related projects are adequately funded for completion within established deadlines, avoiding past practices of creating exceptions to explain delays.

PG&E needs to be supervised and monitored. The CPUC lacks the resources to perform the detailed, sophisticated monitoring that is needed. The monitor or independent safety committee should be empowered to: request information from departments involved in day to day risk management operations; and issue periodic reports of findings and recommendations to the board CUPC to guarantee that PG&E's actions match their rhetoric.

Respectfully Submitted,

Dated: March 1, 2019

COTCHETT, PITRE & MCCARTHY, LLP

By: /s/ Frank M. Pitre
Frank M. Pitre

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By: /s/ Steven M. Campora
Steven M. Campora