2020 Wildfire Mitigation Plan Comments Received via Email to wildfiresafetydivision@cpuc.ca.gov on April 7, 2020.

Jennifer Tanner

Dear Director Caroline Thomas Jacobs, and the Wildfire Safety Division.

My name is Jennifer Tanner, founder of Indivisible California Green Team which focuses on the environment. We work with Indivisible and other grass roots groups all over California. Thanks so much for the opportunity to comment on PG&E's Wildfire Mitigation Plan. I/We hope you will hold PG&E to a higher standard than has been the case. They have shown themselves to be bad partners in all ways, and, unfortunately, even in bankruptcy, they have not improved. We hope you can make changes and hold them to a higher standard (Yes, micromanage), so that California can be safe again some time in the future.

Comments and Criticisms of
PG&E's WILDFIRE MITIGATION PLAN REPORT,
RULEMAKING 18-10-007 FEBRUARY 7, 2020

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly

to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. ***Wires not Trees*** PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. ***Infrastructure***

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.**

Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: “Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E’s service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas.”5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make “Standard” (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague “covered conductor” of the final sentence.

Also, comparisons regarding the replacement of bare conductors with “covered” and / or fully insulated main conductor distribution cable. “Covered” conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term “non-exempt” refers to standards set by CDF. The Commission’s regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the

ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a ***Wires not Trees-*** *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, Environmental Impacts

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts.

For those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions, as opposed to their claims for environmental collaboration with wildlife agencies (p. 5-177), demonstrate a sad neglect of understanding of the issues.

A prime example is any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been having, and will continue to have, a

worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential

undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable.

PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. *The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.*

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12”diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani’s house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, ‘creating a safety hazard by making the road narrower than it already was.’

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else’s property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. “Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray’s Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew “ topped “ my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. “

ii. Large pine tree felled and left in property owner’s yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80’ of the elderly property owners’ house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

“ In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

“ I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being

told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. “

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to ‘wind fall’ causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor’s permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy’s property after coronavirus “shelter in place” regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn’t indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off “Trees Incorporated” have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner’s property. We control the road as an organization and not as individual homeowners in regard to PG&E’s use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn’t have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in

all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

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Indivisible Ventura

PG&E's WMP REPORT, RULEMAKING 18-10-007

Good afternoon.

We are community activists, very much involved with social and environmental issues. Our group has written

extensively on California's application of inverse condemnation laws, and AB1054. We provided community assistance during our area's Thomas Fire. One of our co-directors lost her home in that fire, a fate shared by dozens of our friends.

One of the issues we learned about during the last round of CA fires is that removing large numbers of trees is ineffective in reducing both the size and intensity of fire damage and has actually been proven to be counterproductive and environmentally damaging. We did extensive research as well as interviewed Chad Hansen, director of the John Muir Project, which we've included with references below our closing.

Research on the deleterious effects of continuous clear cutting is available to all, therefore we're appalled to learn of PG&E's plan to spend $680 million on removing trees in 2020, including removing trees up to 200 feet from their right-of-way alone. PG&E's claim that they are justified in removing thousands of trees "within striking distance" of the wires is not backed up by evidence. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. This is also a tremendously labor-intensive process, repetitive, unscientific, inconvenient to their customers, environmentally devastating to both plants and wildlife, and frankly, old-fashioned and wrong-headed as hell.

We expect better from California. If we were a country, we'd be the sixth largest economy in the world, at least pre-pandemic. We expect better than last-century technology and methodologies.

There are easier and better solutions.

Circuit breakers: (from https://www.ttownmedia.com/press_banner/news/environmentalists-push-back-against-pg-e-tree-cutting-in-santa/article_748d5e14-bc53-11e8-b38c-87a33c1b09b1.html) Kevin Collins, a resident of Lompico canyon and a member of the Valley Women's Club Environmental Committee, this is especially egregious because there is a proven technological alternative to the 12-foot tree clearance around electric lines that will actually prevent broken electric lines from starting wildfires.

According to Collins, the use of micro-processing technology that works like a lightning fast circuit breaker can cut the power to a broken electric line before it hits the ground if it gets broken by a falling tree or tree limb. These devices, called "high impedance arc fault interruptors" are getting implemented by other electric power utility companies, but PG&E apparently refuses to invest in this technology in favor clearing trees, Collins explained.

Collins filed a formal, 13-page complaint with the California Public Utilities Commission (CPUC), the agency authorizing PG&E's Community Wildfire Safety Program, on Aug. 10. The complaint claims, "No sensible person would dispute that tree branches and falling trees are a problem for overhead power wire. But the plan that PG&E has made public will change wildfire behavior for the worse by opening and expanding wind corridors that enhance wildfire spread and fire intensity," Collins wrote in his complaint.

Collins is convinced the destruction of trees does not address the ignition of wildfires that a broken "flash arching live wire" can cause when it touches ground. In fact, as explained in his complaint to the CPUC, "PG&E's plan focuses upon vegetation management rather than upon the root causes of the fire ignitions caused by their own distribution equipment. Their plan is destructive, misleading and will fail to solve the problem of electric utility caused fires."

Use the right wire. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. It's the wires that cause the fires, not the trees and we should focus on the wires.

The research is against them. If the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. This is what happened in Paradise, and in Australia, and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) PG&E does not address the issue of wind tunnels in its WMP.

Concentrate on replacing fuses now! PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue, but a concentration on the trees is preventing them from seeing this as a greater threat.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

Use the best conductors and related technology available.
The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be. Somebody in a front office just has tree destruction on their brain and is not thinking ahead!

Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology. PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."

Underground it! Yeah, it's expensive. So it burning up some of the most expensive homes in the US. So is allowing a company's negligence to kill whole towns, like Paradise, which is getting an underground system now. PG&E should to be more aggressive about placing lines in vulnerable areas underground. And part of that involves taking the underground budgets that they have—because they do have some money to spend every year on putting overhead lines underground—and prioritize that money only for safety issues. Traditionally, the money would be spent on putting lines underground at places where there may be some sort of view or it's a pretty neighborhood or it's a commercial district that's trying to attract customers. That's really not the priority now. The priority has to be safety. And so the question is where are the most vulnerable places? Spend the money there.

Do something different!: The articles on PG&E's corruption are legion**.** Just type in "PG&E corrupt" in Google. Executives traditionally get huge bonuses instead of doing the work necessary maintain a safe

system. PG&E diverted over $100 million in safety money for other purposes, including bonuses for executives. In August of 2019, a judge denied PG&E's request to distribute $16 million in bonuses to 12 top executives. PG&E argued the bonuses would help incentivize executives to meet safety goals in the wake of multiple wildfires.

Seriously?

Adriene Coulter
Co-Director
Indivisible Ventura
indivisibleventura@gmail.com

Background from our post on 8/23/19 against allowing tree clearing by the Forest Service:

(https://www.hcn.org/articles/congress-tries-to-speed-up-contentious-post-fire-logging):
"…The third-largest wildfire in California history, 2013's Rim Fire, burned more than 400 square miles, including parts of Yosemite National Park and the Stanislaus National Forest. A year later, the Forest Service proposed cutting down the dead and damaged trees across about 50 square miles, but environmental groups sued to stop the salvage logging, saying it would harm wildlife and impede forest regeneration. Their appeal was denied and logging began (http://www.californiachaparral.com/fire/postfireenvironment.html), but the groups' concerns are increasingly borne out by science: Recently-released studies point to the crucial importance of burned-over habitat for many species, including the Pacific fisher and black-backed woodpecker….Despite this, Congressional Republicans (pushed) two bills (that year), supported by the timber industry, that would speed up logging in national forests after wildfires and reduce environmental review…The bills' supporters say that cutting burned trees soon after a wildfire reduces fuel for future fires, and allows the Forest Service to recoup some of the trees' value as timber. They continuously, and wrongly (https://www.npr.org/2018/11/28/671572816/fast-tracking-logging-on-federal-lands-may-not-lessen-wildfire-risk), blame reductions in commercial logging for increased fire risk…

Salvage logging after Rim fire in southern California. Salvage crews felled burned and dying trees, and sprayed herbicides.
Chad Hanson

…But researchers are finding that commercial logging and clearcutting may actually increase damage from future fires.
In the Rim Fire and other large fires, the areas that burned least intensely were those that had been protected from logging, in which big, mature thick-barked trees more readily withstood the heat of the flames. Young, recently-planted trees and debris from logging operations proved highly flammable. The ecological importance of large mixed-intensity fires is clear — they help produce a mosaic of habitat types, and patches that burn at high intensity, where most or all of the trees are killed, become "snag forests," one of the rarest but most ecologically vital habitat types, says Chad Hanson, director of the John Muir Project, a nonprofit group that opposes salvage logging."…Salvage logging shortcircuits the post-fire rejuvenation process, many studies show, removing the snags and downed trees that create shade and shelter. (https://www.latimes.com/local/california/la-me-rim-fire-restoration-20180718-story.html) Heavy machinery can destroy regenerating conifers and other plant life and create erosion, while herbicides prevent the growth of beneficial shrubs and forbs (a herbaceous flowering plant that is not a grass, sedge, or rush. Hanson describes it as "kicking the forest when it's down." Read more here. Also see 'The Myth of "Catastrophic"
Wildfire' (http://www.sequoiaforestkeeper.org/pdfs/Science_papers/Hanson_2010_myth_of_catastrophic_wildfire.pdf) and "The Big Lie: Logging and Forest Fires" (http://westgatehouse.com/art6.html) by Chad Hanson.

Healthy unlogged snag forest habitat.
Chad Hanson

Update 8/9/19: After a telephone interview with Chad Hanson of the John Muir Project (http://johnmuirproject.org) regarding the role logging played in the ferocity of the Camp Fire, he has sent additional information, which we're attaching here.

Camp Fire Photo Report: (https://indivisibleventura.files.wordpress.com/2019/08/camp-fire-photo-report-jmp-dec2018.pdf). (Photo below contained in report)

Camp fire, showing devastation of homes in the Kilcrease Circle community of Paradise, a contrast to the green mature forest, with little or no scorching, which surrounds this neighborhood. The homes here were not burned by high-intensity crown fire, but rather were burned when embers driven on the winds landed on flammable homes followed by home-to-home ignitions. Courtesy Satellite image ©2018 DigitalGlobe, a Maxar company/Handout via REUTERS, Nov. 17, 2018.

• "The Myth of "Overgrown" Forests (2018) (https://indivisibleventura.files.wordpress.com/2019/08/fact-sheet-myth-of-overgrown-forests-june2018.pdf)

• "Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western United States? (2016) (https://indivisibleventura.files.wordpress.com/2019/08/fire-bradley-et-al-2016.pdf)

• "Common Myths about Forest and Fire" (2019) (https://indivisibleventura.files.wordpress.com/2019/08/jmp-fact-sheet-forestfire-myths-17feb19.pdf)

• "We Cannot Effectively Fight Climate Change Without Increasing Forest Protection" (2019) (https://indivisibleventura.files.wordpress.com/2019/08/jmp-fact-sheet-forestsclimate-17feb19.pdf)

• Dead Trees ("Snags") Do Not Make Forests Burn More Intensely (2017) (https://indivisibleventura.files.wordpress.com/2019/08/jmp-fact-sheet-on-snagsfire-10oct17-.pdf)

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Susan Morgan

To whom it may concern,

I lead Indivisible Marin, a group of 1,600 citizen advocates in Marin County. We have prioritized climate change in our work, and of course, wildfires contribute greatly to the problem, not to mention the human cost.

On a personal note, I live in the Lucas Valley with a large area of open space very close to my house. I am therefore very concerned personally.

We support the efforts of Indivisble leaders throughout California regarding PG&E.

We are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California.

Thank you.

****

David Shirling

Hello CPUC,

PG&E has demonstrated to be a bad faith actor and has failed to change their lack of safety culture, even when threatened by bankruptcy or a public takeover by the state. This email will provide detailed information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate & as a result there is little confidence that PG&E will provide an electric grid that is safe for the residents of the state.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problems.
Whenever we hear that it is too costly to make these investments, we have to consider the costs of the wildfires and the continuing costs of PSPS.

Our comments will cover the following:

1. Wires not Trees PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). PG&E will spend over $500 million on removing trees up to
200 feet from their right-of-way alone. Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. It's the wires that cause the fires, not the trees and we should focus on the wires.

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines

from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. This is what happened in Paradise, and in Australia, and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) PG&E does not address the issue of wind tunnels in its WMP.

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. Infrastructure:

a. Insulated Wire-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be. Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

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From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable.
"Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. Operation of Non-Exempt Fuses - PG&E estimates it has roughly over

15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground.
This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. No Emergency? In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only
240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. Violations. PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan Utility Right-of-way Exemptions. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that violations have been issued for failure to have the required fire box and fire tools on the project site, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree" likely to make contact with a powerline among other issues."
Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors'
employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re
Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited

than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the
$21 billion wildfire fund.

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus redefining "Best Practices" in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire.
This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.

David Shirling
Daly City, CA 94014

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Igor Tregub

Dear Commissioners and Wildfire Safety Division Staff,

I serve in an elected capacity in Berkeley, CA, representing a community of about 120,000 residents. Our canopy of trees, dispersed throughout the city, is one of the features that makes our community so special. Our community has survived a traumatic fire about 30 years ago, and we have learned many lessons from the experience and have managed to find a good balance between respecting and protecting our trees and keeping the community safe from another disaster like that one. I appreciate your need to find balance in PG&E's proposed actions as well, and unfortunately its proposal appears to achieve neither the kind of safety that is needed, nor a regard for the protection of trees throughout

vast regions of our state, nor - and particular so - the safety of the Californians that it has pledged to serve.

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

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Thank you for your consideration!

Respectfully,
Igor Tregub
Berkeley, CA

Nancy Macy

Caroline Thomas Jacobs <Caroline.ThomasJacobs@cpuc.ca.gov>

and

wildfiresafetydivision@cpuc.ca.gov

I ways saying that the WMP gives lip service to not cutting trees when birds are nesting and such…. but their contractors don't pay attention….

xo
Nancy

Kristin Sandel

Dear Members of the California Public Utilities Commission,

I am writing to express my urgent concerns regarding PG&E's Wildfire Mitigation Plan. I am a homeowner and have lived in the San Lorenzo Valley for more than two decades and, like everyone in this area, I am acutely aware of the potential for catastrophic wildfires, property loss, and possible injury or deaths of residents due to wildfire. I have observed PG&E's WMP activities with increasing concern, as it's clear that their focus on extreme cutting, trimming, and destruction of trees, rather than actually upgrading the safety of their equipment, has increased the danger residents face. It severely impacts the environmental health of forested areas and, because of the careless ways PG&E contractors have cut trees, has also made dangerous landslides due to soil erosion much more likely during wet seasons. They have un-necessarily destroyed healthy trees, created extremely dangerous wind tunnel conditions in neighborhoods, and violated the trust of the community in their treatment of home-owners, as well as directly endangering us.

They have failed to learn from the devastating and lethal Camp and Paradise fires, and they continue to fail the people they serve. Please don't allow PG&E to destroy the very areas they claim to be protecting! Their WMP is grossly inadequate, environmentally unsound, and dangerous. As a San Lorenzo Valley resident and a citizen of California, I am asking that you investigate PG&E's WMP practices and hold them to account.

Yours sincerely,

Kristen Sandel

Comments and Criticisms of
PG&E's WILDFIRE MITIGATION PLAN REPORT,

RULEMAKING 18-10-007 FEBRUARY 7, 2020

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

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2. ***Infrastructure***

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3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff

stated, “My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a “Danger Tree”** likely to make contact with a powerline among other issues.” Even the CalFire Inspector does not agree that the trees being removed are all “hazard” tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk “safety” in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors’ employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a *Wires not Trees-* *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, **Environmental Impacts**

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts. However, for those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions undermine both this and their claims for environmental collaboration with wildlife agencies (p. 5-177).

A prime example is the absence of any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been impacting, and will continue to cause a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Our contributions to various NOAA Salmonid Recovery Plans has given us insights that PG&E appears ignorant of – probably because the EVM was declared EXEMPT from CEQA EIR by the CPUC when it was first proposed by PG&E in 2017, so no environmental studies were done. Don Alley, renowned Fishery Biologist, who has researched fish populations, in coastal watersheds for 30 years, including the importance of overhanging trees. He comments also cover impacts on other riparian species.

The riparian forests of Central California watersheds are used exclusively for nest building and breeding by more than 30 species of birds. These nesting birds rely heavily on insects that emerge from streams and seeds produced by riparian vegetation. Central Coast watersheds in California, including their small

headwater tributaries, are inhabited by the federally Threatened steelhead (Oncorhynchus mykiss irideus). Some watersheds in this region are also inhabited by the federally and state Endangered coho salmon (Oncorhynchus kisutch). The immature juveniles of these species spend 1 to 3 years in freshwater streams before entering the ocean to mature and then return to their natal streams to spawn. These very active salmonid species visually feed in fastwater habitat on insect drift supplied by aquatic insects that live in fastwater habitat and terrestrial insects that fall into the water from overhanging vegetation. Steelhead and coho salmon bury their eggs in redds (nests) dug in gravelly spawning glides, often at the tail of pools just upstream of steep, fastwater riffles. The gravel must be relatively free of smaller sediment particles that would clog the spaces around the gravel and prevent adequate oxygenation of the buried eggs provided by moving water through the gravels during incubation. Juvenile salmonids rely heavily on instream logs to hide under from predators and behind during stormflows and to scour deeper pool habitat with sorting of clean spawning gravels at pool tails.

Impacts from Indiscriminant Tree Cutting in the Riparian Corridor

Indiscriminant riparian tree cutting causes significant ecological damage. It interferes with nesting birds during the breeding season. Breeding birds are known to leave an area when noise and disturbance occurs. Of course, nests are destroyed in trees that are cut. Other road repair and construction projects in the riparian corridor require nesting bird surveys by qualified biologists, and all projects must establish buffers between any disturbing activities and detected bird nests. Cutting of nests containing bird nests is prohibited by law.

Riparian tree cutting increases the potential for soil erosion and streambank failure. When soil erosion into watercourses occurs, sedimentation of the streambed occurs. Increased sediment degrades salmonid spawning habitat, increasing egg mortality. Increased sedimentation degrades salmonid rearing habitat by shallowing of pools and filling in cracks and crevices under boulders where juvenile steelhead may hide, thus increasing predation rates on fish from fish-eating birds. Sedimentation reduces food supply for insect drift-feeding salmonids and other fish species. Increased sediment reduces aquatic insect habitat by reducing cracks and crevices and pockets for algae and dead leaves to collect, thus reducing the aquatic insect population and food supply for stream fishes and increasing their mortality, especially salmonids.

Cutting of broad leaf, deciduous trees in riparian corridors reduces the input of falling leaves into the stream channel, which are a source of food by a multitude of aquatic insect species. This reduces the aquatic insect population and reduces food supply for stream fishes, such as salmonids. If riparian trees with branches that overhang stream channels are cut, fewer terrestrial insects drop off into stream channels, thus reducing food supply for salmonids, as well.

If the riparian trees are cut that were maintaining undercut streambanks with their root systems, valuable escape cover from predators is lost for steelhead and coho salmon, thus increasing fish mortality and reducing survival to adulthood. Larger riparian trees provide more undercut bank habitat. Thus, indiscriminant cutting of large, streamside trees should be prevented. Their cutting should be truly warranted. These trees' root masses also armor streambanks against erosion and additional stream sedimentation.

When riparian trees are cut down, cut into smaller pieces and/or removed, their future recruitment as large instream wood that stays in place is prevented. This seriously reduces salmonid rearing habitat and spawning habitat in the future.

Cutting of riparian trees will potentially heat up streams and reduce habitat for salmonids. Juvenile steelhead and coho salmon require cooler water temperatures where food is in short supply, as is common in Central Coast watersheds where summer stream baseflow is typically low. Often power lines and roads closely follow relatively small stream channels inhabited by steelhead for miles in canyon settings. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature. The taller the tree, the more shade it provides. Thus, removal of trees with large stature must be clearly warranted, and indiscriminant cutting simply because of tree height should be prevented to protect fish habitat. Metabolic rate and food requirements of stream fishes increase with increased water temperature. Thus, growth rate of salmonids may decline in some instances where summer streamflow is low in small streams and drifting food is already in short supply. Warmer water temperature may restrict activity of fishes in other larger, already warm, downstream stream reaches, and restrict the habitat fish may use, thus reducing their ability to feed. Slower growth from higher metabolic rate and reduced fish swimming activity brought on by higher water temperature will result in higher mortality of stream fishes, especially salmonids. Increased sedimentation brought on by streambank erosion caused by riparian tree cutting will

compound the negative impacts of increased water temperature as stream shading is reduced.

In summary, tree removal in riparian corridors of Central Coast streams related to protecting electrical power lines will likely significantly impact California bird populations and salmonid fish populations without proper environmental regulation. It will likely hinder the recovery of native steelhead and coho salmon, Threatened and Endangered species. related to bird nesting, soil erosion, stream sedimentation, loss of undercut streambanks and increased water temperature.

PG&E's teams have marked thousands of trees in the San Lorenzo Valley alone for destruction. In other counties they are removing every Douglas Fir. Elsewhere they remove heritage oaks and Ponderosa Pines. The EVM is destroying many thousands of mature, healthy trees, without proof of efficacy. Filed reports by PG&E to the Commission on subject of fire, neglect to address basic analysis necessary for legitimate assessments of fire safety. This fact was pointed out by the Commission's own Office of the Public Safety Advocate when evaluating "wires down" events reported by PG&E. [Investigation 17-11-003] (Filed November 9, 2017), stating there were no metrics to determine effectiveness.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace “about 200 miles” of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable. PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. ***The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.***

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I

made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. “

ii. Large pine tree felled and left in property owner’s yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80’ of the elderly property owners’ house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

“ In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

“ I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. “

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to ‘wind fall’ causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor’s permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous

consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Respectfully submitted,

Jim Stewart

The report below is devastating and must be addressed by the CPUC NOW!
Jim Stewart, PhD
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Comments and Criticisms of
PG&E's WILDFIRE MITIGATION PLAN REPORT,
RULEMAKING 18-10-007 FEBRUARY 7, 2020

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. ***Wires not Trees*** PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor.

The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. ***Infrastructure***

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire

risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a ***Wires not Trees-*** *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing

"vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, Environmental Impacts

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts.

For those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions, as opposed to their claims for environmental collaboration with wildlife agencies (p. 5-177), demonstrate a sad neglect of understanding of the issues.

A prime example is any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been having, and will continue to have, a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high

impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable.

PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. *The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.*

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "

ii. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Kim Floyd

Comments and Criticisms of PG&E's WILDFIRE MITIGATION PLAN REPORT, RULEMAKING 18-10-007 FEBRUARY 7, 2020

I am very concerned about this wildfire mitigation plan. I strongly support the comments and recommendations outlined below. I am a long time observer of PG&E and I am not at all surprised that the company's poor management and lack of regulatory oversight has lead to this catastrophe.

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. ***Wires not Trees*** PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that

removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. ***Infrastructure***

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate

sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

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Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

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PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, Environmental Impacts

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts.

For those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions, as opposed to their claims for environmental collaboration with wildlife agencies (p. 5-177), demonstrate a sad neglect of understanding of the issues.

A prime example is any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been having, and will continue to have, a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles

by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing,

and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable.

PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. *The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.*

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "

ii. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.)

Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Kim F Floyd
44579 Sorrento Ct
Palm Desert, CA 92260

Tim Tonsing

The problem is pge's ANCIENT infrastructure.Tree's don't start fires,bare wires cause fires and KILL innocent people.

Andrea Lum

Dear CPUC-

As a homeowner in a rural area with now several consecutive years of high fire danger, I am extremely concerned that PG&E continues to ignore expert recommendations and has shown bad

faith in response to wildfire mitigation. I am a member of the Anderson Valley Fire Safe Community and in Mendocino County, the onus continues to be placed on communities that lack the capacity, expertise and economic support for hardening their environments, which is outrageously unfair. I strongly believe PG&E's response and approach to wildfire and prevention is inadequate and misguided.

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOUs to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable.

I respectfully request that that CPUC expand and updates its existing General Orders to incorporate uniform practices, including circuit design, thus redefining 'Best Practices' in response to Wildfire Mitigation, which can be adopted by all of the IOUs across the State of California.

One example of existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State.

PG&E is in fact still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

One specific example: PG&E is planning to spend $680 million on removing trees in 2020 and only spending about (they say) $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone. Regulations require a 4â??-radial clearance (to last a year) from the wires.

PG&E is claiming that removing thousands of trees 'within striking distance' of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. It's the wires that cause the fires, not the trees and we should focus on the wires.

There are other examples, but I will simply reiterate that I respectfully

request that that CPUC expand and updates its existing General Orders to incorporate uniform practices, including circuit design, thus redefining 'Best Practices' in response to Wildfire Mitigation, which can be adopted by all of the IOUs across the State of California.

Thank you-

Andrea Lum

Philo and San Leandro, California

Rebecca Elliot

April, 7 2020

Dear members of the California Public Utilities Commission,

I write you today wearing two hats - 1) as a life-long resident of the San Francisco Bay Area and 2) as an Admin for Indivisible San Jose. I was born and raised in San Francisco and always trusted Pacific Gas and Electric Company (PG&E) to do what was best for the people, and the state. I moved to San Jose years ago and, with increasing dismay, watched PG&E change from a community oriented company to one beholden to its shareholders, first and foremost. What I never expected, though, was to see any public utility become a for-profit, shareholder focused entity. In this capacity PG&E has let the public down as it catered to its bottom line. The bonuses paid to PG&E executives were off the charts. And, time and time again these bonuses were paid during times of turmoil, such as the wildfires that wiped out communities, took lives, and left people homeless in Northern California. The CPUC granted PG&E every rate increase it requested leaving the consumer with no recourse but to pay every increasing monthly bills.

I am appalled that we are still fighting to stop PG&E from exploiting the public. I will close my personal comments borrowing from the closing thoughts of this report..."PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund".

I respectfully urge you to study this report and to recognize that now is the time to firmly take control of PG&E by protecting PG&E workers and the public from PG&E's

mismanagement and total disregard for public safety and the overall welfare of Californians.

Thank you,

Rebecca Elliot, San Jose CA, Admin, Indivisible San Jose

Comments and Criticisms of PG&E's WILDFIRE MITIGATION PLAN REPORT, RULEMAKING 18-10-007 FEBRUARY 7, 2020

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. ***Wires not Trees*** PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will

protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. *Infrastructure*

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash

and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a *Wires not Trees-* *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, **Environmental Impacts**

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts.

For those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions, as opposed to their claims for environmental collaboration with wildlife agencies (p. 5-177), demonstrate a sad neglect of understanding of the issues.

A prime example is any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been having, and will continue to have, a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable.

PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. *The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.*

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "

ii. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along

single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as

the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Dr. Mandeep S.S. Gill

Dear CPUC-

I am a lifelong Californian who serves on a board within my city, and who strongly feels that PG&E's response and approach to wildfire and prevention is completely inadequate and misguided.

--- In more detail:

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOUs to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable.

I respectfully request that that CPUC expand and updates its existing General Orders to incorporate uniform practices, including circuit design, thus redefining 'Best Practices' in response to Wildfire Mitigation, which can be adopted by all of the IOUs across the State of California.

One example of existing obsolete circuit design is the 22,000 circuit miles of
#6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State.

PG&E is in fact still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

One specific example: PG&E is planning to spend $680 million on removing trees in 2020 and only spending about (they say) $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated).
PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone. Regulations require a 4â??-radial clearance (to last a
year) from the wires.

PG&E is claiming that removing thousands of trees 'within striking distance' of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. It's the wires that cause the fires, not the trees and we should focus on the wires.

There are other examples, but I will simply reiterate that I respectfully request that that CPUC expand and updates its existing General Orders to incorporate uniform practices, including circuit design, thus redefining 'Best Practices' in response to Wildfire Mitigation, which can be adopted by all of the IOUs across the State of California.

Thank you-

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Dr. Mandeep S.S. Gill
Board Member, Bicycle Pedestrian Advisory Committee of Union City
Member: CA StateStrong & Indivisible EastBay

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Organizer, Green Party of Alameda County
acgreens.wordpress.com

Jennifer Tanner

Comments and Criticisms of PG&E's WILDFIRE MITIGATION PLAN REPORT, RULEMAKING 18-10-007 FEBRUARY 7, 2020

My name is Jennifer Tanner, founder of Indivisible California Green Team, focused on the environment. We work with Indivisible chapters and other grass roots groups all over California and there is unanimous disappointment in PG&E's handling of the utility caused risk of fire all of which is clearly listed below. And we are hopeful that these comments will bear fruit in changes that will bring safety once again back to California. Thanks for the opportunity to comment.

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is

unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. ***Wires not Trees*** PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. *Infrastructure*

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We

continue to make the case that PG&E does not inspire trust in their behavior. They talk “safety” in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors’ employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a ***Wires not Trees-*** *Failure to Prioritize Infrastructure Safety*

PG&E’s failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing “vegetation management” over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

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This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts.

For those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions, as

opposed to their claims for environmental collaboration with wildlife agencies (p. 5-177), demonstrate a sad neglect of understanding of the issues.

A prime example is any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been having, and will continue to have, a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut

down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable.

PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. *The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.*

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12”diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani’s house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, ‘creating a safety hazard by making the road narrower than it already was.’

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else’s property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. “Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray’s Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew “ topped “ my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. “

ii. Large pine tree felled and left in property owner’s yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80’ of the elderly property owners’ house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would

investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor

at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Thanks,
Jennifer Tanner
Indivisibile California Green Team

Karen Irish

Wildfire Safety Division
Attn: Ms. Caroline Thomas Jacobs
California Public Utilities Commission
505 Van Ness Avenue San Francisco, CA 94102

Re: CPUC invitation to the members of the public to submit comments on utility plans to Wildfire Safety Division

Ms. Jacobs,

I am writing to you with hopes of a safer future for all Californians. We have endured years of heart-breaking loss of human life and staggering environmental impact from wildfire. As we are learning from the coronavirus crisis, current and science-based data must drive our research and plans for the future.

Wildfire endangers the health and lives of firefighters and other first responders as well as the general population. Hospitals have been impacted over the last several years due to these health problems brought on by the wildfires; we cannot afford to further impact our health care system today as we try to move through this unprecedented pandemic. **That we know all we can about our current wildfire risk with accurate and precise data and have this data in the hands of our science community to inform their preventive and containment actions is of the utmost importance.**

Please consider what is crucial for effective environmental actions and long-range safety planning for us all; the collection and use of up-to-date LiDAR data will facilitate this. A careful look at the interrelationship of wildfire safety planning and our current coronavirus pandemic is necessary to inform the big picture.

Sincerely,

Karen M. Irish
1611 12th Avenue
Sacramento, CA 95818

Kim Irish

Wildfire Safety Division

Attn: Ms. Caroline Thomas Jacobs
California Public Utilities Commission
505 Van Ness Avenue San Francisco, CA 94102

Dear Ms. Jacobs:

According to the 2020 Wildfire Mitigation Plan (WMP) submitted by PG&E on February 7, 2020, it seems the utility is reducing its inspection activities from 2019 to 2020. This omission creates substantial risk to the ratepayers and the state of California. PG&E has an extremely challenging operating environment in 2019 and the operationalization of 2019 LiDAR data for the benefit of wildfire safety is still in progress, specifically with respect to the data analysis. **Omitting collection of the crucial LiDAR data in 2020 would create a clear and present threat to wildfire safety.**

A decision to use obsolete data, or no data at all, may lead to a situation where a wildfire event destroys homes, businesses, and people's lives, which might have been mitigated if more current data would have been used.

In 2020, under the unprecedented situation of the spreading coronavirus pandemic, we must remain vigilant to other dangers to the nation's safety. Wildfires continue to threaten lives, homes and infrastructure. Avoiding catastrophic wildfires will also protect the already stressed public health and medical care system from further burden. The safety of IOU employees, contractors, rate payers and all Californians must go first, and all reasonable means must be used to mitigate the wildfire risks.
We request CPUC to use its enforcement competence to ensure:

1. IOUs are required to use the most up-to-date data in their decision-making and processes;

2. IOUs are required to implement processes to continuously collect accurate and precise data of vegetation (and other) risks and threats to their assets, at least yearly in high wildfire areas, and 2-4 times per year in extreme wildfire areas; and

3. IOUs are required to deploy technologies which can automatically analyze LiDAR data in near-real-time, so that the data collected becomes analyzed, available and actionable by the end of the same day it is collected, and informs the work, priorities, and crew safety the following day.

Sincerely,
Kimberly Irish
San Francisco, CA

kimberlykirish@gmail.com

Sarah Peterson

As a resident of California and a volunteer with many environmental organizations I have grown to know and love many things about nature and the outdoors. I've spent many hours volunteering with Tree People, who do so much work in areas heavily damaged by fire. So much work, done by volunteers. People working for free to repair damage caused by PG&E. This work done by thousands of citizens goes mostly unnoticed and appreciated by the government here in California. Yet, California is willing to entertain a bail out of PG&E, and let them off the hook, and on top of that give them the money designated for wildfires by the $21 billion wildfire fund.
It is disgraceful and unjust. It is a total disrespect to the people of California who have lost their lives, their homes, their entire way of life, repeatedly, due to the failure of PG&E.

The informatation and facts are out there, please take them seriously:

"Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future."

Sarah Peterson, MSc Sustainability

Manhattan Beach, CA

Audrey Ichinose

Wildfire Safety Division
California Public Utilities Commission

RE: PG&E's Wildfire Mitigation Plan Report
Rulemaking 18-10-007
April 7, 2020

I write to insist that the CPUC and its Wildfire Safety Division more closely examine PG&E's proposed plan and require many fundamental changes that would modernize our infrastructure and provide much profoundly better protection in the long run. I worked at UC Berkeley for many years as a video producer and after retirement joined the fight against global warming through local and statewide action, particularly on behalf of communities of color, seniors, and other poorly represented communities that always bear the brunt of fossil fuel pollution and climate change.

Particularly from the environmental standpoint, it is appalling that PG&E proposes to continue its outmoded approach to wildfire mitigation, falling back on the continued, thoughtless depredation of the environment rather than smart, technically up-to-date changes to its transmission lines that can give all of us with much longer lasting protection. The utility seems not to fathom that CA's drought and high fire danger is inextricably bound up with the decline of our forests and natural vegetation. Cutting broader corridors for transmission lines, for example, further diminishes our ability to absorb CO2 emissions. And such cleared pathways create wind tunnels that further accelerate a fire's progress. Is their concept of mitigation basically to fight fire with more fire?

PG&E's wildfire mitigation plan does not make sense when currently available technology can be easily installed and provide better, targeted, and longer lasting protection. There is abundant expertise and broad, varied experience to call on. Please do not let PG&E set its own standards. It has repeatedly acted irresponsibly, giving safety and environmental responsibility a backseat to corporate profit, expediency and temporary fixes. Their service is deeply flawed and up to now, incalculably costly. The CPUC, too, must exercise its regulatory function more responsibly than it has in the past.

Respectfully submitted,
Audrey Ichinose
Berkeley Climate Action Coalition
East Bay Clean Power Alliance
California Alliance for Community Energy

Barbara Stebbins

Dear Commissioners,

I volunteer with an organization that seeks to bring the benefits of local clean energy resources to frontline communities in the Bay Area. I have been doing that volunteer work for 8 years now and have become familiar with the disastrous impacts of PG&E shut-offs that occur for folks in these communities. Many low income residents are already pressed to feed their families, and cannot afford to have the food in their refrigerators spoiled because the power is off. Many of these same people have medical issues that require electricity for critical equipment that they cannot live without. Low income communities also have fewer nearby resources such as grocery stores for residents to buy new food or batteries for flashlights and other items that help during power shut-offs. PG&E must be held accountable for the dangers posed by its negligence in maintaining its electrical delivery equipment.

I am also an ardent hiker chagrined by the notion that California's beautiful forests, which are critical to mitigating climate change, have become PG&E's main target for avoiding

responsibility for wildfires. There are alternatives as proposed in the measures I cite below. I endorse these measures an urge the CPUC to expand and update the General Orders as detailed below.

1. *Wires not Trees* PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. *Infrastructure*

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center

with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. *No Emergency?* In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. *Violations.* PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than

previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Thank you to considering these issues.

Barbara Stebbins
Steering Committee Local Clean Energy Alliance
Berkeley, CA

Marc Irish

Wildfire Satety Division,

I am writing to you to express my concern that according to the 2020 Wildfire Mitigation Plan (WMP) submitted by PG&E on February 7, 2020, it seems the utility is reducing its inspection activities from 2019 to 2020. Namely, there is no current plan to execute a comprehensive LiDAR survey in 2020. This omission will create substantial risk to the ratepayers and the state of California. PG&E had a very challenging operating environment in 2019 and the operationalization of 2019 LiDAR data for the benefit of wildfire safety is still in progress, specifically with respect to the data analysis. **Omitting collection of the crucial LiDAR data in 2020 would create a clear and present threat to wildfire safety.**

It is clear from the Covid-19 experience that we are going through at present that the need for current data to manage a crisis is absolutely critical. Surely, the United States could be doing a much better job managing this crisis if we had up-to-date testing information.

Likewise, to manage wildfires in California we need up-to-date information. My understanding is that LiDAR is the only technology which can objectively and accurately measure, detect, and document the distances between electric utility lines and vegetation. This information is mandatory to assess the risks to the wildfire ignitions caused by conflicts between trees and overhead powerlines. The need to ensure proper clearances is so important that both federal and state regulators have established mandatory requirements for such clearances, such as GO 95 Rule 35, PRC 4293 & FAC 003-4.

I encourage you to require that PG&E and other California utilities be required to obtain the best and most current information possible so that we do not experience another year like last year.

Sincerely,

Marc Irish
1611 12th Avenue
Sacramento, CA 5818-4146
(916) 443-3811

Jack Eidt

Dear CPUC Wildfire Safety Division:

My name is Jack Eidt, and I am co-founder of SoCal 350 Climate Action. I am also an urban planner and environmental activists, publisher of the blog *WilderUtopia.com* and producer of the KPFK show/podcast EcoJustice Radio. We are organizing communities in Southern California to take on the dangers from fossil fuel burning - greenhouse gas escalating – global climate disruption, and advocating for sustainable solutions. We have seen wildfire dangers exponentially increase with the droughts and heat waves that have become more a fact of life than an occasional nuisance. With another drought-dominated wet season this year, we can expect wildfire threat to compound, and we need to learn the lessons of the last few years and make some significant changes as soon as possible. Below we feature a list of issues compiled by our coalition partners that we absolutely recommend the CPUC taking to heart. We look forward to deepening this public conversation in the future and thank you for the opportunity to comment.

Jack Eidt
Co-Founder, SoCal 350 Climate Action

Comments and Criticisms of
PG&E's WILDFIRE MITIGATION PLAN REPORT,
RULEMAKING 18-10-007 FEBRUARY 7, 2020

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is

still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. ***Wires not Trees*** PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees and we should focus on the wires.*

   PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

   By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. ***Infrastructure***
   a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: “Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E’s service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas.”5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make “Standard” (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague “covered conductor” of the final sentence.

Also, comparisons regarding the replacement of bare conductors with “covered” and / or fully insulated main conductor distribution cable. “Covered” conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term “non-exempt” refers to standards set by CDF. The Commission’s regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. No Emergency?

In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E’s Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-

of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. ***Unsafe Practices***

PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a *Wires not Trees-* *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation

management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

***1.b Wires Not Trees,* Environmental Impacts**
Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts.
For those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions, as opposed to their claims for environmental collaboration with wildlife agencies (p. 5-177), demonstrate a sad neglect of understanding of the issues.

A prime example is any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been having, and will continue to have, a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure.*

Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?
"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening
PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. “In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA.”5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement
The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.
All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter -Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. *No Emergency?* In 2020 PG&E states they will replace “about 200 miles” of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable.

PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. *The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.*

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "

ii. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV

cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Jack Eidt
Co-Founder/Steering Committee – SoCal 350 Climate Action
Executive Producer – EcoJustice Radio
Office 323 362 6737

Claire Broome

I am a Berkeley resident, EBCE/PG&E ratepayer, live in a high fire risk area, and was subjected to 2 PSPS events last year. I also follow CPUC proceedings as a citizen who cares about the climate crisis and affordability of electricity.

PG&E has forfeited any basis for trust due to its many safety violations as documented in the Wall Street Journal article. The CPUC MUST hold PG&E to concrete deliverables for wildfire

safety that have documented impact and are already being implemented by the other investor owned utilities in California. They should NOT allow PG&E to present their own "plan".
Two specific areas that must be improved: PG&E's tree cutting initiative is not an effective way to prevent fires, is ecologically damaging, and wastes enormous amounts of ratepayer funds. Those funds should be spent on grid hardening that can actually prevent fires, such as the following:

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"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

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PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various

overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution

Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

It is past time for the CPUC to require that PG&E install such validated tools to protect our communities with all the speed that this emergency demands.
with regards,
Claire Broome, MD

Daryl Gale

To Wildfire Safety Division;

I am Daryl Gale, a Los Angeles resident and truly horrified by PG&E's reckless behavior over the years and callous disregard for human life!

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. if they had invested in infrastructure, the wildfire ignition problem would not have happened!

Insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. It’s the wires that cause the fires, not the trees and we should focus on the wires.

They have failed to make the electric system safer – and instead potentially exacerbated the spread of fire, by focusing on trees. If the distribution lines are cleared as planned, it will create tunnels that will,

during high wind wildfire situations, become conduits for wind-blown firebrands. PG&E does not address the issue of wind tunnels in its WMP.

The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.

The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.
In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

And lastly,

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fnyti.ms%2f2Fj1ksG&c=E,1,M0JOUPqoovdyJReakNvadDaPLiQ_2GckvpjF9duMQiBytsm7At9kQOr4J2WQpz4qUwOgtPiQA-z5-g88sKztEzz1U1JnxXBo0W3rsY2uo_puAYRxUSChLh4YsdxI&typo=1) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

Please, expand and update the existing General Orders to incorporate uniform practices, including circuit design, thus redefining "Best Practices" in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California.

sincerely,

Daryl Gale

Los Angeles, CA

Jennifer Parks

Comments and Serious Concerns of

PG&E's WILDFIRE MITIGATION PLAN REPORT,

RULEMAKING 18-10-007 FEBRUARY 7, 2020

Dear Sirs,

I am a resident of Boulder Creek, CA, an area where trees are especially crucial to our lives. I am an in-house counsel for a prominent high tech company located in Silicon Valley and have serious concerns about the shocking omissions, dangerous practices, and disregard for the environment in PG&E's Wildfire Mitigation Plan Report.

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. ***Wires not Trees*** PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees, so keep the trees.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown**

firebrands. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. ***Infrastructure***
3. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?
4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. ***Unsafe Practices*** PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a *Wires not Trees-* *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

***1.b Wires Not Trees,* Environmental Impacts**

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts. However, for those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions undermine both this and their claims for environmental collaboration with wildlife agencies (p. 5-177).

A prime example is the absence of any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been impacting, and will continue to cause a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Our contributions to various NOAA Salmonid Recovery Plans has given us insights that PG&E appears ignorant of – probably because the EVM was declared EXEMPT from CEQA EIR by the CPUC when it was first proposed by PG&E in 2017, so no environmental studies were done. Don Alley, renowned Fishery Biologist, who has researched fish populations, in coastal watersheds for 30 years, including the importance of overhanging trees. He comments also cover impacts on other riparian species.

The riparian forests of Central California watersheds are used exclusively for nest building and breeding by more than 30 species of birds. These nesting birds rely heavily on insects that emerge from streams

and seeds produced by riparian vegetation. Central Coast watersheds in California, including their small headwater tributaries, are inhabited by the federally Threatened steelhead (Oncorhynchus mykiss irideus). Some watersheds in this region are also inhabited by the federally and state Endangered coho salmon (Oncorhynchus kisutch). The immature juveniles of these species spend 1 to 3 years in freshwater streams before entering the ocean to mature and then return to their natal streams to spawn. These very active salmonid species visually feed in fastwater habitat on insect drift supplied by aquatic insects that live in fastwater habitat and terrestrial insects that fall into the water from overhanging vegetation. Steelhead and coho salmon bury their eggs in redds (nests) dug in gravelly spawning glides, often at the tail of pools just upstream of steep, fastwater riffles. The gravel must be relatively free of smaller sediment particles that would clog the spaces around the gravel and prevent adequate oxygenation of the buried eggs provided by moving water through the gravels during incubation. Juvenile salmonids rely heavily on instream logs to hide under from predators and behind during stormflows and to scour deeper pool habitat with sorting of clean spawning gravels at pool tails.

Impacts from Indiscriminant Tree Cutting in the Riparian Corridor

Indiscriminant riparian tree cutting causes significant ecological damage. It interferes with nesting birds during the breeding season. Breeding birds are known to leave an area when noise and disturbance occurs. Of course, nests are destroyed in trees that are cut. Other road repair and construction projects in the riparian corridor require nesting bird surveys by qualified biologists, and all projects must establish buffers between any disturbing activities and detected bird nests. Cutting of nests containing bird nests is prohibited by law.

Riparian tree cutting increases the potential for soil erosion and streambank failure. When soil erosion into watercourses occurs, sedimentation of the streambed occurs. Increased sediment degrades salmonid spawning habitat, increasing egg mortality. Increased sedimentation degrades salmonid rearing habitat by shallowing of pools and filling in cracks and crevices under boulders where juvenile steelhead may hide, thus increasing predation rates on fish from fish-eating birds. Sedimentation reduces food supply for insect drift-feeding salmonids and other fish species. Increased sediment reduces aquatic insect habitat by reducing cracks and crevices and pockets for algae and dead leaves to collect, thus reducing the aquatic insect population and food supply for stream fishes and increasing their mortality, especially salmonids.

Cutting of broad leaf, deciduous trees in riparian corridors reduces the input of falling leaves into the stream channel, which are a source of food by a multitude of aquatic insect species. This reduces the aquatic insect population and reduces food supply for stream fishes, such as salmonids. If riparian trees with branches that overhang stream channels are cut, fewer terrestrial insects drop off into stream channels, thus reducing food supply for salmonids, as well.

If the riparian trees are cut that were maintaining undercut streambanks with their root systems, valuable escape cover from predators is lost for steelhead and coho salmon, thus increasing fish mortality and reducing survival to adulthood. Larger riparian trees provide more undercut bank habitat. Thus, indiscriminant cutting of large, streamside trees should be prevented. Their cutting should be truly warranted. These trees' root masses also armor streambanks against erosion and additional stream sedimentation.

When riparian trees are cut down, cut into smaller pieces and/or removed, their future recruitment as large instream wood that stays in place is prevented. This seriously reduces salmonid rearing habitat and spawning habitat in the future.

Cutting of riparian trees will potentially heat up streams and reduce habitat for salmonids. Juvenile steelhead and coho salmon require cooler water temperatures where food is in short supply, as is common in Central Coast watersheds where summer stream baseflow is typically low. Often power lines and roads closely follow relatively small stream channels inhabited by steelhead for miles in canyon settings. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature. The taller the tree, the more shade it provides. Thus, removal of trees with large stature must be clearly warranted, and indiscriminant cutting simply because of tree height should be prevented to protect fish habitat. Metabolic rate and food requirements of stream fishes increase with increased water temperature. Thus, growth rate of salmonids may decline in some instances where summer streamflow is low in small streams and drifting food is already in short supply. Warmer water temperature may restrict activity of fishes in other larger, already warm, downstream stream reaches, and restrict the habitat fish may use, thus reducing their ability to feed. Slower growth from higher metabolic rate and reduced fish swimming activity brought on by higher water temperature will result in higher mortality of stream fishes, especially salmonids. Increased sedimentation brought on by streambank erosion caused by riparian tree cutting will compound the negative impacts of increased water temperature as stream shading is reduced.

In summary, tree removal in riparian corridors of Central Coast streams related to protecting electrical power lines will likely significantly impact California bird populations and salmonid fish populations without proper environmental regulation. It will likely hinder the recovery of native steelhead and coho salmon, Threatened and Endangered species. related to bird nesting, soil erosion, stream sedimentation, loss of undercut streambanks and increased water temperature.

PG&E's teams have marked thousands of trees in the San Lorenzo Valley alone for destruction. In other counties they are removing every Douglas Fir. Elsewhere they remove heritage oaks and Ponderosa

Pines. The EVM is destroying many thousands of mature, healthy trees, without proof of efficacy. Filed reports by PG&E to the Commission on subject of fire, neglect to address basic analysis necessary for legitimate assessments of fire safety. This fact was pointed out by the Commission's own Office of the Public Safety Advocate when evaluating "wires down" events reported by PG&E. [Investigation 17-11-003] (Filed November 9, 2017), stating there were no metrics to determine effectiveness.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated

conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

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SCE is demonstrating good planning and foresight. PG&E is not.

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All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter -Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric,

Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable. PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. ***The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.***

4. **Violations** - no additional information

5. **Unsafe Practices**

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

1. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*
2. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)
3. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

1. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

1. *Anonymous, Bonny Doon, Santa Cruz County (March, 2020)*
2. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'
3. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

1. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

1. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "
2. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

1. *Nancy & Ken Macy, Boulder Creek, Santa Cruz County* (December, 2018)
2. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.
3. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

1. *Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)*
2. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

1. *Kevin Collins, Felton, Santa Cruz County (2018)*
2. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

1. *Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)*

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

1. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

1. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and

financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Respectfully submitted,
Jennifer Parks
239 W. Hilton Dr., Boulder Creek, CA

Carrie Samper

To Whom it May Concern,

My name is Carrie Samper, and I am gravely concerned about the irresponsible actions of PG&E, claiming they are mitigating fire hazards by destroying mature trees and other habitats. Please see the detailed information below that clearly demonstrates they are acting improperly and without reason. My children (ages 1.5 years and 5 years) deserve to have forests to run in and clean air to breathe - we all do. The future of our beautiful State of California is at risk by allowing actions like those of PG&E.

Comments and Criticisms of

PG&E's WILDFIRE MITIGATION PLAN REPORT,

RULEMAKING 18-10-007 FEBRUARY 7, 2020

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide

information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. *Wires not Trees* PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees, so keep the trees.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. ***Infrastructure***

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: “Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E’s service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas.”5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make “Standard” (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague “covered conductor” of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees <u>up to 200 feet from the right-of-way</u> without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of

the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a ***Wires not Trees-*** *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, Environmental Impacts

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This “before and after” EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it “is careful to mitigate, monitor, and manage” environmental impacts. However, for those of us who live in forested areas, and see the total lack of any of those three “m’s” on the part of PG&E, that is an invalid statement. Their actions undermine both this and their claims for environmental collaboration with wildlife agencies (p. 5-177).

A prime example is the absence of any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E’s vegetation management has been impacting, and will continue to cause a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Our contributions to various NOAA Salmonid Recovery Plans has given us insights that PG&E appears ignorant of – probably because the EVM was declared EXEMPT

from CEQA EIR by the CPUC when it was first proposed by PG&E in 2017, so no environmental studies were done. Don Alley, renowned Fishery Biologist, who has researched fish populations, in coastal watersheds for 30 years, including the importance of overhanging trees. He comments also cover impacts on other riparian species.

From Don Alley:

The riparian forests of Central California watersheds are used exclusively for nest building and breeding by more than 30 species of birds. These nesting birds rely heavily on insects that emerge from streams and seeds produced by riparian vegetation. Central Coast watersheds in California, including their small headwater tributaries, are inhabited by the federally Threatened steelhead (Oncorhynchus mykiss irideus). Some watersheds in this region are also inhabited by the federally and state Endangered coho salmon (Oncorhynchus kisutch). The immature juveniles of these species spend 1 to 3 years in freshwater streams before entering the ocean to mature and then return to their natal streams to spawn. These very active salmonid species visually feed in fastwater habitat on insect drift supplied by aquatic insects that live in fastwater habitat and terrestrial insects that fall into the water from overhanging vegetation. Steelhead and coho salmon bury their eggs in redds (nests) dug in gravelly spawning glides, often at the tail of pools just upstream of steep, fastwater riffles. The gravel must be relatively free of smaller sediment particles that would clog the spaces around the gravel and prevent adequate oxygenation of the buried eggs provided by moving water through the gravels during incubation. Juvenile salmonids rely heavily on instream logs to hide under from predators and behind during stormflows and to scour deeper pool habitat with sorting of clean spawning gravels at pool tails.

Impacts from Indiscriminant Tree Cutting in the Riparian Corridor

Indiscriminent riparian tree cutting causes significant ecological damage. It interferes with nesting birds during the breeding season. Breeding birds are known to leave an area when noise and disturbance occurs. Of course, nests are destroyed in trees that are cut. Other road repair and construction projects in the riparian corridor require nesting bird surveys by qualified biologists, and all projects must establish buffers between any disturbing activities and detected bird nests. Cutting of nests containing bird nests is prohibited by law.

Riparian tree cutting increases the potential for soil erosion and streambank failure. When soil erosion into watercourses occurs, sedimentation of the streambed occurs. Increased sediment degrades salmonid spawning habitat, increasing egg mortality. Increased sedimentation degrades salmonid rearing habitat by shallowing of pools and filling in cracks and crevices under boulders where juvenile steelhead may hide, thus increasing predation rates on fish from fish-eating birds. Sedimentation reduces food supply for insect drift-feeding salmonids and other fish species. Increased sediment reduces aquatic insect habitat by reducing cracks and crevices and pockets for algae and dead leaves to collect, thus reducing the aquatic insect population and food supply for stream fishes and increasing their mortality, especially salmonids.

Cutting of broad leaf, deciduous trees in riparian corridors reduces the input of falling leaves into the stream channel, which are a source of food by a multitude of aquatic insect species. This reduces the aquatic insect population and reduces food supply for stream fishes, such as salmonids. If riparian trees with branches that overhang stream channels are cut, fewer terrestrial insects drop off into stream channels, thus reducing food supply for salmonids, as well.

If the riparian trees are cut that were maintaining undercut streambanks with their root systems, valuable escape cover from predators is lost for steelhead and coho salmon, thus increasing fish mortality and reducing survival to adulthood. Larger riparian trees provide more undercut bank habitat. Thus, indiscriminant cutting of large, streamside trees should be prevented. Their cutting should be truly warranted. These trees' root masses also armor streambanks against erosion and additional stream sedimentation.

When riparian trees are cut down, cut into smaller pieces and/or removed, their future recruitment as large instream wood that stays in place is prevented. This seriously reduces salmonid rearing habitat and spawning habitat in the future.

Cutting of riparian trees will potentially heat up streams and reduce habitat for salmonids. Juvenile steelhead and coho salmon require cooler water temperatures where food is in short supply, as is common in Central Coast watersheds where summer stream baseflow is typically low. Often power lines and roads closely follow relatively small stream channels inhabited by steelhead for miles in canyon settings. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature. The taller the tree, the more shade it provides. Thus, removal of trees with large stature must be clearly

warranted, and indiscriminant cutting simply because of tree height should be prevented to protect fish habitat. Metabolic rate and food requirements of stream fishes increase with increased water temperature. Thus, growth rate of salmonids may decline in some instances where summer streamflow is low in small streams and drifting food is already in short supply. Warmer water temperature may restrict activity of fishes in other larger, already warm, downstream stream reaches, and restrict the habitat fish may use, thus reducing their ability to feed. Slower growth from higher metabolic rate and reduced fish swimming activity brought on by higher water temperature will result in higher mortality of stream fishes, especially salmonids. Increased sedimentation brought on by streambank erosion caused by riparian tree cutting will compound the negative impacts of increased water temperature as stream shading is reduced.

In summary, tree removal in riparian corridors of Central Coast streams related to protecting electrical power lines will likely significantly impact California bird populations and salmonid fish populations without proper environmental regulation. It will likely hinder the recovery of native steelhead and coho salmon, Threatened and Endangered species. related to bird nesting, soil erosion, stream sedimentation, loss of undercut streambanks and increased water temperature.

1b PG&E's teams have marked thousands of trees in the San Lorenzo Valley alone for destruction. In other counties they are removing every Douglas Fir. Elsewhere they remove heritage oaks and Ponderosa Pines. The EVM is destroying many thousands of mature, healthy trees, without proof of efficacy. Filed reports by PG&E to the Commission on subject of fire, neglect to address basic analysis necessary for legitimate assessments of fire safety. This fact was pointed out by the Commission's own Office of the Public Safety Advocate when evaluating "wires down" events reported by PG&E. [Investigation 17-11-003] (Filed November 9, 2017), stating there were no metrics to determine effectiveness.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut

down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission

has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. *No Emergency?* In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable. PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. ***The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.***

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees

were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "

ii. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them

before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Respectfully submitted,

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Director of Pilates Education
Equinox
310-923-3949

Jennifer Gomez

Comments and Criticisms of

PG&E's WILDFIRE MITIGATION PLAN REPORT,

RULEMAKING 18-10-007 FEBRUARY 7, 2020

My name is Jenni Gomez and I am an environmental advocate in Santa Cruz County. I have served and volunteered with a number of environmental committees and organizations in Santa Cruz including the Valley Women's Club, the environmental committee for the San Lorenzo Valley Water District, the local Native Plant Society habitat restoration team, and I currently serve as a commissioner on the Santa Cruz County Fish and Wildlife Advisory Commission.

I have been following PG&E's "Enhanced Vegetation Management" program as it has been implemented in the Santa Cruz Mountains since it began here in the late summer and fall of 2018. I have witnessed a tremendous amount of vandalism and habitat destruction throughout our redwood forests, oak woodlands and our delicate and rare sandhills parkland habitat communities, which are home to many rare and federally listed endangered species. Today, it is abundantly clear that we are worse off, when it comes to the threat of fire safety, than we were two years ago. All of the trimming has led to an explosion of one of our most pernicious invasive species, the French Broom (*Genista monspessulana*) along the roads and utility corridors where the tree canopy had before kept them at bay. Annual grasses are also rapidly spreading. These invasive species are highly flammable, and act as accelerants. French broom is also a very effective fire ladder. Nothing is being done to address this issue, and the lopsided focus on tree trimming and removal is creating more problems than it is resolving. The trees and vegetation do not start the fires; PG&E's cheap, antiquated and unsafe infrastructure does. The focus on wildfire safety should be on the infrastructure rather than on the vegetation, as this is the only real solution to the problem of these devastating wildfires. We need insulated wires and circuit breaker devices, and we should have had them years ago.

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform

practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. *Wires not Trees* PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). *PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone.* Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees, so keep the trees.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create**

tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. ***Infrastructure***

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be.** Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: "Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E's service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing

bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas."5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make "Standard" (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague "covered conductor" of the final sentence.

Also, comparisons regarding the replacement of bare conductors with "covered" and / or fully insulated main conductor distribution cable. "Covered" conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term "non-exempt" refers to standards set by CDF. The Commission's regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. ***No Emergency?*** In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. ***Violations.*** PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper

attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a *Wires not Trees-* *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, Environmental Impacts

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage" environmental impacts. However, for those of us who live in forested areas, and see the total lack of any of those three "m's" on the part of PG&E, that is an invalid statement. Their actions undermine both this and their claims for environmental collaboration with wildlife agencies (p. 5-177).

A prime example is the absence of any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E's vegetation management has been impacting, and will continue to cause a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Our contributions to various NOAA Salmonid Recovery Plans has given us insights that PG&E appears ignorant of – probably because the EVM was declared EXEMPT from CEQA EIR by the CPUC when it was first proposed by PG&E in 2017, so no environmental studies were done. Don Alley, renowned Fishery Biologist, who has researched fish populations, in coastal watersheds for 30 years, including the importance of overhanging trees. He comments also cover impacts on other riparian species.

From Don Alley:

The riparian forests of Central California watersheds are used exclusively for nest building and breeding by more than 30 species of birds. These nesting birds rely heavily on insects that emerge from streams and seeds produced by riparian vegetation. Central Coast watersheds in California, including their small headwater tributaries, are inhabited by the federally Threatened steelhead (Oncorhynchus mykiss irideus). Some watersheds in this region are also inhabited by the federally and state Endangered coho salmon (Oncorhynchus kisutch). The immature juveniles of these species spend 1 to 3 years in freshwater streams before entering the ocean to mature and then return to their natal streams to spawn. These very active salmonid species visually feed in fastwater habitat on insect drift supplied by aquatic insects that live in fastwater habitat and terrestrial insects that fall into the water from overhanging vegetation. Steelhead and coho salmon bury their eggs in redds (nests) dug in gravelly spawning glides, often at the tail of pools just upstream of steep, fastwater riffles. The gravel must be relatively free of smaller sediment particles that would clog the spaces around the gravel and prevent adequate oxygenation of the buried eggs provided by moving water through the gravels during incubation. Juvenile salmonids rely heavily on instream logs to hide under from predators and behind during stormflows and to scour deeper pool habitat with sorting of clean spawning gravels at pool tails.

Impacts from Indiscriminate Tree Cutting in the Riparian Corridor

Indiscriminate riparian tree cutting causes significant ecological damage. It interferes with nesting birds during the breeding season. Breeding birds are known to leave an area when noise and disturbance occurs. Of course, nests are destroyed in trees that are cut. Other road repair and construction projects in the riparian corridor require nesting bird surveys by qualified biologists, and all projects must establish buffers between any disturbing activities and detected bird nests. Cutting of nests containing bird nests is prohibited by law.

Riparian tree cutting increases the potential for soil erosion and streambank failure. When soil erosion into watercourses occurs, sedimentation of the streambed occurs. Increased sediment degrades salmonid spawning habitat, increasing egg mortality. Increased sedimentation degrades salmonid rearing habitat by shallowing of pools and filling in cracks and crevices under boulders where juvenile steelhead may hide, thus increasing predation rates on fish from fish-eating birds. Sedimentation reduces food supply for insect drift-feeding

salmonids and other fish species. Increased sediment reduces aquatic insect habitat by reducing cracks and crevices and pockets for algae and dead leaves to collect, thus reducing the aquatic insect population and food supply for stream fishes and increasing their mortality, especially salmonids.

Cutting of broad leaf, deciduous trees in riparian corridors reduces the input of falling leaves into the stream channel, which are a source of food by a multitude of aquatic insect species. This reduces the aquatic insect population and reduces food supply for stream fishes, such as salmonids. If riparian trees with branches that overhang stream channels are cut, fewer terrestrial insects drop off into stream channels, thus reducing food supply for salmonids, as well.

If the riparian trees are cut that were maintaining undercut streambanks with their root systems, valuable escape cover from predators is lost for steelhead and coho salmon, thus increasing fish mortality and reducing survival to adulthood. Larger riparian trees provide more undercut bank habitat. Thus, indiscriminant cutting of large, streamside trees should be prevented. Their cutting should be truly warranted. These trees' root masses also armor streambanks against erosion and additional stream sedimentation.

When riparian trees are cut down, cut into smaller pieces and/or removed, their future recruitment as large instream wood that stays in place is prevented. This seriously reduces salmonid rearing habitat and spawning habitat in the future.

Cutting of riparian trees will potentially heat up streams and reduce habitat for salmonids. Juvenile steelhead and coho salmon require cooler water temperatures where food is in short supply, as is common in Central Coast watersheds where summer stream baseflow is typically low. Often power lines and roads closely follow relatively small stream channels inhabited by steelhead for miles in canyon settings. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature. The taller the tree, the more shade it provides. Thus, removal of trees with large stature must be clearly warranted, and indiscriminant cutting simply because of tree height should be prevented to protect fish habitat. Metabolic rate and food requirements of stream fishes increase with increased water temperature. Thus, growth rate of salmonids may decline in some instances where summer streamflow is low in small streams and drifting food is already in short supply. Warmer water temperature may restrict activity of fishes in other larger, already warm, downstream stream reaches, and restrict the habitat fish may use, thus reducing

their ability to feed. Slower growth from higher metabolic rate and reduced fish swimming activity brought on by higher water temperature will result in higher mortality of stream fishes, especially salmonids. Increased sedimentation brought on by streambank erosion caused by riparian tree cutting will compound the negative impacts of increased water temperature as stream shading is reduced.

In summary, tree removal in riparian corridors of Central Coast streams related to protecting electrical power lines will likely significantly impact California bird populations and salmonid fish populations without proper environmental regulation. It will likely hinder the recovery of native steelhead and coho salmon, Threatened and Endangered species. related to bird nesting, soil erosion, stream sedimentation, loss of undercut streambanks and increased water temperature.

1b PG&E's teams have marked thousands of trees in the San Lorenzo Valley alone for destruction. In other counties they are removing every Douglas Fir. Elsewhere they remove heritage oaks and Ponderosa Pines. The EVM is destroying many thousands of mature, healthy trees, without proof of efficacy. Filed reports by PG&E to the Commission on subject of fire, neglect to address basic analysis necessary for legitimate assessments of fire safety. This fact was pointed out by the Commission's own Office of the Public Safety Advocate when evaluating "wires down" events reported by PG&E. [Investigation 17-11-003] (Filed November 9, 2017), stating there were no metrics to determine effectiveness.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

“PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value.” **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E’s selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, “In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles.”5.3.3.17.2 *It is the Commission’s responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. “In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and

external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. *No Emergency?* In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places

in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable. PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. ***The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.***

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12”diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani’s house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, ‘creating a safety hazard by making the road narrower than it already was.’

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "

ii. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor

at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require

environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Respectfully submitted,

Ms. Jenni Gomez

288 Carrol Ave.

Felton, CA 95018

Bruce Ashley

Dear Folks,

As a businessperson and senior citizen who has been active in sport fishing and conservation of wild salmonids in our local rivers in Santa Cruz County, California, over a long period of time, I'd like to past along some observations about the recent activities of Pacific Gas and Electric Company in regards their Wildfire Mitigation Report. We have seen at the end of the last century and beginning of this one the almost complete collapse of the local Salmonid Fishery. This is the result of urbanization, climate change and other factors, but the removal of forest in the vicinity of riparian areas is a new threat to these animals. It's uninformed, wasteful, and irresponsible. Please protect these resources and do your duty to defend the public trust from unnecessary harm!

Comments and Criticisms of

PG&E's WILDFIRE MITIGATION PLAN REPORT,

RULEMAKING 18-10-007 FEBRUARY 7, 2020

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities they regulate. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. In developing our comments, we are asking the CPUC to expand and update their existing General Orders to incorporate uniform practices, including circuit design, thus redefining "Best Practices" in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. We will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, fails to communicate, and as a result

there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. Wires not Trees PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (we believe that that number is highly inflated). PG&E will spend over $500 million on removing trees up to 200 feet from their right-of-way alone. Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems like animals, vehicle impacts, balloons and equipment failure. It's the wires that cause the fires, not the trees, so keep the trees.

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that en toto equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. This is what happened in Paradise, and in Australia, and PG&E's EVM will contribute to the spread of destruction. (San Mateo Fire Protection for Homeowners' workshop.) PG&E does not address the issue of wind tunnels in its WMP.

By NOT doing an EIR, there was no need to prove the efficacy of the program to reduce fire, no need to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and no need to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductor. The creation of wind tunnels during a fire storm was not considered, leading to mass loss of life and property.

2. Infrastructure

a. Insulated Wire-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard and PG&E fails to define what their conductor will be. Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: “Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E’s service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas.”5.3.3.17.1

From the quote above, one would assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make “Standard” (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague “covered conductor” of the final sentence.

Also, comparisons regarding the replacement of bare conductors with “covered” and / or fully insulated main conductor distribution cable. “Covered” conductor is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.

2b. Operation of Non-Exempt Fuses - PG&E estimates it has roughly over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses pose a potential fire risk and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

Non-exempt fuses refer to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. Thus the term “non-exempt” refers to standards set by CDF. The Commission’s regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) on an overcurrent event the fuse expels hot molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. No Emergency? In their 2020 WMP SCE commits to replacing 700 miles of old conductor in the 2020 calendar year and PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. Violations. PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email from Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E’s Timber Harvest Plan Utility Right-of-way Exemptions. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, “My understanding is that violations have been issued for failure to have the required fire box and fire tools on the project site, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a

Watercourse and Lake Protection Zone. Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a “Danger Tree” likely to make contact with a powerline among other issues.” Even the CalFire Inspector does not agree that the trees being removed are all “hazard” tree, which are the only trees that are permitted under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk “safety” in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors’ employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted. Further detail and specific complaints detailed in the Further Comments Section.

Further Comments on the 5 points:

1.a Wires not Trees- Failure to Prioritize Infrastructure Safety

PG&E’s failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing “vegetation management” over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to “protect” it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, Environmental Impacts

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.

This "before and after" EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims that (p. 5-180) it "is careful to mitigate, monitor, and manage"

environmental impacts. However, for those of us who live in forested areas, and see the total lack of any of those three “m’s” on the part of PG&E, that is an invalid statement. Their actions undermine both this and their claims for environmental collaboration with wildlife agencies (p. 5-177).

A prime example is the absence of any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E’s vegetation management has been impacting, and will continue to cause a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.
Our contributions to various NOAA Salmonid Recovery Plans has given us insights that PG&E appears ignorant of – probably because the EVM was declared EXEMPT from CEQA EIR by the CPUC when it was first proposed by PG&E in 2017, so no environmental studies were done. Don Alley, renowned Fishery Biologist, who has researched fish populations, in coastal watersheds for 30 years, including the importance of overhanging trees. He comments also cover impacts on other riparian species.
From Don Alley, Certified Fishery Biologist with 30+ years of experience working with salmonids and their habitats in California rivers:

The riparian forests of Central California watersheds are used exclusively for nest building and breeding by more than 30 species of birds. These nesting birds rely heavily on insects that emerge from streams and seeds produced by riparian vegetation. Central Coast watersheds in California, including their small headwater tributaries, are inhabited by the federally Threatened steelhead (Oncorhynchus mykiss irideus). Some watersheds in this region are also inhabited by the federally and state Endangered coho salmon (Oncorhynchus kisutch). The immature juveniles of these species spend 1 to 3 years in freshwater streams before entering the ocean to mature and then return to their natal streams to spawn. These very active salmonid species visually feed in fastwater habitat on insect drift supplied by aquatic insects that live in fastwater habitat and terrestrial insects that fall into the water from overhanging vegetation. Steelhead and coho salmon bury their eggs in redds (nests) dug in gravelly spawning glides, often at the tail of pools just upstream of steep, fastwater riffles. The gravel must be relatively free of smaller sediment particles that would clog the spaces around the gravel and prevent adequate oxygenation of the buried eggs provided by moving water through the gravels during incubation. Juvenile salmonids rely heavily on instream logs to hide under from predators and behind during stormflows and to scour deeper pool habitat with sorting of clean spawning gravels at pool tails.

Impacts from Indiscriminant Tree Cutting in the Riparian Corridor

Indiscriminent riparian tree cutting causes significant ecological damage. It interferes with nesting birds during the breeding season. Breeding birds are known to leave an area when noise and disturbance occurs. Of course, nests are destroyed in trees that are cut. Other road repair and construction projects in the riparian corridor require nesting bird surveys by qualified biologists, and all projects must establish buffers between any disturbing activities and detected bird nests. Cutting of trees containing bird nests is prohibited by law.

Riparian tree cutting increases the potential for soil erosion and streambank failure. When soil erosion into watercourses occurs, sedimentation of the streambed occurs. Increased sediment degrades salmonid spawning habitat, increasing egg mortality. Increased sedimentation degrades salmonid rearing habitat by shallowing of pools and filling in cracks and crevices under boulders where juvenile steelhead may hide, thus increasing predation rates on fish from fish-eating birds. Sedimentation reduces food supply for insect drift-feeding salmonids and other fish species. Increased sediment

reduces aquatic insect habitat by reducing cracks and crevices and pockets for algae and dead leaves to collect, thus reducing the aquatic insect population and food supply for stream fishes and increasing their mortality, especially salmonids.

Cutting of broad leaf, deciduous trees in riparian corridors reduces the input of falling leaves into the stream channel, which are a source of food by a multitude of aquatic insect species. This reduces the aquatic insect population and reduces food supply for stream fishes, such as salmonids. If riparian trees with branches that overhang stream channels are cut, fewer terrestrial insects drop off into stream channels, thus reducing food supply for salmonids, as well.

If the riparian trees are cut that were maintaining undercut streambanks with their root systems, valuable escape cover from predators is lost for steelhead and coho salmon, thus increasing fish mortality and reducing survival to adulthood. Larger riparian trees provide more undercut bank habitat. Thus, indiscriminant cutting of large, streamside trees should be prevented. Their cutting should be truly warranted. These trees' root masses also armor streambanks against erosion and additional stream sedimentation.

When riparian trees are cut down, cut into smaller pieces and/or removed, their future recruitment as large instream wood that stays in place is prevented. This seriously reduces salmonid rearing habitat and spawning habitat in the future.

Cutting of riparian trees will potentially heat up streams and reduce habitat for salmonids. Juvenile steelhead and coho salmon require cooler water temperatures where food is in short supply, as is common in Central Coast watersheds where summer stream baseflow is typically low. Often power lines and roads closely follow relatively small stream channels inhabited by steelhead for miles in canyon settings. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature. The taller the tree, the more shade it provides. Thus, removal of trees with large stature must be clearly warranted, and indiscriminant cutting simply because of tree height should be prevented to protect fish habitat. Metabolic rate and food requirements of stream fishes increase with increased water temperature. Thus, growth rate of salmonids may decline in some instances where summer streamflow is low in small streams and drifting food is already in short supply. Warmer water temperature may restrict activity of fishes in other larger, already warm, downstream stream reaches, and restrict the habitat fish may use, thus reducing their ability to feed. Slower growth from higher metabolic rate and reduced fish swimming activity brought on by higher water temperature will result in higher mortality of stream fishes, especially salmonids. Increased sedimentation brought on by streambank erosion caused by riparian tree cutting will compound the negative impacts of increased water temperature as stream shading is reduced.

In summary, tree removal in riparian corridors of Central Coast streams related to protecting electrical power lines will likely significantly impact California bird populations and salmonid fish populations without proper environmental regulation. It will likely hinder the recovery of native steelhead and coho salmon, Threatened and Endangered species. related to bird nesting, soil erosion, stream sedimentation, loss of undercut streambanks and increased water temperature.

1b PG&E's teams have marked thousands of trees in the San Lorenzo Valley alone for destruction. In other counties they are removing every Douglas Fir. Elsewhere they remove heritage oaks and Ponderosa Pines. The EVM is destroying many thousands of mature, healthy trees, without proof of

efficacy. Filed reports by PG&E to the Commission on subject of fire, neglect to address basic analysis necessary for legitimate assessments of fire safety. This fact was pointed out by the Commission's own Office of the Public Safety Advocate when evaluating "wires down" events reported by PG&E. [Investigation 17-11-003] (Filed November 9, 2017), stating there were no metrics to determine effectiveness.

Hundreds of redwoods in the riparian corridor of Steelhead-valued Two Bar Creek marked with yellow X for removal. Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

“PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value.” 5.3.2.2.6 Sensor IQ

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists

today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission has no standards whatsoever for any type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter -Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report

a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. No Emergency? In 2020 PG&E states they will replace “about 200 miles” of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable. PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. The Commission has no reason to accept this wide variability in the safety commitment of these two huge
IOUs.

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12”diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani’s house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, ‘creating a safety hazard by making the road narrower than it already was.’

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else’s property, without permission.

c. Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. “Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray’s Tree Service, a crew from Orange County with no arborist knowledge. (Three trees were to be topped and two removed. But when the crew “ topped “ my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. “

ii. Large pine tree felled and left in property owner’s yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80’ of the elderly property owners’ house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

“ In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

“ I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. “

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to ‘wind fall’ causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor’s permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or

individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Sincerely,
Bruce Ashley
PO Box 2955
Santa Cruz, CA 95062

Chuck Rosselle

Enclosed within this e-mail is a link to important comments based upon a detailed review of the Subject PG&E WMP Report and Rulemaking. These comments reflect my on-going concerns regarding the reckless and expedient use of Enhanced Vegetation Management in a way that subjects California to unnecessary damage during the current wildfire crisis. I am instead proposing that the CPUC, through its

newly formed Wildfire Safety Division, recognize that faulty wires and equipment, not trees are the primary cause of wildfires. We request that CPUC promote and develop uniform technical guidelines that mandate intelligent infrastructure enhancements across the entire state. This issue is especially critical given the likelihood of significant change to the overall electric system infrastructure as it transitions to distributed generation over the next decade.

https://docs.google.com/document/d/14PukoKMMmsTxod-6Yn9VpPa1MuFqEbhdwGxONSSotls/edit?usp=sharing

Chuck Rosselle
California Alliance for Clean Energy
Oakland, CA

Anne Williams

Dear CPUC,
I live in Ben Lomond, California, in a fire prone neighborhood and have serious concerns about the efficacy of PG&E's fire mitigation approach. I am worried that because of PG&E's focus on removing trees next to power poles rather than on hardening wires, the risk of wildfire in our area will not be lessened, but even worsened. Since I have zero confidence in PG&E's approach, I am appealing to you to use your regulating function to address the wrongheaded and short sighted practices of PG&E.
In short, I would like PG&E to cease cutting mature trees and engage in strengthening and insulating the power wires. Specifically, I am asking that the Standard conductor be triple-insulated wire with a hard steel center.
It is my understanding that the PUC needs to define the standard of the fully insulated conductor distribution cable used to replace bare conductor cable rather than to accept PG&E's "covered" conductor cable, which is not necessarily fully insulated by engineering standards. The Commission needs to clarify this distinction between Covered and Insulated and make it a part of its General Orders.
Next, the Commission needs to require PG&E to replace dangerous and obsolete "non-exempt" fuses immediately as they pose a potential fire risk.
I write to you because of PG&E's failure to prioritize infrastructure safety and is continuing to instead prioritize "vegetation management," cutting trees rather than hardening wires. There is significant data from the Paradise fire and from Australia that PG&E's Enhanced Vegetation Management will create wind tunnels that will aggravate wildfires rather than lessen their destruction.
I appeal to CPUC to require PG&E to use contemporary best practices to mitigate the danger of wildfires rather than outmoded, ineffective and damaging removal of California's trees. The wires cause fire, not the trees!
Thank you for your immediate attention to this matter and for using your oversight to make us safe not sorry.
Respectfully,
Anne Williams
9402 Sunnyside Avenue
Ben Lomond, CA 95005
annetw42@gmail.com
831-336-8725

Peter Gelblum

I live in Boulder Creek, in the Santa Cruz Mountains, surrounded by forest. I have witnessed PG&E crews violating the law in over-cutting of trees, and I am deeply concerned about PG&E's repeated and ongoing failure to spend its money on modernizing its wires and related equipment, instead of on paying dividends and bonuses and cutting down healthy trees. I submit these comments in that spirit.

The CPUC has General Orders that define standards of performance for the Investor Owned Utilities it regulates. In the area of Wildfire Mitigation however, the CPUC has allowed the IOU's to define their own standards of performance. The result has been a non-uniform mix of responses that range from barely acceptable to unacceptable. I'm asking the CPUC to expand and update its existing General Orders to incorporate uniform practices, including circuit design, thus **redefining "Best Practices"** in response to Wildfire Mitigation, which can be adopted by all of the IOU's across the State of California. An example of **existing obsolete circuit design is the 22,000 circuit miles of #6 bare copper wire. This issue was directly pointed out by the Office of Safety Advocate in 2017 to be phased out, but was disregarded.**

PG&E has demonstrated that it is a bad partner and has failed to change, even when faced by bankruptcy or being taken over by the State. I will provide information and examples of how PG&E is still cutting corners on safety, is unresponsive to the community, and fails to communicate, with the result that there is little confidence that PG&E can provide a safe electric grid.

PG&E's billions of dollars of liability burden, if invested in infrastructure, would have solved the wildfire ignition problem. Whenever we hear that it's too costly to make these investments, we have to consider the costs of the wildfires and the costs of PSPS continuing into the future.

Our comments will cover the following:

1. *Wires not Trees* PG&E is planning to spend $680 million on removing trees in 2020 and only spending about $240 million on replacing 240 miles of distribution conductor (I believe that that number is highly inflated). *PG&E will spend over*

$500 million on removing trees up to 200 feet from their right-of-way alone. Regulations require a 4'-radial clearance (to last a year) from the wires. PG&E is claiming that removing thousands of trees "within striking distance" of the wires is justified. There are no metrics given to prove this will prevent wildfires or to validate this massive expenditure. Stronger, insulated wires will prevent arcing-caused wildfires, as well as the other 50% of fires caused by problems that have nothing to do with trees, like animals, vehicle impacts, balloons and equipment failure. *It's the wires that cause the fires, not the trees, so keep the trees.*

PG&E is depending on Enhanced Vegetation Management (EVM) to solve the wildfire issue, but it is failing to make the electric system safer – and instead potentially exacerbating the spread of fire, by focusing on trees. If NOT replaced and upgraded, no amount of tree removal will protect those lines from a branch blown from afar, or from the other causes of utility-associated wildfire including vehicles, animals, balloons and others that together equal the danger from vegetation impacts – causing breakage, arcing and, thus, electrocution and wildfires. **In fact, if the distribution lines are cleared as planned, it will create tunnels that will, during high wind wildfire situations, become conduits for wind-blown firebrands**. These flaming missiles will be blown along, far past the body of the fire itself, until it hits and set fire to residences and businesses at the end of the tunnel. **This is what happened in Paradise, and in Australia,** and PG&E's EVM will contribute to the spread of destruction. **PG&E does not address the issue of wind tunnels in its WMP.**

By NOT doing an EIR, PG&E evaded the need to prove the efficacy of the program to reduce fire, to mitigate the enormous environmental destruction resulting from the clearance (especially from the removal of healthy, mature trees and impacts on riparian corridors), and to discuss the alternative ways to protect the distribution system – including replacing the antiquated conductors. The creation of wind tunnels during a fire storm was not considered, even though these tunnels could lead to massive loss of life and property.

2. *Infrastructure*

a. **Insulated Wire**-The CPUC has neglected to establish safety standards and regulations regarding criteria for conductor and computerized protective relays, the two most important aspects of a safe grid. **SCE has defined their Standard conductor, triple-insulated wire, with a hard steel center, which should be the Best Practices standard. In contrast, PG&E fails to define what their conductor**

will be. Computerized protective relays have already been developed and tested by major electrical engineering companies - and are installed in Europe and Australia. However the IOUs are discussing this technology as though they are developing it now. The Commission needs to step in and require the use of this technology.

PG&E states in its WMP the following: “Replacement of bare conductors with three-layer design of covered conductors (as tree wire) will reduce the likelihood of faults due to trees, branches, animals, or birds contacting lines, and will minimize situations where wires slap together in high winds, which can generate sparks or molten metal. The HFTD areas within PG&E’s service territory have a high volume of vegetation with large overhangs and ground fuels; PG&E expects covered conductor to be an effective risk mitigation in these areas. The covered conductor will also often be higher gauge that the wire it replaces, which will reduce the potential for failures related to smaller conductors. PG&E is replacing bare overhead distribution primary (high voltage) and secondary (low voltage) conductor with covered conductor in HFTD areas.”5.3.3.17.1

From the quote above, one might assume that PG&E is planning to significantly upgrade the cable to the same quality cable as what SCE originally tested and decided to make “Standard” (steel reinforced center with triple insulation). We expect that to be the case. PG&E must be held to the same standard, rather than the vague “covered conductor” of the final sentence.

2b. **Operation of Non-Exempt Fuses** - PG&E estimates it has over 15,000 non-exempt fuse devices located in the Tier 2 and Tier 3 HFTD areas. The operation of these fuses poses a potential fire risk, and PG&E has a plan to replace these units over the next several years. This is far too long to allow the threat to continue.

"Non-exempt fuses" refers to fuse cutouts that CDF/CalFire determined were dangerous for wildfire ignitions many years ago. The Commission’s regulations continue to permit the use of these dangerous and obsolete devices. Non-exempt fuses have the same problems as all expulsion fuses in that when they trip (blow) In an overcurrent event the fuse expels molten metal and other hot debris onto the ground. This is not just a fire safety problem. Any pedestrian beneath one of these fuses when it blows will be injured, in some cases severely injured.

3. *No Emergency?* In their 2020 WMP, SCE commits to replacing 700 miles of old conductor in the 2020 calendar year, but PG&E commits to only 240 miles. (p. 18) At 7000 miles of Tier 2 and 3 that PG&E has committed to repairing, it will be decades before enough conductor is improved to improve safety. What about the rest of the 22,000 miles in tier 2 and 3 high fire risk?

4. *Violations.* PG&E is accumulating violations to their Utility Right-of-Way Exemptions from CalFire.

In a March 30, 2020 email, Eric Huff (Staff Chief, HQ Forest Practice Program) wrote regarding a request for information about PG&E's Timber Harvest Plan *Utility Right-of-way Exemptions*. (These Exemptions gave PG&E a permit to cut trees up to 200 feet from the right-of-way without a THP for each property affected, but required they adhere to all THP regulations.) The request came from Calaveras County resident, Susan Robinson who learned of possible actions by PG&E that resulted in serious violations relating to wildfire prevention. Huff stated, "My understanding is that **violations have been issued for failure to have the required fire box and fire tools on the project site**, failure to have a copy of the Exemption on the project site, operations on saturated soils, and falling of trees in a Watercourse and Lake Protection Zone. **Inspection reports have documented disagreement between the inspector and the utility representative in the determination of what constituted a "Danger Tree"** likely to make contact with a powerline among other issues." Even the CalFire Inspector does not agree that the trees being removed are all "hazard" tree, which are the only trees that can be removed under the Exemption. PG&E takes advantage of the exemption and is spending over a half a billion dollars to do this.

Most importantly, the fact that violations are issued for not having the required fire equipment (which means being unable to stop a fire if they cause one) is reason for deep concern since the whole objective is wildfire mitigation. We continue to make the case that PG&E does not inspire trust in their behavior. They talk "safety" in their WMP, but they do not practice it in reality.

5. Unsafe Practices PG&E has unsafe practices regarding contractors' employees, specifically in regard to CalOSHA required toilet facilities. They are also failing to consistently remove slash and wood resulting from its vegetation management activities, impacting property owners and increasing fire danger.

PROBLEM 1. PGE CONTRACTORS ARE ENDANGERING PUBLIC HEALTH AND SAFETY re Covid-19 by not providing portable toilets (i.e. Porta Potties) for tree crews. CalOSHA has indicated that workers should drive to nearby toilets. Because of Covid-19, public toilet access is even more limited than previously. Usually in rural areas toilet access is non-existent anyway - or limited by excessive travel time.

In other areas, it is now extremely difficult to find a toilet, and most remaining open stores require a purchase for toilet access. Most restaurants are closed, and those remaining open for pick-up limit toilet access to paying customers only. Sometimes the only vehicle available is an enormous bucket truck with chipper attached, which is exceedingly impractical for toilet trips. As a result, workers have no other alternative than to relieve themselves on public or private property.

SOLUTION: Provide portable toilets for crews but PGE has only occasionally done so when property owners have insisted.

Further Comments on the 5 points:

1.a *Wires not Trees-* *Failure to Prioritize Infrastructure Safety*

PG&E's failure to prioritize infrastructure safety is overwhelmingly evident in the degraded state of tens of thousands of miles of transmission and distribution systems, the extremely poor relationship that PG&E has had with residents of forested areas (in spite of highly admired, heroic efforts of dedicated PG&E repair crews to restore power during winter storms), and the continued prioritizing "vegetation management" over infrastructure upgrades to modernize and provide safety improvements. Here are two small examples of the antiquated system in Santa Cruz County.

Power pole leading up a small street off State Route 9 in Felton, CA, is barely standing up. It carries a bare wire powerline.

Pilger Rd. power line is antiquated and unsafe. Rather than replace it, PG&E cut down a dozen healthy, mature redwood trees to "protect" it.

PG&E has failed for decades to improve its infrastructure in far too many areas, especially rural and forested locales - beyond repairing what actually fails. This has been discussed at great length and the New York Times Business Section (N.Y.Times 3/18/19 https://nyti.ms/2Fj1ksG) stated that "Run to Failure is its "demonstrable business model." Instead they have focused on vegetation management as the financially beneficial way to avoid best practice infrastructure improvements. The result is an on-going battle between property owners and PG&E's vegetation control employees and contractors.

1.b Wires Not Trees, Environmental Impacts

Extensive clearing under the wires is part of PG&E's EVM. PG&E's contractors were given photos of what they wanted the EVM to look like in the Santa Cruz Coastal Mountains. The long, flat area of the photo below has little relevance to the steep, highly erosive slopes in forested areas. When the CPUC self-declared the EVM "Exempt" from CEQA environmental review much was lost. It ignored the impacts of clearing approximately 80 times the area more than the "regular" 4-foot-radial to-last-a-year trim. Even PG&E did not realize the time and costs involved in removing that many trees and that much brush, so the job was rarely completed. **This is also a prime example of the creation of a wind tunnel like those that exacerbated the Paradise fire.**

This “before and after” EVM photo example of EVM was distributed to PG&E contractors by Rob Morse, Senior Manager, Central Coast Division in the summer of 2018.

1.c. Wires not Trees - PG&E claims (p. 5-180) that it “is careful to mitigate, monitor, and manage” environmental impacts. However, for those of us who live in forested areas, and see the total lack of any of those three “m’s” on the part of PG&E, that is an invalid statement. Their actions undermine both this and their claims for environmental collaboration with wildlife agencies (p. 5-177).

A prime example is the absence of any discussion of the EVM impacts on fish (especially salmonids like the endangered Coho Salmon and threatened Steelhead Trout in Santa Cruz Coastal Mountain watersheds and in Calaveras and other counties). PG&E’s vegetation management has been impacting, and will continue to cause a worsening impact on those species as it removes healthy, mature trees, including redwoods, from along salmonid streams and rivers.

Our contributions to various NOAA Salmonid Recovery Plans has given us insights that PG&E appears ignorant of – probably because the EVM was declared EXEMPT

from CEQA EIR by the CPUC when it was first proposed by PG&E in 2017, so no environmental studies were done. Don Alley, renowned Fishery Biologist, who has researched fish populations in coastal watersheds for 30 years, including the importance of overhanging trees, made the following comments. He comments also cover impacts on other riparian species.

From Don Alley:

The riparian forests of Central California watersheds are used exclusively for nest building and breeding by more than 30 species of birds. These nesting birds rely heavily on insects that emerge from streams and seeds produced by riparian vegetation. Central Coast watersheds in California, including their small headwater tributaries, are inhabited by the federally Threatened steelhead (Oncorhynchus mykiss irideus). Some watersheds in this region are also inhabited by the federally and state Endangered coho salmon (Oncorhynchus kisutch). The immature juveniles of these species spend 1 to 3 years in freshwater streams before entering the ocean to mature and then return to their natal streams to spawn. These very active salmonid species visually feed in fastwater habitat on insect drift supplied by aquatic insects that live in fastwater habitat and terrestrial insects that fall into the water from overhanging vegetation. Steelhead and coho salmon bury their eggs in redds (nests) dug in gravelly spawning glides, often at the tail of pools just upstream of steep, fastwater riffles. The gravel must be relatively free of smaller sediment particles that would clog the spaces around the gravel and prevent adequate oxygenation of the buried eggs provided by moving water through the gravels during incubation. Juvenile salmonids rely heavily on instream logs to hide under from predators and behind during stormflows and to scour deeper pool habitat with sorting of clean spawning gravels at pool tails.

Impacts from Indiscriminant Tree Cutting in the Riparian Corridor

Indiscriminent riparian tree cutting causes significant ecological damage. It interferes with nesting birds during the breeding season. Breeding birds are known to leave an area when noise and disturbance occurs. Of course, nests are destroyed in trees that are cut. Other road repair and construction projects in the riparian corridor require nesting bird surveys by qualified biologists, and all projects must establish buffers between any disturbing activities and detected bird nests. Cutting of nests containing bird nests is prohibited by law.

Riparian tree cutting increases the potential for soil erosion and streambank failure. When soil erosion into watercourses occurs, sedimentation of the streambed occurs. Increased sediment degrades salmonid spawning habitat, increasing egg mortality. Increased sedimentation degrades salmonid rearing habitat by shallowing of pools and filling in cracks and crevices under boulders where juvenile steelhead may hide, thus increasing predation rates on fish from fish-eating birds. Sedimentation reduces food supply for insect drift-feeding salmonids and other fish species. Increased sediment reduces aquatic insect habitat by reducing cracks and crevices and pockets for algae and dead leaves to collect, thus reducing the aquatic insect population and food supply for stream fishes and increasing their mortality, especially salmonids.

Cutting of broad leaf, deciduous trees in riparian corridors reduces the input of falling leaves into the stream channel, which are a source of food by a multitude of aquatic insect species. This reduces the aquatic insect population and reduces food supply for stream fishes, such as salmonids. If riparian trees with branches that overhang stream channels are cut, fewer terrestrial insects drop off into stream channels, thus reducing food supply for salmonids, as well.

If the riparian trees are cut that were maintaining undercut streambanks with their root systems, valuable escape cover from predators is lost for steelhead and coho salmon, thus increasing fish mortality and reducing survival to adulthood. Larger riparian trees provide more undercut bank habitat. Thus, indiscriminant cutting of large, streamside trees should be prevented. Their cutting should be truly warranted. These trees' root masses also armor streambanks against erosion and additional stream sedimentation.

When riparian trees are cut down, cut into smaller pieces and/or removed, their future recruitment as large instream wood that stays in place is prevented. This seriously reduces salmonid rearing habitat and spawning habitat in the future.

Cutting of riparian trees will potentially heat up streams and reduce habitat for salmonids. Juvenile steelhead and coho salmon require cooler water temperatures where food is in short supply, as is common in Central Coast watersheds where summer stream baseflow is typically low. Often power lines and roads closely follow relatively small stream channels inhabited by steelhead for miles in canyon settings. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature. The taller the tree, the more shade it provides. Thus, removal of trees with large stature must be clearly

warranted, and indiscriminant cutting simply because of tree height should be prevented to protect fish habitat. Metabolic rate and food requirements of stream fishes increase with increased water temperature. Thus, growth rate of salmonids may decline in some instances where summer streamflow is low in small streams and drifting food is already in short supply. Warmer water temperature may restrict activity of fishes in other larger, already warm, downstream stream reaches, and restrict the habitat fish may use, thus reducing their ability to feed. Slower growth from higher metabolic rate and reduced fish swimming activity brought on by higher water temperature will result in higher mortality of stream fishes, especially salmonids. Increased sedimentation brought on by streambank erosion caused by riparian tree cutting will compound the negative impacts of increased water temperature as stream shading is reduced.

In summary, tree removal in riparian corridors of Central Coast streams related to protecting electrical power lines will likely significantly impact California bird populations and salmonid fish populations without proper environmental regulation. It will likely hinder the recovery of native steelhead and coho salmon, Threatened and Endangered species. related to bird nesting, soil erosion, stream sedimentation, loss of undercut streambanks and increased water temperature.

1b PG&E's teams have marked thousands of trees in the San Lorenzo Valley alone for destruction. In other counties they are removing every Douglas Fir. Elsewhere they remove heritage oaks and Ponderosa Pines. The EVM is destroying many thousands of mature, healthy trees, without proof of efficacy. Filed reports by PG&E to the Commission on the subject of fire, neglect to address basic analysis necessary for legitimate assessments of fire safety. This fact was pointed out by the Commission's own Office of the Public Safety Advocate when evaluating "wires down" events reported by PG&E. [Investigation 17-11-003] (Filed November 9, 2017), stating there were no metrics to determine effectiveness.

Hundreds of redwoods in the riparian corridor of Steelhead-valued **Two Bar Creek** marked with yellow X for removal. *Riparian tree cutting increases the potential for soil erosion and streambank failure. Extensive riparian tree removal for extended distances in proximity and underneath these power lines in these settings will reduce stream shading and increase water temperature.*

2a. Infrastructure Why is PG&E wasting time on a substandard data acquisition system when there are more efficient ways to get the information?

"PG&E is piloting Sensor IQ on approximately 500K SmartMeters™ in HFTD areas and customizing reads and alarms to identify service transformer failures, with other use-cases to be considered based on wildfire risk reduction and/or business value." **5.3.2.2.6 Sensor IQ**

Comment: While useful to use SmartMeters for system awareness, use of this equipment does not lead directly to enabling PG&E to detect the exact location of a fault. A more effective solution is to have SCADA enabled protection relays directly connected into distribution circuits. Such equipment exists today to install on distribution circuits that would immediately shut down a faulted circuit if connected to a modern recloser or other switch. Response time to a high impedance fault from a downed wire would be at most a few seconds to shut

down and does not require any human decision making or assessment of SmartMeter pings.

2.b.Infrastructure Distribution System Hardening

PG&E has over 25,000 distribution circuit miles rated by the Commission as Tier 2 or 3 High Wildfire Threat District HWTD. PG&E's selection of less than one third of these circuit miles for insulated conductor replacement has not been adequately justified by information submitted to the Commission. In its WMP, PG&E states that, "In 2018, PG&E initiated construction pilots to evaluate various overhead conductor and equipment configurations, including potential undergrounding, as well as to develop best practices. In 2019, PG&E began the System Hardening Program proper, with a target of completing 150 circuit miles by the end of the year. In 2020-2022, PG&E forecasts completing approximately 1,000 distribution circuit miles (about 200 miles in 2020, approximately 350 in 2021 and 440 in 2022). PG&E ultimately intends to complete work on 7,100 distribution circuit miles."5.3.3.17.2 *It is the Commission's responsibility to decide if the 7,100 miles of replacement is adequate.*

In contrast, SCE (Southern CA Edison) far exceeds this amount. "In 2019, SCE installed 372 circuit miles of covered conductor, exceeding its 2019 WMP goal of installing at least 96 circuit miles in HFRA. Some of the key lessons learned from this were related to weather, permitting, and material availability, among other constraints on the speed of installation. In 2020, SCE plans to install 700 circuit miles of covered conductor in HFRA. SCE plans to further coordinate construction windows in areas prone to winter weather events, communicate with internal and external stakeholders during the early design phase to attain permits in a timely manner, and closely monitor material availability to identify any shortages or surplus at sites where work is planned. SCE will strive to install up to 1,000 circuit miles of covered conductor in 2020 in HFRA."5.3.3.3.1

SCE is demonstrating good planning and foresight. PG&E is not.

2c. Infrastructure. Computer Operated Protection Relays Provide Vital Safety Improvement

The CA Public Utilities Commission GO 95 is silent regarding computer operated protective relays and other highly effective safety equipment. The Commission

has no standards whatsoever for *any* type of circuit protection, including fuses and reclosers.

All three major IOUs in CA are discussing various advanced safety technologies. We hear about SDG&E using synchrophasers to automatically shut down faulted circuits at very fast reaction time. (PG&E discusses Proactive Wires Down Mitigation Demonstration Project using Rapid Earth Fault Current Limiter. 5.1.D.3.6. SCE discusses Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC) Section 5.3.3.2.2. They also mention Distribution Fault Anticipation (DFA) Section 5.3.2.2.1 and Rapid Earth Fault Current Limiter - Ground Fault Neutralizer (GFN) Section 5.3.3.2.3.1)

It is absurd that each IOU is deceptively touting its plans to develop and test various forms of circuit protection when there are excellent existing sources for this equipment. It has already gone through research and development, testing, and is installed throughout Europe and Australia. These products cut power from a broken line before it can start a fire and can inform utility operations where the problem is so crews can be directly dispatched to repair the problem (rather than waiting for someone to report a fire). They are off-the-shelf ready for installation from General Electric, Schweitzer Engineering, and ABB - and others. They should be required and begin installing in 2020 with the goal to protect Tier 2 and Tier 3 three areas within 3 years.

3. ***No Emergency?*** In 2020 PG&E states they will replace "about 200 miles" of bare main conductor cable/wire. (They say different amounts in different places in their WMP.) This is wholly inadequate and totally ignores the emergency nature of the situation. The State will be facing another severe wildfire season (becoming year-round) every year from now on. The replacements for all inadequate cable in Tier 2 and Tier 3 HFTD areas must be completed within a few years.

Putting PG&E to shame, SCE states that, in 2020, they will replace 700 circuit miles of bare main conductor cable. PG&E has considerably more distribution circuit miles in Tier 2 and 3 than does SCE. ***The Commission has no reason to accept this wide variability in the safety commitment of these two huge IOUs.***

4. Violations - no additional information

5. Unsafe Practices

OTHER SPECIFIC EXAMPLES OF PRIVATE PROPERTY ISSUES

a. *Jodi Frediani, Bonny Doon, Santa Cruz County (February, 2020)*

i. Tree crews entered property without required permission from owner (per 2010 agreement with PGE)

ii. Damaged driveway with enormous bucket truck hauling chipper. No vehicular access to tree being trimmed, therefore no need for such vehicle.

iii. Removed 12"diameter limbs growing well below power line, providing no additional protection. Crew doing the work was from Pennsylvania w/no knowledge about the growth of local tree species.

iv. Lopped slash and left beneath power lines and w/in 50 yards of Frediani's house, creating fire hazard.

b. Anonymous, Bonny Doon, Santa Cruz County (March, 2020)

i. Davey Tree felled several large trees, cut up the logs, left some adjacent to the roadway, 'creating a safety hazard by making the road narrower than it already was.'

ii. The crews also threw many of the heavy logs down an embankment across the road onto someone else's property, without permission.

c. *Judith Heinemann, 7 Springhill Dr., Cazadero, CA 95421 (April/May 2018)*

Over the decades nearly one third of my trees have been cut down by PGE. Unfortunately, my property has lines on both sides. I have been able, with help, to eventually clean up these trees but am older now and unable to do the work.

i. "Two years ago a number of trees were dropped by PGE and our largest, most beautiful Fir was taken down by mistake!!! It was Mowbray's Tree Service, a crew from Orange County with no arborist knowledge. (Three trees

were to be topped and two removed. But when the crew " topped " my big Fir they took the top third of it down!!! The tree would have died a slow death so I made them come back and take the rest of it down.) All the wood was left lying across a steep hillside rendering my land useless and dangerous. It took a great deal of effort, but the manager of the crew came out himself and dragged the wood out onto the street. Locals came for the wood to sell as firewood. "

ii. Large pine tree felled and left in property owner's yard two years ago, taking up lots of the yard, and creating a serious fire hazard!!! Wood and slash pile are within 80' of the elderly property owners' house. Owner was told it would be removed last year under a contract with the tree service. Logs were not removed, and owner is now told old contract is null and void and a new contract will need to be drafted.

" In the yard proper lies a good size pine that was taken down that no one wants. I cannot afford to have it hauled off. It was in last years contract that I signed that this pile of wood was to be removed along with more of my trees.

" I have been trying to reach the gentleman who wrote up the contract for a year now and have been unable to get through. So I've called several other PGE employees involved in Vegetation Management and am being told that last years contracts are no longer valid. Now at this time no one is returning my calls. So I and everyone else in the area have no idea as to what will happen next. "

iii. Every fir tree w/in 200 feet of power lines in the area has been marked for removal. (This will create a wind tunnel, which will hasten the spread of any fire, which is ignited by faulty electrical equipment along that line.) Removal of those trees may lead to 'wind fall' causing additional trees to fall towards the lines.

d. Nancy & Ken Macy, Boulder Creek, Santa Cruz County (December, 2018)

i. Large crew (8-10) (unknown PG&E contractor, non-English speaking) took three weeks to fell 25 mature, healthy Douglas Fir trees - with neighbor's permission - along single electric line (with TV cable and phone lines sharing poles), bordering driveway along Macy property. Located two miles from town of Boulder Creek where septic issues limit toilet use to customers.

ii. Ms Macy asked about no Porta-Potty. Worker just shrugged. She complained to PG&E. Within 2 days, crew had Porta-Potty. No hand washing facility seen.

iii. Four weeks later – thinner, young fir, formerly supported by surrounding grove, was felled by wind-throw, breaking the power line, destroying one power pole, damaging two others. Repaired by PG&E over a week by crew with no Porta-Potty.

e. Nancy Macy, Boulder Creek, Santa Cruz County (March, 2020)

i. Davey Tree crew of 5 worked on Bear Creek Rd. for several weeks, trimming and removing trees along two miles of distribution line -- with no Porta-Potty. Crew arrived at Macy's property after coronavirus "shelter in place" regulation mandated. Employee called to get OK for trimming on their property. Ms Macy met with him, keeping her distance. She then asked about lack of Porta-Potty. Worker said it would be nice to have one, but didn't indicate what they did without it.

Ms Macy called CalOSHA this time, as well as PG&E, worried about fecal contamination and coronavirus. CalOSHA returned call, said it would investigate, and that Davey Tree may have had an exception in their contract, but no explanation of what that might be. PG&E representative called and assured her that they would follow up with Davey Tree. No follow-up calls. Workers never returned after that day.

f. Kevin Collins, Felton, Santa Cruz County (2018)

i. Davey Tree and their spin off "Trees Incorporated" have, over many years, repeatedly misled my road association members about their plans to cut trees on our private road and on individual homeowner's property. We control the road as an organization and not as individual homeowners in regard to PG&E's use of its power-line right of way. The road association is a deed recorded and manages through voting decisions.

In 2018 we conducted a joint walking inspection with Dave Tree staff. We were told that Davey Tree needed access to cut 3 trees and we made an appointment for their access. About 2 weeks later 6 heavy trucks and additional pickup truck support arrived at the appointed time. My neighbor stopped them

before I arrived at their first unloading location and he demanded to see their crew work order. After some talk amongst the crew, my associate determined that Davey intended to cut down 165 trees. He was not contradicted regarding his conclusion. He ordered the crew out and they left as I was approaching. I was then personally addressed by the crew chief and told that this was all a mix-up. I ignored this ridiculous assertion and we walked the crew out.

This is a perennial stream-side forest road in steep mountain terrain. The mass tree felling that Davey Tree intended would have been hugely destructive to the stream, to landslide stability and to the beauty of our shared property and our home sites.

g. Jodi Frediani, Bonny Doon, Santa Cruz County (June, 2019)

PGE and sub-contractors removed one transformer, replaced a pole and second transformer, and restrung line after a tree took out two transformers and damaged two poles.

i. Perhaps a month prior to pole replacement, Cupertino Electric, sub-contractor for PGE sent out a crew that began work at 8:30pm on a Sunday night to remove a transformer, which was damaged when a tree fell pulling the wires to the ground. The crew worked for 4 hours deep in the forest, in an area inaccessible to vehicles.

The following morning I walked to the site to see what had been done. I found a cigarette butt at the base of the pole. I contacted the Supervisor at Cupertino Electric as well as the PGE rep in charge, expressing my chagrin that a fire could have been started in the middle of the night in a remote area. I was told that none of the crew smoked, so it couldn't have been them. No other crews or individuals had accessed the site. (See item ii for continuing saga)

ii. Three crews (Davey Tree, Cupertino Electric, PGE) plus a helicopter pilot spent 8 hours doing the repair work on my property, maybe 30+ people in all. At one point I walked down to the worksite (1500' from my house), to find a Cupertino Electric crewmember sitting in his truck with the door open, parked over dry grass, smoking a cigarette. When I said that was not acceptable, he told me he'd been advised he could smoke as long as he was in his truck. I told him I'd been advised that none of the crew smoked.

iii. No Porta-Potties were brought in. No vehicles were seen to leave the project site. The nearest publicly accessible toilet is 8-10 miles away at a gas station in town. The only vehicles at the worksite were pickup trucks. Clearly crews must have relieved themselves in the woods.

Conclusion: PG&E's failure to put safety above profit, its failure to undertake comprehensive environmental impact studies, its failure to put in the best infrastructure for the community it endangered, its willingness to spend many millions of dollars on tree removals that are not proven, its inability to recognize how its actions exacerbate wildfire problems rather than solve them, shows us that PG&E is not worthy yet to be absolved of its bankruptcy and able to cash in on the $21 billion wildfire fund.

Note: These remarks are the result of the research, analyses and experiences of dozens of people from throughout PG&E's territory and beyond. They represent every forested area, many backgrounds, many occupations and skills, and decades of experience dealing with PG&E in a wide range of circumstances. The unanimous consensus is that PG&E has failed to act responsibly for decades, putting profit and expediency before safety and environmental responsibility, resulting in felony convictions, horrific deaths, desperate use of PSPS to prevent wildfire, and the unnecessary removal of thousands of healthy, mature trees – undermining the health of forests, watersheds and wildlife, and causing emotional and financial distress to many thousands of residents. Sadly, the CPUC has been, until now, too often complicit in this by failing to hold PG&E to best practices, failing to require environmental impact reports under CEQA, and by allowing the IOU's to set their own standards rather than providing policy guidelines for them to adhere to.

Respectfully submitted,