Before the Public Utilities Commission of the State of California

Order Instituting Rule Making to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018)	Rulemaking 18-10-007 Filed, Issued, October 25, 2018

Wildfire Safety Division
Comment Upon 2021 Proposed Wildfire Mitigation Plan Updates

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To Stakeholder List of the Wildfire Safety Division

Greetings Director Jacobs and List Recipients:

These comments will focus primarily upon the WMP document submitted by Pacific Gas and Electric Company and how PG&E's WMP compares to those of Southern CA Edison and San Diego Gas and Electric.

In 2018 I filed an adjudicatory Complaint docketed as C.18-09-01 against PG&E, listed as filed September 17, 2018. The opening allegation of this Complaint was as follows:

> PG&E's "Community Wildfire Safety Program" evades the primary issue that it purports to address. This plan fails to address wildfire ignition from its own equipment and instead places the burden for misguided wildfire mitigations onto its customers in the form of damage to easements on private and public land.

For those unacquainted with it, PG&E's "Community Wildfire Safety Program" was a series of aggressive moves into regions of California where the company had concluded that its goal was the felling of trees on and outside of private and public land utility easements regardless of local land use codes, private property rights or simple logic. An overnight trailer city appeared in Scotts Valley CA within Santa Cruz County followed by log mill deck size piles of destroyed trees. Homeowners were pressured into allowing damage to their property that went far beyond the CPUC's standards for vegetation clearance.

This cutting included a Guideline quietly inserted into Rule 35 during the adoption of the Utility Ignition Wildfire Hazard Map in December of 2017 (establishing Tier 2 and 3 risk areas for wildfires ignited by utility equipment failures). This Proceeding's results were approved with a procedurally illegal and factually false claim of Exemption from review pursuant to the CA Environmental Quality Act. The PG&E "Safety Program" was then re-named "Enhanced Vegetation Management" or EVM in their original Wildfire Safety Plan 2019.

PG&E 2021 Wildfire Mitigation Plan update is 990 pages long and includes 130 MBs of zip file materials. It is a blizzard of obfuscation, misdirection and redundancy far in excess of their confusion inspiring 2020 Plan.

I'm an individual who understands how and why overhead medium and high voltage electrical utility circuits fail and start wildfires. SB 901 established a process that is inherently complex and diversionary. Immense time is devoted to excessively elaborate documents that even well informed experts find absurdly complex and redundant.

Due to the adoption of AB 1054, Certification approval of WMPs by the Wildfire Safety Division and the Commission now places the tax paying public "on the hook" for covering a large extent of the tort law fire liability of the large IOUs when their equipment ignites a fire, so long as each company's actions and equipment are judged to be in substantial compliance with their WMP.

Legally this is a preposterous standard. The details of an actual wildfire ignition and fire spread event are often difficult to parse out and compare with the terms and conditions of a WMP, and whether or not the terms of that WMP were actually complied with at the precise location of a powerline fire ignition.

~The issues of fire ignition risk from utility electrical circuits should be addressed directly by updates to the CPUC's astonishingly outdated and defective General Orders, GO 95, Overhead Electric Line Construction and, GO 174, Rules for Electric Utility Substations. This is the core problem at the CPUC with power utility regulation.

This statement is outside of the current discussion. Nevertheless this is the "Elephant in the Room".

~Imagine a Uniform Building Code that involved a secondary, but functionally primary set of safety standards written directly by construction companies themselves. No public jurisdiction would stand for this. Nevertheless here we are, thanks to the CA Legislature and its failure to understand this problem.

As a highly informed private individual, I am entirely free to step outside the straight jacket of responding to the endless minutia of the excessive and absurd details in these WMPs. Nevertheless this letter is dead serious.

If anyone reading this letter doubts the assertions made herein regarding the obsolete nature of these General Order circuit construction standards, please review is image below. This is an image for the safe design of a telegraph pole. In the 2018 version of General Order 95 this was still included as Figure 84.2. Subsequently a staff person for the Commission must have noticed this strange inclusion of a 19th century communication circuit and that it needed to be cleaned out of the document.

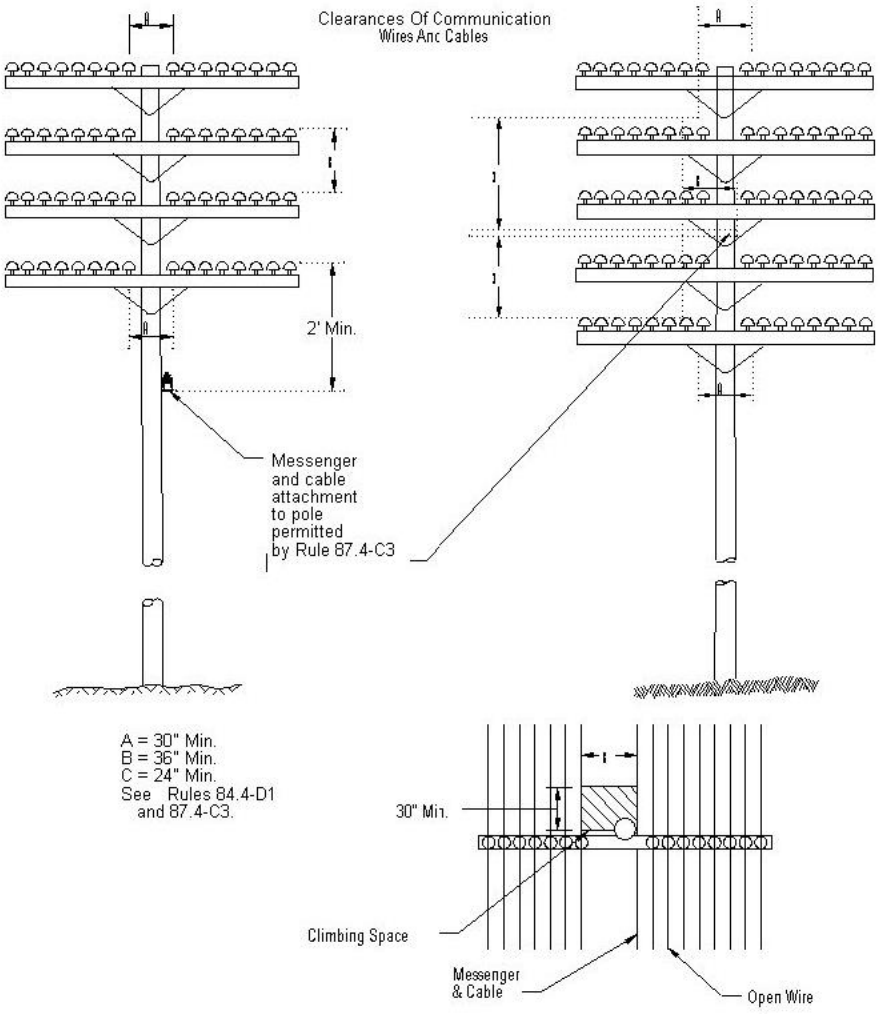


Figure 84-2

That the Commission has neglected to update the standards in these crucial circuit construction codes for the State of California, demonstrates the remarkable deference paid to power companies by the Commission.

Electrical engineering is not a "dark art". It is a knowledge base possessed by many competent engineers across the world. Equipment manufactured for power transmission and distribution use is an international market. In my small experience, the power equipment I have seen in Western Europe is far in advance, in terms of safety, to that used in Northern California. Many parts of the United States have better equipment than does Northern California. Spacer cable is rarely seen in California but common in other locales. The fact that Europe operates at 50 cycles per second instead of 60 is a small and irrelevant issue.

PG&E continues to operate and actually to rebuild power pole arrays on obsolete and fire prone circuits that are entirely legal per GO 95 and its own 2021 WMP. The company has reduced the circuit miles of covered conductor that it states it will install in 2021 from its own projections in its 2020 WMP. This fact alone invalidates this process.

There is no single fire safety improvement *so far discussed* by any IOU that is more effective at fire prevention than installing the type of cable that SCE demonstrated in 2019. That cable is triple covered, fully insulated, ACSR. ACSR stands for aluminum cable, steel reinforced. When conductor cable is covered in the manner demonstrated by Southern California Edison, there are essentially no electrical faults caused by conductor to conductor contact, conductors bridged by windblown debris, animals, balloons and so on.

Only Spacer Cable used with direct to pole, bracket suspension, and insulated jumpers and jumper clamps, is more fault proof that the SCE demonstrated cable. Spacer Cable is one step less fire safe that full circuit under grounding. And it is far less expensive.

Risk Spend Efficiency

In its 2021 WMP Plan update PG&E refers to Public Safety Power Shut Offs (PSPS) precisely 1,823 times. The company is making power shut-downs the central core of its Wildfire Safety Plan.

I have no doubt the PG&E regards the shutdown of its power circuits as the most cost effective strategy for its own bottom-line finances and tort law liability. But there is a glaring error in this notion. PG&E is a regulated monopoly with the obligation to operate safely and with cost efficiency. By designing a circuit fire-safety strategy around power shut downs, PG&E is transferring its cost to build safe reliable circuits onto its customers. Thousands of homes, businesses, water agencies and so on are installing generator back up power and transfer switches into their electrical service panels. This is very expensive and completely uncompensated for residential customers who choose not to live in the dark because PG&E has monopoly control over electrical service where they live**. This is Risk Spend Efficiency for PG&E and a huge cost increase for their customers who do not want to leave their homes or live in the dark every time the power goes out.**

By comparison Southern CA Edison had this to say in their 2021 WMP:

> 4. Progress on initiative (amount spent, regions covered) and plans for next year:
> In 2020, SCE completed 965 circuit miles, exceeding its WMP program target of 700 circuit miles. In 2020, SCE also replaced approximately 6,090 poles with FRPs in HFRA, exceeding its WMP program target of replacing 5,200 poles. The regions covered were based on the prioritization approach described above. SCE has already seen real-world success from covered conductor. For example, when a vehicle hit a pole and caused energized 16kV covered conductor to fall into adjacent trees, no fault or ignition occurred.
>
> With the ongoing wildfire risks in California and the expected risk reduction benefits of covered conductors, SCE is accelerating this program to the extent feasible within

operational and resource constraints. In 2021, SCE's goal is to install 1,000 circuit miles of covered conductor in HFRAs, primarily driven by WCCP. The deployment location prioritization will follow the approach described above. If operationally feasible SCE will strive to install 1,400 circuit miles. In 2021, when identified for replacement in WCCP or otherwise (such as in post-fire restoration work), SCE will continue to install FRPs in HFRA.

5. Future improvements to initiative:

In 2020, SCE improved the Wildfire Risk Model that is used to determine WCCP scope by using updated asset data (including conductor age, outage information, circuit loading, and additional circuit-level information), fire spread algorithm, weather/climatology data, ground fuel data, population and structure data, fire simulation model, and the ignition and consequence resolution. SCE also updated WCCP construction standards based on lessons learned from two years of installations. These updates include addressing requirements and providing clarity on wildlife cover requirements for covered conductor systems, and requirements for appropriately sized jumper covered conductor.

Approximately 5,000 circuit miles are forecasted to be installed within the next three years (2021-2023). The need for additional programmatic Covered Conductor installation beyond 2023 will be reevaluated, 2020 was the first full year after a material amount of covered conductor was deployed in SCE's HFRA, and SCE plans to further evaluate the effectiveness of covered conductors in reducing ignition risks based on fault and ignition data. This will help improve the risk models used to determine scope and prioritization of WCCP.

SCE is also pursuing cross-mitigation optimization where covered conductor has been deployed as described in Section 4.3.9 Resource Allocation and Prioritization Methodology. This includes assessing changes in PSPS protocols where covered

conductor has been deployed as described in further details in Chapter 8, and potentially changes to vegetation management practices.

In 2020, SCE assessed vibration dampers for covered conductor application (AT-4 in SCE's 2020 WMP) and concluded that vibration dampers mitigate the risk of premature failure of covered conductors due to vibration. SCE published vibration damper design and construction standards for covered conductor application and in 2021, vibration dampers will be part of standard covered conductor installations.

Please refer to Section 7.1.D (How New Technologies and Innovations will affect SCE's Wildfire Mitigation Strategy and Implementation Over the Next Three Years) for more details on SCE's vibration dampers effort.

SCE is continuing to re-evaluate alternatives and refinements to support covered conductor installation and may include some of these in the Corrective Action Plan it will submit to the Commission on February 12, 2021 as required in Commission President Batjer's January 19, changes in approach, scope or cost in Change Order Reports to this WMP.

CONTINUING

"From the above documentation from both PG&E's and SCE's Wildfire Mitigation Plans, the superiority of covered conductors and its resolution of problems with multiple drivers results in an all-around cost-benefit and the projected elimination of PSPS events by SCE. **Also, a recent analysis of installation cost of covered conductor per circuit mile is actually cheaper than performing EVM per circuit mile on PG&E's system. Along with much cheaper ongoing costs year-to-year."**

The dramatic differences between the WMPs of SCE and PG&E could not be more obvious. Both utilities serve more than 15 million people. Both have extensive circuit miles in High Fire Risk Tier 2 and 3 lands. SCE is installing hugely more covered conductor than is PG&E.

~The Wildfire Safety Division must arrange a point by point comparison between the WMPs of these two companies and parse out their success in reducing fire ignitions AND PSPS. Otherwise CA will have a 2 tier electricity supply i.e. those serviced (more precisely abused) by PG&E, and everyone else in California.

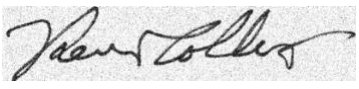
There are Additional Major Issues with Safety Technology that are Being Dismissed Illogically.

For example the Commission has been referring to computer operated safety relays as "Pre-Commercial". This is False.

High Impedance Arc Fault Interruption and similar fault detection and safety de-energization systems have been available for years on the commercial engineering market. General Electric and Schweitzer Engineering Labs have such systems available. It is delusional and highly dangerous for CA to ignore these major advances is Circuit and Fire Ignition Safety.

Thank you for the opportunity to comment on these matters of major importance. I work with people across CA who are waiting for a breakthrough in the realization that utility ignited wildfires can be solved.

Regards,



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