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Board of Forestry and Fire Protection
Resource Protection Committee,
Susan Husari, Chair
P.O. Box 944246
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June 6, 2019

Subject: Discussion and Review of Existing Board Regulations for Vegetation Clearance and Utility Infrastructure 14 CCR § 1250 et. seq. June 11, 2019

I have reviewed the documents on the Board's website specified to address this matter and including the Draft Plead document 052419-1.

In the "Power line Fire prevention Field guide 2008 edition" one finds the following statement:

"It is our intent that this edition of the Power Line Fire Prevention Field Guide will continue the partnership between fire agencies and the electric utilities. By working together and sharing expertise, technology, communications, training and data gathering, we can enter a new era of fire prevention and savings to the taxpayers and shareholders, both in dollars and in the valuable California environment."

Comment: There is a crucial missing component in this statement.

The Electrical Engineering Industry is missing. They develop, test and build the technology to advance the safety of electricity transmission and distribution. They are the equipment vendors to the Utility Industry, but have tended to remain in the background during this discussion. This is unfortunate. The Board should invite them directly into this discussion.

As vendors to the utilities, these engineering companies, such as GE, Schweitzer Engineering, ABB and many others, have a habit of allowing the utilities themselves to set the standards of circuit construction, and of what constitutes a modern, safe design, distribution and transmission circuit and substation. **These Engineering Companies are the actual safety experts.**

This dynamic has placed the Utilities in the position as arbiters of what constitutes safe design. This is directly obstructing the safety advancement of utility equipment. The issue of cost interferes with a clear understanding of what equipment is available and the manner in which its use would dramatically increase the safety of utility operations.

The installation, of engineering advancements in the safety of electrical circuits is a crucial component for any solution to the increasing number of wildfires ignited by actual "in-use" utility equipment. Much of the installed utility equipment in CA is badly out of date and physically deteriorated.

This fact is clearly evident when reviewing the equipment used by PG&E and other IOUs (investor owned utilities). For example, PG&E continues to use many circuit miles of very old, 6-gauge (0.14 in. diameter, single strand) bare wire in forest settings.

It is absurd for PG&E to assert its interest in public safety while continuing to use such fragile, uninsulated and splice filled wires where wind storms can blow debris from scores of feet distant from a utility circuit, and from far outside of their right of ways. This is hardly a recent problem. I've lived for over 30 years on a forested road in the CA Coast Range. Arcing downed wires are common here and it is often impossible to tell why a wire parted or what small dropped branch may have hit a near invisible and bare PG&E wire.

CPUC Proceeding R.18-10-007 has concluded with the adoption and approval by the CPUC of Wildfire Mitigation Plans per SB 901. These Plans are clearly inadequate and specifically vague. The PUC relied upon the IOUs to write their own plans, rather than asserting its own authority to directly require specific safety improvements to utility infrastructure. PG&E has asserted its intent to replace 6-gauge copper wire, but it set no specific date for the replacement of this preposterously dangerous wire. This should be unacceptable, both to the Board of Forestry and to the CPUC.

After decades of increasingly aggressive tree trimming and removal as the solution to energized downed wires, nothing has been achieved. It is past time for the issue of infrastructure to come to the forefront.

"Vegetation management" has failed. Nevertheless it continues to be the "go to" solution for the issue of utility wildfire ignition suppression, especially in Northern CA. This is caused by a thorough lack of understanding of the underlying causes for utility fire ignitions.

There are far better solutions. The use strong tensile strength and double layer insulated wire (as SCE has proposed and begun) would bring about a huge reduction in downed energized arcing wires. When combined with high impedance arc fault interruption (a technology that is fully developed and available internationally), the problem of utility wildfire ignitions in forest settings (Tier 2 and 3 in the Wildfire Hazard Maps) would plummet to near insignificance.

It is also important to recognize that downed wires are hardly the only reason for utility fire ignitions. Mylar party balloons landing on uninsulated wire and bare metal jumper wire connections is a major cause of wildfire ignitions. Bare uninsulated conductors slapping together in high wind are also a common ignition source.

A confused and defective method of cost assessment, especially that supervised by the CPUC, is obstructing advancements in utility fire and electrocution safety. A continuous process of infrastructure development and maintenance is essential to any system as complex as electricity distribution.

Due to mismanagement, we now are faced with a badly outdated and decaying electricity system in CA. This is especially the case with PG&E. The regulatory agencies need to recognize why this happened

and set about to correct the problem. It will cost money. But the demolition of entire towns and the deaths of so many people especially since 2007 and 2017-19, makes increased investment a no-option decision.

I have one last matter I would like to address in this letter.

After repeated very dangerous energized downed wire events close to my residence and on my property, I took it upon myself to investigate this problem.

When an energized wire parts (breaks or separates) and falls to earth, the resulting grounded and arcing short circuit has too low an amperage to trip or burn out any existing utility circuit protection device, essentially a fuse or recloser. This is called a "high impedance arc fault". Over 30 years of research has gone into solving this major electrical "fault". There exist now computer devices that can instantly recognize this electrical fault and then cut current to the parted conductor before it even falls to earth and begins to flash arc and ignite a fire. The reaction time of these protection devices is less than one second. These computer devices can now detect virtually any type of electrical fault. These devices are "on the shelf" waiting to be installed and they are not expensive. San Diego Gas and Electric has begun to install a version of this equipment. These facts demonstrate the major advances in public safety that are now available to the citizens of CA.

I look forward to in-person discussion of these and other subjects with the Resource Protection Committee and with the Board.

Regards,
Kevin Collins