

# Revisions to GO 95, PRC 4292-4293 and CCR 14, sec 1250-1258

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California Board of Forestry,  
Resource Protection Committee,

Sometime in October 2018 I saw an online Public Service Announcement with PG&E and Cal Fire logos announcing installation of insulated power lines in fire prone areas. I supposed this was in response to SB 901. Upon reading the bill I found that the most significant change in SB 901 is the requirement of 32 ft cleared easements. As a retired public service professional I find this to be excessive, costly and grossly destructive of the environment, specifically public tree resources and fails to mitigate the primary hazard, bare wire.

This is a continuation or extension of PG&E's failed vegetation management (VM) programs. The previous clearance would have been adequate had they been established and maintained properly. Their tree trimming methods were clumsy, severe and caused rank growth that rapidly breached clearances. Following long-standing arboricultural practice (Pruning Trees Near Electric Utility Lines, Dr. Alex Shigo, 1990) they could have established a "V" shaped scaffold, trimming much closer to minimum clearance, suppressing adventitious sprouts along the inside of the "V" and allowing the trees' crowns to develop outside of the clearance area. This would have required short trim cycles in the first few years but would have stabilized at long cycles because of sustaining branch and leaf development outside the clearance zone. Instead they cut to the phone lines 10 feet below distribution lines creating a truncated "T" or "L" that pushed rank sprouting directly below conductors that demanded continuous short trim cycles. This prevented development of healthy full crown of leaves on a sturdy scaffold that would not sway into the conductors. Trees respond vigorously to restore leaves that they need for respiration and photosynthesis. Such trimming was grossly inefficient and probably the main reason they have failed, at great expense, to maintain clearance, thus starting fires. Though PG&E boasted of many arborists on staff, using trees as a "whipping boy" for their failure, was a gross misapplication of arboricultural science.

The introduction of third party Consulting Utility Foresters (CUF's) primarily provides "plausible deniability" for PG&E when frequent failures and violations occur. The CUFs' collective lack of experience (few had ever trimmed a tree), PG&E's grotesque trimming models and the inarticulate digital codes used to direct trimming sowed confusion amongst tree trimmers and led to a general "free for all" of ineffective hacking. Audits, that were supposed to track adherence to arbori-cultural standards and conformity to PG&E's trimming models, were reduced to gross tree counts. Other responsibilities such as finding threatening trees outside the easements failed as evidenced in the record of fire starts. None of these efforts cost PG&E a dime as these costs have been passed on to rate payers with a profit for PG&E's (mis)management of these contractors. PG&E has been incentivized to expand this caricature of vegetation management at great cost to the public through fires, lives lost, destruction of public and private tree resources, rate increases and distraction from the real threat, bare wire.

Previously, Tree/Wire conflicts have been managed by cutting trees to ever increasing clearance to achieve greater temporal trim cycles. This has failed across PG&E's system. It is time for a paradigm shift to identify bare wire as the primary hazard. In the most dangerous conditions extreme winds can hurl torn limbs, from beyond any reasonable clearance, onto the bare wire causing arcing and fire. In milder conditions an errant branch, animal or balloon contact can cause arcing and fire. People have been electrocuted on worksites such as orchards and construction sites. None of us would tolerate bare wire in our homes. How can PG&E claim commitment to safety when the primary hazard, bare, high voltage wire, stands exposed in a tinder dry fuel laden environment?

PG&E maintains, for many years, that insulated wire is too expensive. This is only true if the real costs of bare wire; power outages, tree trimming, lawsuits, fires and deaths, are ignored. The newly mandated 32' clearance of 100 million trees will be

even more expensive considering time, labor, transportation, disposal and tree resources wasted. This effort should be redirected to the installation of Covered Conductors. It is insane to repeat the same mistakes and expect different results. How can they claim commitment to SAFETY when bare wire is ubiquitous throughout their system?

Southern California Edison (SCE) presented a study of Covered Conductors to the CPUC following their Wildfire Mitigation Plan presentation. Covered Conductors reduce the risk of arcing to near zero at a cost per mile just slightly higher than bare wire and much lower than undergrounding. To install bare wire costs \$300,000/mile, Covered Conductor \$430,000/mile and undergrounding costs \$3,000,000/mile. SCE used Risk/Spend Efficiency (RSE) to compare each option. Covered Conductor's RSE is 3.4x greater than bare wire and 4x greater than under- grounding.

[https://www.cpuc.ca.gov/uploadedFiles/CPUC\\_Public\\_Website/Content/News\\_Room/Feb.%2027th%20Workshop%20SCE%20Covered%20Conductor%20Presentation.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/News_Room/Feb.%2027th%20Workshop%20SCE%20Covered%20Conductor%20Presentation.pdf)

SCE and San Diego Gas and Electric (SDGE) have begun hardening their electric infrastructure using insulated wire and High Impedance Arc Fault Interrupters which can cut power before a broken line hits the ground. No longer will first responders have to wait while arcing lines are shut off. SCE has committed to installing 3400 miles of insulated wire, though all distribution should be insulated. Arc fault interrupters are commonly used in large buildings and industrial facilities and are available now, as are durable Covered Conductors. It is time for rate payers and forest resources to be protected.

Please use your authority to protect the forest from hazardous bare wire.

Thanks,

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