SAL SCIORTINO
Attorney at Law
15455 Glenoaks Blvd., # 487
Sylmar, CA 91342
Direct : 818 802-2335

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Senator Diane Feinstein
One Post Street, Suite 2450
San Francisco, CA 94104

RE: A proposal to fight California wildfires caused by power transmission lines failures

Dear Senator Feinstein:

I am concerned that California is not prepared for future fire seasons.

I contend many California wildfires can be prevented by a new, fast-acting, technology not yet applied to this fire problem.

My family and I were evacuated during a wildfire in October 2019--November 2019 known as the Saddleback Ridge Road fire in the northwestern San Fernando Valley.

It appears this fire was caused primarily by an Arc Fault in power transmission lines in the surrounding area.

THE FIRE PROBLEM

The California Department of Energy reports in its " 2019 Incident Archive" that 259,823 acres burned, 7860 incidents, 3 fatalities, and 732 structures were damaged or destroyed in 2019.

On January 24, 2020 the Los Angeles Times reported" PG&E Has A Plan But Newsom Has The Power" by James F. Peltz. This article describes that to exit bankruptcy, Pacific Gas & Electric (PG& E) needs approval from the Public Utilities Commission (PUC) , and may need a friend in Governor Newsom. This is because PG&E' s Reorganization Plan needs approval from the California Public Utilities Commission (PUC) as well as Bankruptcy Court approval to go forward.

Much progress has been made thus far and PG&E has reached settlements to pay the victims, insurance companies, cities, counties and others totaling $25.5 billion dollars as part of its Chapter11 Reorganization case before U S Bankruptcy Judge Dennis Montali.

The herein proposal seeks to assist the PUC, Governor, and PG&E by providing a fast-acting solution to prevent some wildfires.

The seriousness of the Fire Problem is further reported in the November 2018 article" The Link Between Powerines and Wildfires" which states: " Now , there is growing evidence that, in some instances ,the powerlines themselves are triggering the wildfires."

In 2017 powerlines owed by PG&E were blamed for a dozen northern California wildfires and 18 related deaths.

By far the worst fire in the states history killed at least 85 people. i.d.

SOLUTIONS TO THE FIRE PROBLEM AND WHY IT IS A PROBLEM

Most firefighting solutions are remedial in nature and are not preventative.

Arc Faults by their nature happen very fast, in the 1 to 10 millisecond range or faster. These Arc Faults particularly in forests adjacent to and outside of residential areas, are where power transmission lines become worn out or damaged by weather. This damage is exacerbated by our Santa Ana , 70 miles per hour or higher winds, line ageing related failures, and line damage contacts due to winds.

The present proposal seeks to extend the high speed protection of Arc Fault Circuit Interrupters (AFCI) technology to the forest areas adjacent to residential homes in order to fight wildfires more effectively.

AFCI circuits are extremely fast and work in conjunction with other home electrical safety devices to shutdown power in emergencies. The power is instantaneously shutdown thereby preventing electrocution if a hair dryer, for example, fails in bathtub water.

Further it appears AFCI can detect arc faults upstream as well as downstream of the AFCI unit and shutdown immediately.

COSTS

Cal Fire reports that " the state has spent, conservatively, more than $ 4.7 billion from its emergency fund in the last 10 years to fight fires."
Source:" California's Worsening Wildfires Explained, Julie Cart, Judy Lin published October 25, 2019.

The 1999 edition of the National Electrical Code (NEC) which has been accepted by many local jurisdictions requires AFCIs in bedrooms as well as other rooms . It is effective as of January 1, 2002.

In the 2014 edition, Section 210.12 of the NEC and reported in Wikipedia[5] states: 210.12 Arc-Fault Interrupter protection "shall be provided as required in Section 210.12(A)(B) and (C)(1)".[4]
It appears these sections require AFCI protections in kitchens, family rooms, dining rooms, laundry rooms and essentially all dwelling rooms and halls.

Fortunately the AFCI units cost $140 to $350 each and consequently allow widespread homeowner compliance cheaply.

Commercially AFCIs are currently available online from Siemens, Square D, Leviton , Eaton ,and other electrical equipment suppliers on a competitive basis.

CONCLUSION

Based on the foregoing, in my opinion, the AFCI technology is commonly available but has yet to be applied to the current California wildfire problem.

A Development and Testing contract to prevent the occurrence of power transmission lines failures from causing wildfires in forests adjacent to residential homes is recommended.

Very Truly Yours,

Sal Sciortino,

A.B. Chemistry, B.S. Chem. E., M.S.A.E., J.D.,
Certified Specialist & Member State Bar of California
State Bar Number SBN 051530

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