



Utility Pole Safety

Safety and Enforcement Division

May 12, 2016

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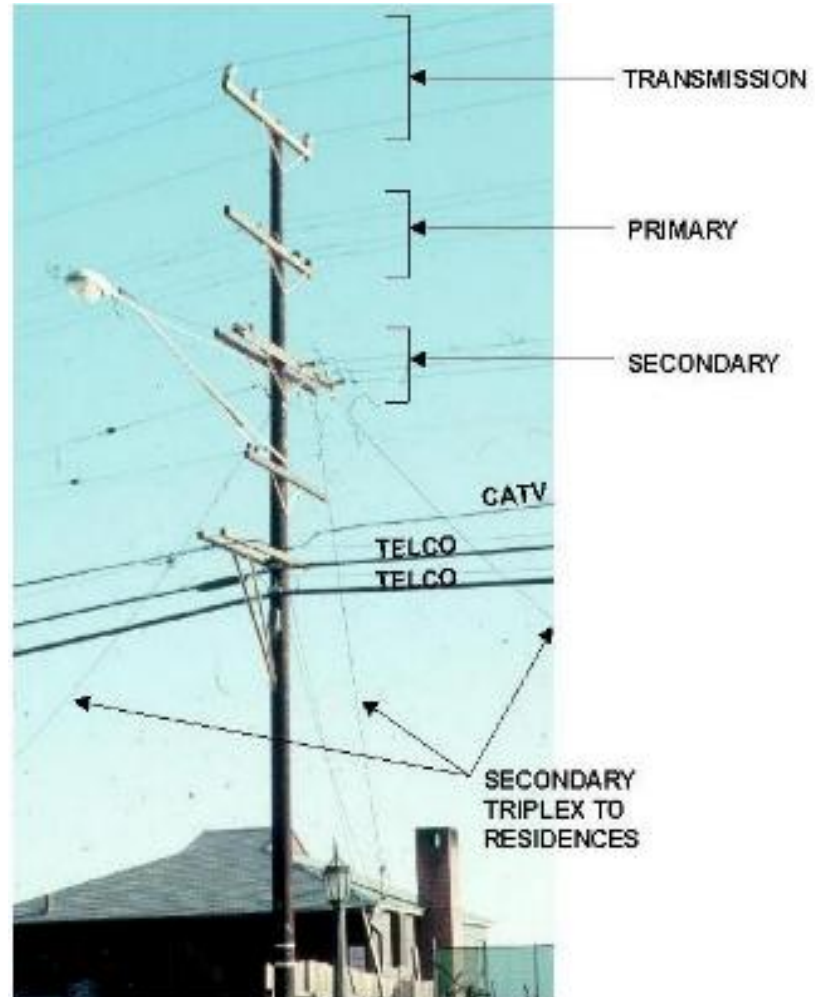
Electric Safety and Reliability Branch





Typical Utility Pole

- The structure used to support supply and or communication conductor cables and associated equipment
- Wood poles
- Concrete poles
- Metal poles
- Fiberglass



Malibu, California, 1990



Fundamental Safety Problems with Utility Poles

Electric Investor Owned Utilities
(IOUs) and Communication
Infrastructure Providers (CIPs):

- Neglect / opportunity based maintenance
- Flawed rules
- CIPs adding facilities to existing poles
- Inspectors failing to capture violations
- IOUs/CIPs Inspectors not familiar with the GOs
- Long inspection cycles, e.g. 25 years





Pole Problems and Violations

Pole problems and violations will cause serious injuries to the public and damage to properties:

- Pole Overloading
- Safety factor
- Pole transfer (“buddy pole”)
- Climbing space
- Working space
- Pole locations

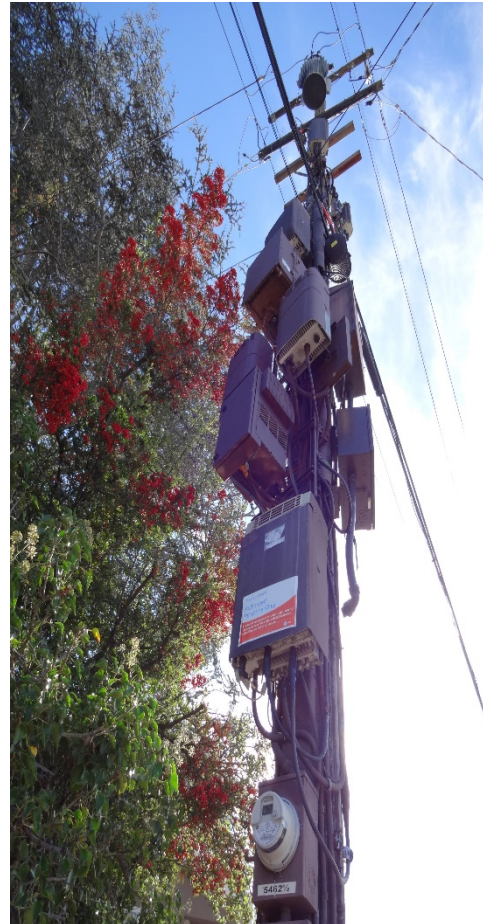




Pole Overloading

Factors that affect overloading of a pole:

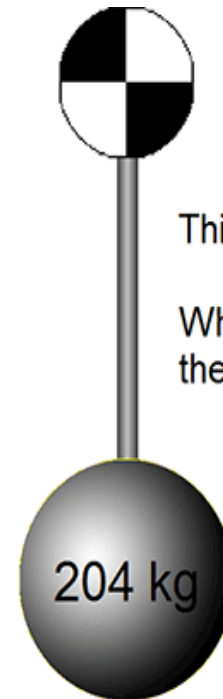
- Weight of equipment
- Weight of conductors
- Conductor tensions
- Height of conductors
- Height of equipment
- Wind forces (on poles, equipment, and conductors)
- Remaining wood strength
- Pole depth
- Low safety factor





Safety Factor

- A measure of a pole's resistance to breaking
- Ratio of the maximum tensile strength of the pole over the working load
- Inversely related to the "loads" on a pole
- Loads depend on winds, weight of facilities, tensions on conductors



This rope is rated to 30 kN.

When it is holding a 2 kN load, the safety factor is 15:1.





Examples of Pole Overloading and Low Safety Factors





Examples of Pole Overloading and Low Safety Factors - continued

Malibu
2014





Examples of Pole Overloading and Low Safety Factors - continued

Berkeley





Examples of Pole Overloading and Low Safety Factors - continued



Nuevo



Arcadia





Examples of Pole Overloading and Low Safety Factors - continued



El Cajon





Pole Transfer – “Buddy Pole”

- A “buddy pole” is an old pole that should be removed, but is instead left in the field.
- Existed for many years.
- CIPs frequently ignore the requirements to transfer their facilities.

Berkley



Bakersfield





Examples of Buddy Poles



Hidden Valley



El Cerrito



Oakland





Examples of Buddy Poles - continued

Lake Elsinore





Examples of Buddy Poles - continued

Berkeley





Examples Climbing Space/Working Space Violations and Others





What is SED Doing?

- Committed to driving a safety culture
- Electric and CIP audits
- Active in proposing new safety rules
- Researching new technology
- Citations for IOUs
- Seeking Citations for CIPs

